**Braille Literacy Canada 2023 Virtual Braille Symposium: Boundless Braille (June 2, 2023)**

Expanding the Frontiers of Literacy: Developing Braille Codes for Indigenous Languages

Jen Goulden and Christine Muise

**Kim Kilpatrick** 00:02

Good afternoon, everybody. Welcome back. I'm sorry if I look a bit strange in my video, but I'm trying to read braille at the same time, so my computer is kind of beside me. My name is Kim Kilpatrick. I'm the current Vice-President of Braille Literacy Canada. It's my great pleasure to introduce this session called Expanding the Frontiers of Literacy: Developing Braille Codes for Indigenous Languages. So, two wonderful speakers today, and now we've come back to Canada from our trip around the world. And we have Jen Goulden, who's the accessibility compliance support manager with Crawford Technologies. She has a master's degree in linguistics. And she has been, was President of Braille Literacy Canada, and also has served on, or is serving on, many international braille organizations. And Christine Muise from Halifax joining us, and Jen is from Ottawa. She's a certified braille transcriber with APSEA for over 15 years. And she was honoured with the Louis Award last year for helping in the development of the Mi’kmaw braille code. So welcome to you both. And please take it away.

**Jen Goulden** 01:24

Well, thank you, Kim, that was a lovely introduction. So for those of you who don't know me, I am Jen Goulden. And what we're going to do is, I'm going to start off the presentation with sort of some more broad, big picture information on developing braille codes. And then what's going to happen is, Christine will then take over and she will talk about the very specific instance that Kim was referring to, for which she won an award. And so I'm going to do my best not to steal any of Christine's thunder. So my stuff is going to be very general. But, of course, our topics do overlap. So with that, I'm just going to jump in and get underway. And then after, of course, when we're done, there'll be time for questions and we will answer depending on, you know, what the question is, whichever one of us is best suited.

So the reason that this... There's a number of reasons that this has become much of a topic of conversation, and so I'm not going to spend too much time on that, of course, because Christine will cover this a little bit too, because it's what prompted her interest. But one of the things that has happened is that, and Kim sort of alluded to this, I'm involved in other, I'm the chair of BANA and I represent Canada on the International Council on English Braille, ICEB. And ICEB, in the last couple of years, has received a few, I guess, queries on how, on developing braille codes for other languages. And of course, ICEB being about English braille, it's a little bit beyond our scope. Now I'm saying our, I mean ICEB. It's a bit beyond ICEB’s scope. And so there was sort of some discussion about well, you know, what do we do about this? We don't want to ignore it. It's important, and what was happening is that we had found out about a couple of instances where people were just going, “oh, you know what, I can just whip something together! You know, I'll just plug some stuff into a computer and 15 minutes later, voila, we have a braille code.” Well, I don't know if that makes you cringe as much as it makes me cringe. But, you know, we felt like, okay, this is something that needs to be addressed. There needs to be information available so that when people are searching online for braille codes, or what do I do if I think there should be a braille code, we wanted them to find something. And so, that kind of started us on a bit of a journey. And I have this in my notes to sort of talk about at the end, but it now just makes sense for me to say it now, at the beginning; basically, ICEB had decided we’re going to just put together a high level document on okay, what do people need to consider, what are the things they need to know, what actually overall process look like? And so that's pretty much what my portion of this presentation is actually based on, is kind of along the lines of those documents. I put the document together, it's not available yet. It will, be soon. And I did have discussions with Dr. Robert Engebretson, who many of you may know, he spoke at our symposium last year. He's a linguist in the US. And so I definitely want to give him credit, because he and I, you know, we had definitely had some conversations with him and got his input too. So all of that to say, that's why this, you know, part of why this issue, you know, is sort of top of mind. And it fits in with my educational background, which I don't get to use everyday, so it's kind of exciting for me. So with that, I'll just jump in.

