Early Childhood Teachers’ Use of Dual Language Digital Books in Alaskan Communities

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This qualitative study investigated how dual language digital books are used by early childhood teachers working with primarily English-speaking Alaska Native children and families. In particular, there was a desire to know how the teachers used the dual language digital books in their classrooms and if the resources were used to foster early literacy and/or to help teach and preserve native languages. The research was situated in six preschool classrooms where researchers observed the teachers using the books and conducted semi-structured interviews to triangulate the data. Using a qualitative approach to analysis, findings emerged that teachers used the books to introduce specific content or concepts, to emphasize home – but not heritage - languages, and to reinforce early literacy skills using both whole group instruction and independent exploration time. Additionally, how they used the books appeared to be in direct response to their students and their needs. Implications for teachers, families, and administrators are shared.

*Keywords:* dual language books, early childhood teachers, Indigenous populations, biliteracy

“If little ones can learn the language, then the language will have a chance of surviving. Along with the language, of course, is the culture. Learning their language will help develop the student’s pride in their identity as a tribal person” (Rodriguez & Warrior, 2013).

Language extinction is a reality for many communities around the world and is particularly true for those in Alaska, where only 22% of Alaska Native peoples can speak their heritage language (Olson & Alaska State Legislature, 2012). Many worry that based on the number of speakers and their ages, a large number of the endangered Alaskan languages, considered to be the “backbone of our culture” are headed to extinction (Dunham, 2011; Olson & Alaska State Legislature, 2012). This concern is of such importance that it triggered a warning to the state that
there is a “linguistic emergency”, with most of the 21 Indigenous languages recognized by the state expected to go extinct by the end of the century (Trudeau, 2018). Language extinction is not just a problem for the preservation of language but also for the preservation of culture for, “the survival and revival of Indigenous languages is imperative for the protection, transmission, maintenance, and preservation of Indigenous knowledge, cultural values, and wisdom” (Coolongatta Statement on Indigenous Rights in Education as cited in Barnhardt & Kawagley, 2010, p. 255). This massive loss of language is due in part to young children having few opportunities to use and become literate in their native heritage languages. “We need to focus attention on changing the patterns of interaction and the message children receive about the value and status of their heritage languages” (Cummins, 2005, p. 590).

Many people, including myself, a non-native monolingual university professor and former early childhood teacher, and my colleagues have responded by embarking on projects that provide dual language materials in English and Alaska Native languages. Our project entailed collaborating first with Unite for Literacy, an organization that provides an abundance of dual language digital picture books where children, families, and teachers can hear the books in over thirty languages, and second, with talented Alaska Native partners, who helped translate and narrate the books. The project provides resources to local communities and sends the clear message that all languages - and cultures- are important. For, as others engaged in projects that provide culturally and linguistically relevant materials like the Semillitas Seedlings for Learning Project found:

The books, once completed, will be a really valuable learning tool for the young children of each tribe and will help preserve and foster language continuation... It is important to remember that it has been only recently that some tribes have begun developing written languages. Some are struggling to develop orthographies and dictionaries. So the work we are doing is very important in helping them retrieve, revive and retain their respective languages. (Rodriguez & Warrior, 2013, p. 2)

While the creation of the dual language digital children’s books with Unite for Literacy was inspired by Hadaway and Young’s finding that the “use of bilingual books in early literacy instruction may help to revitalize Indigenous languages” (2014, p.359), the creation of books does not fully reflect the entirety of the contributions needed to revitalize Indigenous languages and cultures. What is truly needed is a collaboration between teachers, families, children, and communities to help incorporate Alaska Native languages in their daily operations (Smith, Counceller, Alvanna-Stimpfle, & Charles, 2018). This qualitative study then seeks to move beyond documenting the efforts that went into creating the dual language digital books (Ayuluk, Ayuluk, et al., 2015; Ohle & Bartels, 2017) by focusing on how the books are used by teachers with their students and families. It is one thing to have the materials in hand; it is another to really examine how the materials are being used and/or if they are used to foster the skills they were intended to. As a result, this study, conducted in six Head Start preschool classrooms that primarily serve English-speaking Alaska Native children and families, investigated how teachers use the dual language digital books in their classrooms and if the teachers use these resources to foster early literacy skills and/or to reinforce native languages.
THEORETICAL FRAMEWORK