So when it comes to developing a braille code, whether it's for something specific within a given language or for a different language altogether, really the big thing is, it's not as easy as people think. It's not just a matter of sitting down and going, I like the symbol, maybe we'll use it for this. So the factors to consider when developing a braille code, and I'm saying specifically for Indigenous languages here, because this is the context that we're talking about, especially once I hand things over to Christine. Basically, probably first and foremost, it must be a collaborative effort. So the last thing you want to do is be like, you need a braille code, and I'm going to be the one to do it for you. That's really not how we want this to go, that really doesn't work well in any situation. And so it needs to involve a certain, you know, different categories of people. And what I mean by categories is not in any sort of way of putting people in boxes. But, this really should go without saying, but I'm going to say it, it needs to involve people who know the language, right? You can know a lot about braille, but if you don't know the language, you're going to have some problems when you're trying to develop the code. So, needs to involve people who know the language. And yes, it does need to involve people who understand, not only just someone who can read braille, but somebody who understands how braille codes work, some of the principles that you need to think about when you're developing a braille code. Regardless of what the code is for, there's certain things that you need to think about. I'll just throw out one example here, things like, okay, if you're going to choose a symbol for something, you know, you want to think about what are the most, what are some commonly used symbols that are very common. So, as an example, when it comes to developing contractions, right? You think about one cell or two cell contractions for things that are really common. You're not going to, in English, there are some things where we just don't have contractions for them, because it's not a very common letter grouping in English, for example. So, I don't want to get too bogged down in this. But, you know, UEB has a principle where we have root symbols. And again, I know James may have touched on this a little bit, and it might be coming up in our next presentation. But there are principles that are used to develop, to decide, you know, which symbols, you know, why is dot-5 N name and not, I don't know, nocturnal? Well, you know, one of the many reasons would be that name is a much more commonly used word. So you want to have both of those understandings. A third piece of the puzzle is somebody who understands the print orthography of the language because braille is, you know, to those of us who read braille, what print is to sighted people who read conventional print. And so braille is kind of, it's representing, ideally, the same things that the print orthography is representing. So you need to think about, well, what is the print orthography? How does it work? And so you need somebody who understands that. And I'm going to come back to this when I talk about a couple of examples. As I said, it's not quite as straightforward as you might think.

So you need these pieces. You also need to know, is there an existing code already? Maybe there is one and you weren't aware of it, for example. And so, you know, one place to check is *World Braille Usage*, which is a book that, it's kind of hosted by Perkins. And it's got, there's a PDF version and a BRF version, and it has, it needs to be updated. But it does have a lot of the braille codes around the world, and it has sort of some basics about the code. It's not going to make you an expert, but at least you can look, it's a place to start. And Daphne I can, we can make that resource available for people. It's quite fascinating actually, to look through it. There's also a BRF I can't remember if I mentioned that. So you need to kind of have these groups of people involved. And as I said, because you want it to be a collaborative effort, right? You don't, you want to make sure that it's people from the linguistic community who are going to benefit from this. People who are actually braille readers who really stand to benefit from this code. And your braille code, in order to be an effective code, it's not just letters of the alphabet, although obviously that's important. It needs to have things like punctuation, accented characters, numbers, and there may be other symbols specific to that language that you need to think about as well. A discussion about, okay, should we develop any contractions for this, and there's all sorts of things that could come into that conversation. Obviously, you want to start with things like the alphabet and punctuation and those sorts of things that you really need. But I just want to kind of, and in this short of a time, I don't have time to kind of go into the rationale behind everything, of course, but I want to just kind of put up there the different things that you need to consider. Mathematical symbols. You want to think about formatting. What formatting principles are you going to follow? I would recommend, you know, as a country where the language is being used, whatever formatting rules that country follows. So, for example, in Canada, in the United States, we follow BANA formatting guidelines. And so it would make sense for any braille that's being produced in Canada to at least follow, in terms of formatting, to follow those guidelines. It makes it easier on the braille reader who's going to be reading, maybe things in English, maybe reading, you know, things in the language that the code’s being developed for. So, again, formatting is something that well, you don't want to reinvent the wheel, it's something that you need to think about.

Another issue is consistency and symbol usage. And so what this is about is, if for anybody here who reads, let's say, French, Spanish, and Italian in braille, you'll know that there's certain symbols that are used for accented characters. And while they aren't exactly the same, there's a lot of consistency. So that, you know, when you see certain symbols, a couple of years ago I started learning Greek, and a lot of the accents were similar to those that are used in French, Spanish and Italian even though Greek is a very different language. It made it a lot easier for me to basically memorize, you know, to get, become familiar with the accented characters. And so while you can't be expected to know what languages, all of these, all of the potential readers of the code that you're developing, you can't be expected to know what languages they may or may not learn. The more consistency there is the better. So it's just using well-established principles and patterns is a really important aspect when you're thinking about that, you know, I kind of say like, you don't want to reinvent the wheel for no reason. Again, the buy-in of the linguistic community and the buy-in of readers as well. And there are lots of political, and I use that term a little bit loosely, but there are some political things that you need to bear in mind as well. And I'm going to just give you a couple quick examples. In the, in Inuktitut, there are two alphabets in terms of print orthography. And I think there actually may be more, but basically, it's possible to use the Roman alphabet and there's basically a syllabic, based on syllables. And at one point, there was an initiative to develop a braille code for Inuktitut, which is absolutely fantastic. However, my understanding of this situation is that the syllable based alphabet was used, but there were many people who just couldn't use it because they didn't, they weren't familiar with that print orthography, they use the Roman alphabet. And I believe it's in Cree, one of my, a professor in one of my last courses that I took. She was talking about putting together, she's been very involved in putting together online dictionaries for various Indigenous languages, particularly Cree. And she was saying that one of the conversations that happen, and this has nothing to do with braille, but she's saying there is not, it's not necessarily homogenous. So there are a couple of different orthographies and some communities prefer one, some prefer the other. And, in her case, she was dealing with a dictionary, so there were also issues of, well, no, this is how we spell the word and somebody else said, no-no-no, no-no-no, this is how we spell the word. So things like that just shouldn't be left to assumption. Right. So that's where you really need to have the conversation. And again, I'm going to leave that to Christine to talk about the specifics of her journey. But that's a really important part of the process is to make sure that you're not sort of going in and making some decision. And again, this is, people's intentions are good, right? I'm not suggesting that people are trying to be like, patronizing or anything. It's just when you don't know the backstory and things, when you don't know, sort of the, again, politics or the, you know, just some of the backstory and different things, you're not necessarily going to know what the best approach is going to be. So all of that to say, this is the huge, huge, huge importance of collaboration.