Keeping in mind the needs of Alaska Native peoples, the study adopted an approach and a perspective that envisions not dying languages, but the possibility of languages that will help transmit the knowledge of place and the cultural traditions for families, children, and future generations. In considering the consequences specifically related to language status and power, the study was inspired and informed by Cummins’ work on Empowerment Theory, which suggests schools that are successful in helping to empower their students incorporate minority students’ language and culture into the school program; encourage community participation and treat it as integral to the larger program; encourage students to use language to generate knowledge; and use professionals involved in assessment to advocate for students (1986).

Cummins’ Empowerment Theory postures that schools that both incorporate and celebrate minority languages display an increased sense of empowerment within their students, as the encouragement of home language use at school reinforces positive self-image and social and emotional maturation within children. They develop more positive identities as learners and are more engaged in literacy activities (Bernhardt, et al., 2006). In addition, the inclusion of minority languages is linked to a stronger understanding of linguistics in regard to both languages and is significantly related to students’ academic success (1986).

Cummins’ Theory affords teachers agency, encouraging them to take the lead in promoting dual language practices. It also suggests that teachers should work collaboratively to create an environment in which students, families, and community members work together to maximize the learning potential of all children. This is what inspired us to both create accessible dual language digital books and help teachers consider how to use them. As such, the following literature review details out the importance in considering the literature around dual language books; digital books; family involvement; and teacher involvement.


“Our goal is to help young children not only fall in love with books, but through those books celebrate their language and culture.” (Clyde & Condon, 2011, p. 12)

Choosing books. When considering what materials would be of value to help respond to the needs of Alaska Native peoples, we chose books. Books help communities ensure local knowledge and stories will be preserved long after storytellers, elders, and authors pass on, thus becoming a permanent means of preserving language and culture. Books also become a means to ensuring later educational success. Researchers have documented that homes with 100 books that are used, enjoyed, and discussed are homes where children experience success in school and beyond; perhaps even more astounding, research has indicated having a 500-book library can boost a child’s education by 3.2 years, an effect that surpasses the effects of parental education levels (Evans, Kelly, Sikora, & Treiman, 2010). However, according to Unite for Literacy’s interactive Book Desert Map, which shows in visual form the high prevalence of book scarcity, only 31-40 percent of homes in Alaska have more than 100 books. This could be due to the fact that many families, because of their remote and rural locations, struggle to borrow or purchase books, leading to long-term accessibility issues, which we wanted to help resolve.
This connection to later academic success comes from the numerous skills children obtain from using and interacting with books. In addition to transmitting important literature and themes from one generation to the next, books allow children to develop emotional intelligence and creativity while nurturing growth and the development of the child’s personality and social skills (Norton & Norton, 2010). When portrayed accurately, books can give students an appreciation about their own cultural heritage as well as others, as multicultural literature “cultivates an educated awareness to other cultural customs and values, promotes communication with people from other countries, and enhances experiences involving theirs’ and others’ cultures” (Lowery and Sabis-Burns, 2007, p. 50).

Choosing dual language books. Indigenous dual language books expand awareness of cultural and language diversity among both Indigenous and non-Indigenous readers by sharing both the dominant language (English) and a partner language. As such, “Indigenous bilingual books offer an opportunity to create awareness of and help revitalize Indigenous languages” (Hadaway & Young, 2014, p. 363). These dual language books also provide a vehicle in which emergent literacy skills can be taught, including those related to print concepts, fluency, vocabulary, phonemic and phonological awareness, and comprehension. Many studies have shown that numerous skills in reading transfer from one language to another (Bialystok, 1991, Cummins, 1989 & 1991, Hudelson, 1994, Lessow-Hurely, 2005, as reported in Ovando & Combs, 2012). These skills include general strategies, habits and attitudes, knowledge of text structure, rhetorical devices, sensorimotor skills, visual-perceptual, and cognitive function. There is also considerable evidence that vocabulary and complex structures of language are more readily encountered in books than in social conversation (Cummins, 2000) and that students can comprehend much more through listening and reading (Ovando and Combs, 2012). All of these benefits can be facilitated through the use of dual language books.