So I'm just going to finish up my time by talking about sort of the approval slash endorsement process and why this happens and how we did it. Again, I'm going to do my best not to take away anything from Christine's presentation. But I was on the BANA board when... So there's a Navajo code that was recently developed in the US and the person who developed it was not only, she was blind or partially sighted, she has a certain level of vision, she was a TVI, and she was Navajo. So she was just in a really good position being a braille reader being, you know, she had a lot of the pieces of those of the puzzle that she was able to bring to the table. And she worked with lots of people to get, to develop the code, and then BANA was asked to approve it. And now, the immediate reaction of people tends to be, Oh, my goodness, this is so, who do you think you are to approve this code or whatever, like this kind of response. Now, I want to make it really clear, that's not what this is at all. It's not about BANA or BLC saying, oh, you know, in order for you to use this code, we need to approve it. What's actually going on here is, first of all, we're approached by, you know, different linguistic communities to approve slash endorsed the code. Because, and just to give a really tangible example, let's say that somebody wants to apply for a government grant to produce braille in this code for whatever reason, like, you know, producing signage, producing whatever it might be. Sometimes there were certain grants, they want to make sure that you're using an officially accepted code. They want to make sure that it's not like, let's say I wake up one day and go, you know, what I've developed a code for, you know, some language, and I just sit there and I make it up, and here's my code. And the people who actually will use it, say, you know, what, that's, that doesn't actually meet our needs. But I somehow get a bunch of funding, and I try to make my code, you know, I try to sort of take over with my code. What we want to make sure is that there is consistency, that the code that's developed can be successfully implemented, that it actually meets the needs of the people who are going to use it. And so there is value in being able to say, you know, what, this code that we worked on, that is approved by the linguistic community, is actually an official code and is therefore the one that governments should be willing to fund. And so that's what it's about. It's, you know, it's not about BLC or BANA saying, yeah, it's okay with us, if you use this code. What we're actually endorsing, which is why I sort of keep using approve, sometimes I say endorse, because it's a little bit uncomfortable to approve or endorse a code where you don't actually speak the language of the code. But what BLC was actually saying when the Mi’kmaw code was endorsed, and what BANA was saying, was not, yeah, we know the language and, you know, yes, we're, I don't know, whatever, like we're giving permission. That's not it at all. What we're actually saying is, yes, this code was developed in accordance with sound principles for developing a braille code. And so we have every confidence that this code can be successfully implemented. It took into account all the things it needed to take into account. And so that's really just us saying, you know, endorsing kind of the process. We're endorsing the fact that this code really has a great chance of being success, successful--goodness, I'm, good thing it's Friday—successfully implemented. And we also were sort of acknowledging, yeah, and this was endorsed and approved by the linguistic community. So Christina will talk about this more, but one of the things that we did when we approved it, and I'm kind of saying we, it was, I was no longer on the BLC board, but for BANA I was at the time. And we had the information from Christine all about the code. We also knew about the process she followed. And we had letters of approval from the respective, the chiefs of the respective linguistic community saying, yes, we are good with this, we would like this to be an official code. So that's kind of, that’s sort of the overarching principles of developing a code and just why we had it go through braille authorities, why we did the things we did.

So, I think I'll leave it there. That's kind of, I want Christine's to tell you her specific journey, because that's really exciting as well. So with that, I will hand it over to Christine.

**Christine Muise** 19:51

Thank you very much, Jen. As Jen said, it was quite a journey. I think at the beginning, for me, trying to find the information was the hardest part. And I think once this outline gets uploaded, it will definitely make it a lot easier next time. At the beginning I kept looking online, I couldn't find anything at all on any sort of languages other than what Carol and Justin had already started on. I feel like I wasted quite a bit of time at the beginning just trying to, because there was nothing out there, I didn't know who to approach. So I started off getting in touch with Carol and Justin, who wrote a really amazing paper on Indigenous languages, which is footnoted in my code there. After speaking with Carol, she got me in touch with Dr. Englebretson also, and he was a great help, obviously, being a linguist and a braille user as well. From there on, I just basically tried to follow exactly what Carol did. She sent me a rough outline of her process. It was really important to me that I speak with Bernie Francis, Dr. Francis, who actually created the Mi’kmaw print orthography. He was really hard to track down. He's a busy man, but he did eventually meet with me. And that was very informative. I was trying very hard to understand the structure of the language, I had no idea that the symbol I was trying to devise the correct braille symbol for was a schwa, for example. So as Jen pointed out, you know, meeting the right people, using Bernie, getting the approval from both the band here in Nova Scotia and in Maine, really important as well. Justin's paper, I really liked the way he worded something here. “This article documents potential benefits and social impacts, thus demonstrating the value of creating braille codes for Native American and First Nations languages. This is not the same as telling an Indigenous nation that they need to adopt a braille code or that someone should make a braille code as a gift to an Indigenous people.” Just basically to let them know that it is possible to create one, and I really liked the way he worded that. So the approvals went through. And I'm really happy, as Jen said, it's not so much that Braille Literacy Canada or ICEB is saying, yes, we say this is right. But as she said, this code went through the proper processes. Those processes will hopefully soon be documented online. And it's all going to live in one place. So anyone who wants to know if there is a code available can go to one place, look, it's not, okay, where do we go from here? And I think that's going to be really helpful.

**Jen Goulden** 23:34

And just, sorry to interrupt you, Christine, I just, it occurred to me. So, Carol, Christine's referring to Carol Begay Green, she was the woman I was talking about who had developed the Navajo code in the US and Justin Salisbury

**Christine Muise**

Salisbury , yeah.

**Jen Goulden**

Yeah. She actually is Canadian, I believe. You know, he lives in the US. He's a braille reader, and he is, I believe he is Mi’kmaq. And he worked with Carol on this paper that Christine is referring to. So I just wanted to clarify who they are. Yeah.

**Christine Muise** 24:14

Yeah. So as far as my journey goes, that pretty much covers it. It just slides in right along with everything Jen just outlined there. It was really exciting to get it done. We have used it here. Nova Scotia became, or adopted, Mi’kmaw as its official first language shortly after that. So I'm really hoping to see it on some accessible signage at the new Mi’kmaw Friendship Centre. And our APSEA library is also expanding our collection development. And we’ve started with a lot of Indigenous titles, some, a lot of Robert Munsch books that have been translated by Bernie Francis into Mi’kmaw. So yeah, it's getting out there now. So that's really exciting as well.

**Jen Goulden** 25:12

I think, too, Christine’s being very modest, I think, because she, this was a long process, right, trying to track people down and trying to get all the information and just putting in that time like that, that dedication. So I don't want to embarrass you, but thank you. I mean, that's, it was great.

**Christine Muise**

Thank you.

**Jen Goulden**

And I love that, you know, this collaborative effort happened. And it was so timely, because when Christine wrote to me, like when we were just getting the approval processes going, and the code had been developed. That's when, I think that's what you told me, you said, oh, and by the way, they're building like, a Mi’kmaw friendship centre and they're going to put signs in braille in, like, English and Mi’kmaw. Like, well how cool is that? That the code has developed, like, sort of just in time, so.

**Christine Muise** 26:00

Absolute perfect timing. Yeah. And I did spend a year emailing a lot of people and pretty much being ignored as well. It's amazing how often you end up in someone's junk folder when you email out of the blue.

**Jen Goulden** 26:16

But when you're persistent, it pays off.

**Christine Muise** 26:19

Yes, it does for sure. I'm not sure if anyone has any questions, or...

**Kim Kilpatrick** 26:31

That's wonderful, you two. I was fascinated about this from the first time that I heard about it. And it's fascinating to hear the background. I had a quick question while we're waiting for hands, and that is, Christine, was it as a certain student or something you were brailling, or was there something that you found, you know, like to get you started on the journey? Like, was there something that instigated that journey?

**Christine Muise** 27:01

Though it wasn't a particular students, I do school curriculum here in Eastern Canada. So I mean, Mi’kmaw has appeared, pardon me, in a lot of textbooks over the years. And at any time, there was a large passage of it, using the modifiers, it was just, I can't imagine what an ugly read that would have been for someone. And when, with all of the, I started my work around two years ago, there was a lot of talk about truth and reconciliation, you know, regaining languages, and I thought, well, if someone was blind and wanted to regain a certain language, then that might be a problem. Yeah, so I was just motivated by that. I felt because I had come across it here. I felt that made it a need. I felt it was probably something that I could address, and wanted to help if I could. So it was just, I spent a lot of time just trying to put it out there, that I was, you know, I was willing to do this. If I could, if there was a need, and I could get it done.

**Kim Kilpatrick** 28:25

That is so wonderful. That is so wonderful. Sorry, Jen, you were going to...