Choosing digital books. Given issues around accessibility and wanting to honor the origins of Alaska Native languages, which were oral, the decision was made to create digital books that included language files. This access is especially important for Indigenous populations whose heritage language – the language of their ancestors – is different from their home language, or the one they grew up speaking. Due in part to past efforts to repress Alaska Native languages as part of the forced assimilation of Indigenous peoples, 75% of all Alaska Native children are living in homes where English is spoken more frequently than their native heritage language (DeVoe & Darling-Churchill, 2008) and the majority attend schools with teachers who do not speak it either. Thus the only way to ensure the languages would be heard and taught accurately was by providing a recording of it within the context of the books.

While digital books help ensure issues related to accessibility and accuracy, this medium is also recognized as an instructional material that builds on the funds of knowledge all children bring to school (Gonzalez, Moll, & Amanti, 2009; Moll, Saez, & Dworin, 2001). Additionally, research has shown tangible benefits outside of those that exist for traditional forms. For example, Ciampa found in her qualitative study of eight students in first grade, the digital books enhanced the reading motivation of her beginning readers (2012); other studies suggest the digital supports in such books can go beyond supporting engagement by also helping support vocabulary development, comprehension, and phonological awareness skills (Verhallen, Bus, & DeJong, 2006; Zucker, Moody, & McKenna, 2009). While findings have shown higher levels of persistence during adult-led readings of digital books over adult-led readings of traditional
books, they have also suggested that both media and manner matter, as results from a study of twenty-five preschoolers suggested medium effect sizes were present when adults were present (as opposed to children reading digital books independently) (Moody, 2010). This finding reminds us that books alone do not make the difference but that we must also consider the impact of families and teachers using them.

Choosing to work with families. Given that adults’ use of interactive book reading with children can yield significant gains in language skills, regardless of social class (Whitehurst, Epstein, Angell, Payne, Crone, & Fischel, 1994), with the home intervention seen as being critical (Whitehurst & Lonigan, 1998), one must consider the impact of and on families. Beyond language skills, there is evidence that using dual language books encourages greater parent support and involvement in education (Dutcher, 2004; Perez, 2003; Ernst-Slavit, 1997; Medina, 2010; Rodriguez-Valles, 2011; Sneddon, 2008), which is important given that studies have demonstrated that parent involvement in school is significantly associated with lower rates of high school dropout, increased on-time high school completion, and highest grade completed (Barnard, 2004). For example, in a study that looked at the effects of a school sending home dual language books, a close relationship was formed with the parents. “The provision of dual language books by the school signaled to parents and children the importance of valuing and developing their bilingual heritage” (Sneddon, 2008, p. 81). This also encouraged parents to become involved in the literacy practices of their children and demonstrated that there are “ways in which teachers (and indeed researchers) who do not share the languages of the children can still provide opportunities for children to develop as additive bilinguals... They provide spaces where evolving heritage identities can be explored, shared and developed” (p. 82). Family involvement has also been stressed by those involved in language revitalization efforts around the world, who have stressed that Indigenous language revitalization must include intergenerational transmission of the language in the home and community (Henze & Davis, 1999).

Choosing to work with teachers. While providing dual language books to families is important, one must remember the pivotal role a teacher plays in establishing a close relationship between the parents and schools. In the case of Rodriguez-Valls’ (2011) work with an after-school reading cooperative in which families were given bilingual books and instructions in dialogic reading, both the parents and children seemed to develop self-confidence. Sneddon’s (2008) work looked at the effects of a school sending home dual-language books in a community in England and found that because of the teacher’s encouragement to learn the home language, a close relationship was formed between the school and the parents. In one case, this resulted in two Albanian mothers then volunteering in the school.