**Jen Goulden** 28:28

Oh, no, that's fine. Christine just, it just prompted me. One thing that I didn't mention is that there's this whole challenge when it comes to something like this, where you kind of go, okay, developing a braille code, is there a *specific* need? Like, do we have specific students, or do we have, you know, there's from one perspective you’ll have, you know, maybe administrators or like, you know, people who are thinking about budgets and you know, producing things kind of going well, you know, you have to demonstrate the need, you got to demonstrate a business case. But on the other hand, if you do have a student who needs this, right, you can't say to that student, can you just wait a couple of years while we develop the code, just put things on hold? So it's kind of like the chicken and the egg or the cart and the horse situation where, you know, it's do you develop the code, even if there's not a need, like a specific need, or do you wait till there is a specific need, in which case that initial student is kind of going to be, I don't want to say out of luck, that sounds, you know, but... So, I think this is great, because if it gets on signage, it's that whole, you know, I think Diane talked about this, how sighted kids see print around them, and for braille readers, that's less, you know, it's less prevalent, and so, you know, then it's getting out there. It's not necessarily, you know, I'm sure it will at some point in the near future benefit some students, but the fact that it's going to be on signage, it's going to start exposing people to the fact that it exists. And, you know, it's out there.

**Kim Kilpatrick** 30:07

That's great. I wasn't implying that it was only because of something. But I just wonder sometimes. Where's that spark going?

**Jen Goulden** 30:15

Where does it come. Yeah. It's a good question, Kim, for sure.

**Kim Kilpatrick** 30:18

Yeah. That's wonderful. And I'm just so excited about this. But do we have any, and I'm going to turn this over to Anthony to see if we have any questions. I noticed we've been getting a lot of congratulation messages in the chat, which is nice. But are there any other hands, Anthony?

**Anthony Tibbs**

Yes, we have Misty.

**Misty** 30:44

Hey, guys, can you hear me?

**Anthony Tibbs**

Yes, yes.

**Misty**

A bit of background noise, so I apologize for the wind and everything, I’m outdoors at the moment. So basically, I am essentially your average Jane Doe, braille reader. But I'm also a Latinist by training. And I know I think I talked about this at the same symposium last year, kind of throwing some ideas out there. But now that we're discussing this as a specific subject area this time, I am curious about getting started possibly developing a contracted Latin braille code.

**Jen Goulden** 31:15

I remember talking to you, yeah.

**Misty**

Yeah, exactly. Now, I've seen a few attempts out there, but I'm honestly, from what I saw of them, I was not too thoroughly impressed just within my amateur opinion, of course. But I mean, like, as far as I know, for instance, there's, for instance, there's no real authority for ancient languages out there, like there is for like modern language, like BANA, for instance

**Jen Goulden**

No, no there’s really not.

**Misty**

And like, how would you go about like, who would you get in your circle for developing an ancient language code like that? How would you propagate it? How would you try to bring it into acceptance in the wider classics and Latinist community? You know, just kinda throwing some questions out there about what your thoughts are on that.

**Jen Goulden** 31:54

I would say initially, email me. Maybe I'll get my contact information to you. Maybe, Daphne, you could help connect us because I'll just try to answer high level, but it would really be like, I'd be happy to work with you to come up with some strategies, and then. I've had one or two other people ask me about, not necessarily for Latin, but for other ancient languages. And so it's certainly something I can raise in different places. And you're right, like, it's not that BANA would approve a Latin code. But we can certainly talk about ways to promote it, who to talk to, how to involve, like, sort of, people who can not only helped develop it, but help promote it. So yeah, let's chat about this. I would love—I also studied Latin, so.

**Misty**

Oh, sweet. I'm glad. Thanks.

**Jen Goulden**

You're welcome.

**Anthony Tibbs**

Alan.

**Alan Conway** 32:57

Yes, I wanted to ask a quick question. I have a good friend from my school days, who came originally from Baker Lake in the Northwest Territories. And the dialect he speaks, or that he at least understands still, to some extent, the dialect of Inuktitut that he appears to still sort of know something about, because unfortunately, he's become really quite heavily assimilated. But he said it's a different one from, say, the one that Mary Simon speaks. She apparently speaks a dialect from Baffin Island that’s a little different from the one he grew up with. But he was telling me that he thought his language really wasn't very conducive to developing a braille code. And I'm just wondering if anything has been done using any of those dialects and sort of how far it's progressing.

**Jen Goulden** 34:08

I would say two things in response to that, Alan. The first thing I would say is, I'm not sure I, you know, I referred to an attempt several years ago to develop a braille code for Inuktitut, but I'm not sure which dialect it was. I'd have to see what I could find about that. But it, I want to respond to his comment about it not being conducive to a braille code. I think that's like saying that a language isn't conducive to having a print orthography, and that. I don't, I would never say that about a language and I wouldn't. So no criticism of your friend, but I just think no, I wouldn't say that.

**Alan Conway** 34:46

The only reason I mentioned it was that basically, you know, let's put it this way. He said it, I didn’t.

**Jen Goulden**

Oh no, for sure.

**Alan**

It's just a matter of trying to find out whether anything's been done so that I can, you know, if I get a chance, maybe, you know, I might get a chance to tell him about something that's, you know, being worked on.

**Jen Goulden** 35:06

Yeah, I don't know of anything off the top of my head. I know there was a code for Iñupiaq in Alaska, which I believe is a different dialect. I guess I would just tell him, I mean, I can, I'll see what I can find out. But I would just let him know that because there are braille codes developed for all kinds of languages around the world. There's no logical reason why his dialect would not be conducive. And again, I'm not criticizing him, either. I can understand why he might think that but, you know.

**Alan Conway** 35:37

I happen to agree with you. Because, obviously you know what my field was when I was working. And you know that, obviously, this kind of thing is of a certain amount of interest to me.

**Jen Goulden**

For sure, yeah

**Anthony**

Monique, oh, your hand just went down.

**Monique Mariani** 35:57

Okay. So, first of all, I have a question and a remark to make, if you don't mind. So my question is, did you do develop contractions for the language, the code that you created? And I wanted to add something about contractions or no contractions. In Hebrew, they didn't include contractions, and the reason why, and seems quite logical to me, is that, at least in modern Hebrew, we only read, we only use consonants. So the vowels, we have to add them ourselves. So adding contractions and this difficulty, I mean, if you know grammar, well, it's alright, but can be a little difficult. So it's interesting because it's at once an old language and a new language. And so there were confronted to those kinds of problems.

**Jen Goulden** 36:58

So I think I will leave it to Christine to explain, you know, to talk about what she did with contractions or didn't do with contractions, I would just say, I'm also taking Hebrew and there's a part of me that's like, oh my goodness, I'm glad there aren't contractions, because, you know, like, just learning because of the way the language works. I think in Hebrew, as you said, like that makes perfect sense why there wouldn't be contractions. I think part of, you know, do we develop contractions, maybe depends on some of the mechanics of the language, like that example that you raised is a really good one. So over to you, Christine.

**Christine Muise** 37:37

We did not develop any contractions for Mi’kmaw. I guess, partly because it's not being heavily used by anyone at the moment. I mean, I wouldn't be opposed to looking into that. But for my initial purposes, contractions weren't on my radar, no.

**Jen Goulden** 38:00

Well, and that's a really good point that you make, too, because it's not to say that they wouldn't be developed in the future. You know, a braille code can always be updated as and when that is needed. And that updating could include developing some contractions.

**Christine Muise** 38:19

Exactly. And the framework is there now to add on to that.

**Anthony**

Okay, next, Jodie?

**Jodie** 38:36

Hello? I'm calling from Australia.

**Anthony** 38:49

Hello, you are our future.

**Jodie** 38:53

It's really early in the morning and I'm trying to be quiet, so I've got headphones on and I can't hear myself. But, yeah, I’m a braille transcriber from the New South Wales Department of Education. And we actually do have a specific need because as First Nation languages are being taught more in schools, our state's going to be rolling out a new Aboriginal languages curriculum. And so, you know, we're needing to teach students and we don't have a braille code for these languages. You know, if there's blind or vision impaired students who will want to learn them. We do have some challenges, though, because some languages are not in a written form. In New South Wales, we have 35 active languages. And across the country, we actually have over 300. And so we're sort of thinking, I recently attended our Australian Braille Authority workshop on First Nation languages in braille. And there were the questions about, you know, should we have a unified braille code for all of our First Nation languages, where it's just sort of early discussions. We were thinking we want to learn from other places around the world that have done this. So, this new document that's coming out with the general principles will be really useful. But we're just sort of after advice, you know, when you don't have a consistent, maybe consistent spelling or orthography, you know, where do we go? How do we start? So yeah, I'm interested to know more about the specifics of this Mi’kmaw language, like the decision, how you made the decisions on specifics, like you've already answered, talked about contractions. But when it comes down to accents, you know, just sort of some examples, Christine, you know, and how you made the decisions.