Outside of encouraging parental involvement, Naqvi, McKeough, Thorne, and Pfitscher (2012) also found that “children become more present, actively engaged and legitimized if opportunities are given to use their home language at school” (p. 503) in their study, where the hope was that young dual language learners would be empowered to use their linguistic and cultural capital after having their home languages recognized and legitimized in the book readings by the teachers and local volunteers who read them. However, this objective was compromised when Naqvi et al. found that only “...approximately 35% of the sessions showed some evidence of culturally and linguistically responsive teaching” (p. 522) and even fewer sessions showed substantial evidence, highlighting the need in the teaching community for
greater support in linguistically and culturally responsive teaching practices that will support students in maintaining their native language.

While Naqvi et al. (2012) found that, “the school and teachers generally ignore their home languages and literacies, vital ‘funds of knowledge’ that might contribute to academic learning” (p. 503), we were interested in finding out if this would prove to be true in our community where there is a true risk of language extinction. We also wondered if the outcome might be different given that the dual language books we used were digital, an area previously unexplored in past studies. Thus, desiring to build off the work already completed regarding the use of dual language books, digital books, family involvement, and teacher influences, we initiated a qualitative study to answer these two research questions: How do teachers in an Alaskan community with the threat of language extinction looming use dual language digital books in their classrooms? Do teachers use these resources to foster early literacy and/or to help teach and preserve native languages?

**METHODOLOGY**

**Setting**

The study was conducted in a large urban area in Alaska known for supporting a wide diversity of cultures, races, and languages, where 21% of the families’ primary language is not English and 107 different languages are spoken (ASD, 2015). In particular, there is a large percentage of families who identify as Alaska Native but whose heritage language is not their home language, making it distinct and different from other diverse sites.

The purposely-sampled school chosen for the study is a federally funded Tribal Head Start and focuses specifically on serving Alaska Native and American Indian populations: their mission statement reads, “Building strong foundations with Alaska Native Families through Alaska Native cultures and education” and all families must submit a copy of the child or parent’s Certificate of Indian Blood (CIB). There is not a similar requirement for teachers. The school serves 175 three to five-year old children and their families with a part-time program. Additionally, 28 six-week to five-year old Early Head Start children and their families attend the full day program. At the time of the study, it did not promote a particular Alaska Native language and most of its families spoke only English, although the majority of Native families that speak a language other than English tend to speak Yup’ik, the most common of heritage languages spoken by English learners in Alaska (EdFacts, 2014). The school was chosen because of its vested interest in promoting and preserving Indigenous languages, its aspirations of becoming a language immersion school, and its past history of collaborating with the university to help promote culturally responsive teaching practices.

**Study Design**

Using a convenience sample and in accordance with the recruitment and consent procedures approved by the researcher’s university Institutional Review Board, teachers were recruited from six classrooms to participate in the study, which was focused on how teachers use the dual language digital books available on the Unite for Literacy website. Participation consisted of
allowing a researcher to observe in their classroom and also interview them. Once the observations and interviews were completed, the researcher analyzed the data using a qualitative approach, allowing the most salient themes to emerge.

**Participants.** The six participants were early childhood classroom teachers that work with primarily Alaska Native and American Indian children. They had between one and twenty years of experience, varying levels of education, and were of varying races and cultural backgrounds. Half were bilingual (two of whom spoke Alaska Native languages) and the majority were women. No restrictions were put in place based on the age, gender, or cultural background of the teacher; in order to maintain confidentiality, little demographic information was requested and pseudonyms were used. Most of the participants had been formally introduced to the books on the Unite for Literacy website during a winter staff meeting between six and eight weeks earlier by the school’s education coordinator and the researcher, where the researcher demonstrated how to use the books on the website, facilitated a conversation about how the books could be used, and solicited ideas from the staff about how they see language being emphasized within the school environment. The teachers also received a handout on how to access the books.

**Materials.** The books shared with the teachers are located on the Unite for Literacy website (www.uniteforliteracy.com), free of cost. There are over 200 books on the site in over 30 languages, two of which are Alaska Native languages (Cup’ik, which is similar to Yupik, and Inupiaq). The books are original, primarily non-fiction picture books and are intended to support beginning readers, particularly through oral language, which is achieved through the use of audio buttons that allow readers to hear narrations by native speakers in the chosen language. The books include predictable language, frequently used vocabulary words, and reinforce many beginning concepts like colors, animals, and numbers. The text on the page ranges from one word to several sentences. Additionally, the books include pictures and photographs that portray a rich diversity of peoples. Because Unite for Literacy relies on volunteers to translate and narrate the books, the number of books available in each language varies. At the time of the study, there were fifty books available in Cup’ik and twenty-five books in Inupiaq.

**Classroom observations.** In order to get an accurate portrayal of how teachers use the dual language digital books, the school’s education coordinator requested each willing teacher arrange a time with the researcher to come in and observe them. The twenty to sixty minute observations occurred over a three-week period of time in the late spring (approximately six to eight weeks after the initial demonstration on how to use them) and at a time convenient to the teacher, which allowed them to make their own instructional decisions on how the books might be best used with their students. In all cases but one, the researcher sat apart from the class, careful to not interfere with instruction or interact with the students. She took field notes on how the teacher used the books in his or her classroom, with attention focused on how they used the books to promote concepts of early literacy and teach and reinforce Indigenous languages. In the one case when the researcher did interact, it was to help access and read the dual language books upon student request. During the visits, the researcher observed many of the teachers formally and informally introduce the books to the children using tablets and/or large projection screens. There was also variation in grouping strategies, with a few teachers working with the entire class, one working with two to three children at a time, and the majority working
with between six and ten children in a small group. Several also provided time for the children to explore the books themselves.

**Interviews.** After the observations were completed, most teachers sat down in person with the researcher to discuss the lesson and how they planned on using the books with their students and their families. In one case, the teacher chose to email their responses and in another, the teacher voiced a reluctance to talk further given time constraints. The interview included questions about how the teachers used the Unite for Literacy dual language digital books, if using the books changed their instructional practices, if the teacher saw the children and/or their families using or interacting with them, how they reinforced early literacy practices and/or home languages using the books, and any benefits or disadvantages to using them. These interviews lasted no more than fifteen minutes.

**Analysis.** A qualitative approach, where key themes and patterns were identified through the use of coding, was used to help describe the resulting variation, individual experiences, and relationships (Coffey & Atkinson, 1996) that emerged in the field notes and interviews. A thematic analysis, where data was coded and segregated into data clumps for further analysis and description (Glesne, 2006), was used to identify significant thoughts, ideas, and patterns, as is characteristic of open-coding schemes. The notes that emerged from both sources of data were then compared and contrasted, which enabled the most prolific ideas to emerge within and across individual responses and data sources (Miles & Huberman, 1984). This resulted in three major codes around content and concept-based instruction, early literacy skills, and efforts to recognize or reinforce diverse home languages. A fourth minor code also emerged – albeit just through the interviews - around the teachers’ beliefs around families’ use of the books. These results were then shared with the education coordinator, who confirmed that they reflected what she saw during her informal observations and interactions within the classrooms.

To ensure the research was conducted with rigor, efforts were made to ensure credibility through the clarification of researcher bias (i.e. the researcher’s role in creating the books and providing the initial training on how to use the books) so the research itself was transparent; to allow transferability by sharing sufficient detail of the results and the contexts in which they were gathered; to create dependability by using multiple methods of data collection and analysis; and to promote confirmability, by triangulating the data and using member checking.