**Christine Muise** 40:43

In all honesty, between collaboration with Dr. Englebretson and Dr. Francis, I kind of gave them the options, and, you know, presented them with what I was trying to do and because they were the experts, you know, which do you feel would best represent this. So, again, that's, I think, why it's so important to bring in other people. I was a braille transcriber, but I wasn't a linguist. I knew nothing about the Mi’kmaw language. So it was a three way collaboration on that symbol.

**Jodie** 41:29

So which symbol was that one, sorry?

**Christine Muise** 41:31

That was it. The main sign in Mi’kmaw that was missing was the schwa. It's like a barred I. And there was no other print equivalent for it that I could find in braille, in any other language. So that was the hurdle we hit there.

**Jen Goulden** 41:51

Jodie, I would... Sorry. I just wanted to, before we run out of time, I wanted to suggest to one person that you may want to talk to is Cristo de Klerk from South Africa. Because they have 11 official languages, they have braille codes for all of them. And they've managed to, manage to, sorry, that sounds like oh, they just scraped by. They were able to find a way to basically harmonize UEB, English, Afrikaans and all the other nine official languages, Zulu and siSwati, and all the other ones as well. And so he would be a good person for you guys to talk to as well.

**Jodie** 42:29

That's a good idea. Yeah. Because, you know, in some of the different languages, they might use different print representations for the same sound, you know, and then working with the communities, you've got political interests, like you were saying. Yeah. Well, thank you. That's good advice.

**Anthony Tibbs**

We've got time, I think, for one more question. Maybe two, we'll see. Ioana.

**Ioana Gandrabur** 42:50

Hi, everyone. I just was curious with the amazing achievement to build the code and you know, it's like, it's so many moving pieces of the puzzle. I was wondering if there is also an effort of developing then the teaching materials. Because there are all these codes, and of course, there is the book of codes, I suppose that will incorporate them all. But it's not necessarily equivalent with how do I learn this code? Because it exists, but how does it get into the hands of people who need it? So I don't know. Like, is there a plan for didactic material for all these things?

**Christine Muise** 43:33

I'll let Jen cover that one. Because I'm hoping all of the codes, when they're developed, will live at the same place.

**Jen Goulden** 43:42

At this point, I don't have a definite answer. I would say, yeah, there's World Braille Usage needs a good update. And then, in terms of like, an actual instructional manual. I think it's going to depend on the code. Like, you know, we have, I know that Christine has made available sort of the information on this code so that somebody can take it go, okay, this is the symbol that's used for this, you know which symbols to use. I think, in terms of developing instructional material, that's a different, you know, I know that's not a skill set that I have, right. I'm not, I have transcriber, you know, all that kind of stuff, but I'm not necessarily an educator. So, at this point, I guess my answer is I'm not really sure. But a place to start is looking at the actual code, looking at the symbols and I think in the case of some of these codes, where the alphabet, there’s sort of less of a learning curve than then you might think, because there are, you know, some additional symbols, maybe some punctuation, maybe the schwa in this case. It would be more about just getting the information on the code and starting from there. I would say it's a possibility that in the future, as more codes are developed, that there could be, there's the potential for somebody to kind of take that on. Right now, we're just trying to make sure that people know how to go about developing the code. So, you know, that's where we've gotten to this point.

**Ioana Gandrabur**

Tanks very much.

**Anthony Tibbs**

Okay, well, thanks very much, Jan and Christine.

**Kim Kilpatrick** 45:37

Great discussion. And great to have the turnout and interest in this. And I'm sure we will talk more about these subjects. And so that does it for me.