**RESULTS**

Using interview and observational data, this study sought to understand how teachers use dual language digital books in their classrooms and if they use these resources to foster early literacy and/or to help teach and preserve native languages. The major findings were that the books were used to help introduce specific content and concepts, reinforce and teach early literacy concepts, and recognize and reinforce home languages. A fourth minor code around the teachers’ beliefs around families’ use of the books was also noted. For the purposes of this paper, early literacy concepts include those that hit upon print concepts, fluency, vocabulary, phonemic and phonological awareness, and comprehension. An abbreviated display about how the teachers used them can be found in Table 1.
TABLE 1
Observational Data

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Age of Students</th>
<th>Activity Observed</th>
<th>Materials Used</th>
<th>Objective of Lesson of</th>
<th>Languages Observed</th>
<th>Early Literacy Concepts Reinforced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffrey</td>
<td>4-5</td>
<td>Whole group story time</td>
<td>UfL books, iPads</td>
<td>Connecting the book to their unit on ocean study</td>
<td>English</td>
<td>Comprehension (accessing prior knowledge), vocabulary</td>
</tr>
<tr>
<td>Amelia</td>
<td>3-5</td>
<td>Whole group story time, snack time, dismissal</td>
<td>UfL books, SmartBoard, hard copy books</td>
<td>Listening to books in multiple languages, introducing vocabulary</td>
<td>English, Inupiaq, Spanish</td>
<td>Comprehension, vocabulary</td>
</tr>
<tr>
<td>Mary</td>
<td>3-5</td>
<td>Whole group circle time, small group exploration</td>
<td>UfL books, iPads</td>
<td>Listening to different stories</td>
<td>English, Vietnamese, Chinese</td>
<td>Comprehension, vocabulary</td>
</tr>
<tr>
<td>Tanisha</td>
<td>3-5</td>
<td>Whole group circle time, partner reads</td>
<td>UfL books, Table screen, iPads</td>
<td>How to use the site to listen to books independently</td>
<td>English, Inupiaq</td>
<td>Comprehension (making predictions and connections)</td>
</tr>
<tr>
<td>Allison</td>
<td>2-3</td>
<td>Choice time</td>
<td>UfL books, iPads</td>
<td>How to use the site to listen to books independently</td>
<td>English, Inupiaq</td>
<td>Comprehension</td>
</tr>
<tr>
<td>Julie</td>
<td>3-5</td>
<td>Whole group story time, small group work</td>
<td>Dual language hard copy book, UfL books, iPads</td>
<td>Listening to different stories</td>
<td>English, Yup’ik, Inupiaq</td>
<td>Comprehension</td>
</tr>
</tbody>
</table>

Content/Concept-Specific Instruction

Frequently, teachers were observed using the books to introduce certain topics of inquiry the class was already studying or to reinforce popular concepts at their students’ developmental levels. For example, Jeffrey, an experienced teacher whose class was studying marine wildlife, was observed pulling up the book, *Who is in the Ocean?* (Hartman, n.d.) on the iPad and had his four and five-year-old students gather around a table to listen to it in English. He started the conversation by accessing their prior knowledge, prompting them with, “Remember when we talked about sea urchins? What do you remember?” In response, the students generated responses like, “It was red!”, “It was blue!” and “You shouldn’t step on it.” Jeffrey then helped them see the book as a resource by stating, “Let’s see what other animals live in the ocean. This book is called, *Who is in the Ocean?*” where he then went on to introduce the children to sea anemones, fish (whom the children insisted were salmon!), starfish, sea turtles, and leopard...
sharks. He paused after each to share more information about the animals (“Its correct name is a sea star and it has lots of legs and lives at the bottom of the ocean”), elicit information from the children (“What do fish need to breathe?”), and reinforce other strategies like making predictions (“How many eggs do you think the turtles lay?”), explaining phenomena (“Why do think they are called leopard sharks?”), and reinforcing vocabulary (like “gills” and “kelp”). He later commented that since he only had English speaking students, he had not had the opportunity to incorporate the dual language component but “with some language training I would be more than willing to use dual language stories”.

Allison, a noticeably quieter teacher, chose not to focus on a particular content area but instead used the books to more informally introduce or reinforce concepts to her two and three-year-old students as they naturally arose in the books. She chose to use the books during her students’ free choice time where she called three children to her table and allowed them to pick a book on the iPad. When they listened to *Violet Counts to 100* (Hartman, n.d.) in English, she asked, “Do you know how to count to 100?” and after seeing a page full of cookies in *December* (Francis, n.d.), she asked, “Do you like cookies?”. The books were used as conversation starters, allowing her to make connections to skills they practiced in the classroom (like counting) and to them personally (by asking their opinions). In both of these cases, while the books were incorporated into the classroom, they did not fundamentally change the teachers’ instruction.

**Inclusion of Early Literacy Concepts**

While teachers were observed using the books to introduce certain topics of inquiry or to reinforce developmentally appropriate skills, the instruction always reinforced an early literacy concept as well. Jeffrey, who commented that he finds both informal and formal opportunities to reinforce early literacy, added some phonics instruction when he modeled how to decode the word “fish” (“Remember, the ‘s’ and ‘h’ work together to make “sh”) and Allison helped her students make text-to-self connections when discussing if they liked cookies. Similar comprehension strategies were routinely reinforced in other classrooms as well. When reading *Follow Your Feet* (McGuffee, n.d.) with the whole class using a large tablet, Tanisha, an experienced teacher, prompted the children to think about what else they used their feet for; afterwards, when they were allowed to choose their own books on an iPad with a partner, she continued to help them make personal connections to the books, like when she pointed to an animal and asked them to consider an animal that looked similar but that lived in Alaska. Teachers were also seen emphasizing new vocabulary. Julie, a newer teacher, did this using the book, *Who Loves Flowers?* (Locke, n.d.) on an iPad when she introduced her three, four, and five-year-old students to what a gardener, florist, and botanist were by asking open-ended questions and modeling how they might figure it out. She commented later in her interview that she tried to label things and point out new words as much as possible during her instruction.

Teacher: “Botanist. Hmmm… I wonder what that is. Let’s change the page to find out.”
Teacher (reads): “Botanists study flowers to learn about plant life. Do you?”
Child: “No one knows what flowers are like.”
Teacher: “But what do you see in the picture?”
Mary, a newer teacher, also did this in her whole group setting, as she read *Watch Out!* (Hartman, n.d.) on an iPad: “Deer are dashing... that’s pretty close to jumping. Like, they are jumping really fast”. Regardless of the approach, the books were used to reinforce early literacy concepts; as was the case with those that used the books to introduce content and concepts, the books were not used to fundamentally change the instruction.

**Recognition and Reinforcement of Diverse Languages**

While most of the teachers did include vocabulary in their lessons, about half of them intentionally introduced vocabulary in a language other than English. For example, Mary started her whole group lesson by asking if anyone knew another language or if they had heard another language. After the class identified a student with a Vietnamese mother (“He does! He does!”) and several children mentioned grandparents, Mary intentionally chose a book where she switched between English, Inupiaq, and Vietnamese using the iPad so that she could reinforce multiple kids’ home languages, commenting during the lesson, “She keeps saying ‘Goy chuin’. That must mean ‘watch out’!” She later explained that she knew the student did not speak Vietnamese but that he understood it and she wanted to honor and reinforce that knowledge.

Another teacher, Amelia, intentionally introduced the word “cold” in Inupiaq using the book, *Is it Cold Outside?* (Hartman, n.d.) on the SmartBoard in the school activity room, choosing a language that was reflective of her own heritage language. Using the book and hand motions, the children enthusiastically practiced the word over and over again.

Interestingly, even when the teachers did not intentionally draw attention to other languages, the children did. Tanisha, who had shown her students how to change the narration language for a story, commented in an interview afterwards that she found herself particularly moved after listening to the book *Follow Your Feet* (McGuffee, n.d.) in Inupiaq with the class when a Yup’ik student exclaimed, “It sounds like my aka!”. Julie heard a similar comment when during an independent exploration time, a student who chose to listen to a book in Cup’ik on an iPad excitedly shouted out, “It sounds like Miss Iris!”, another assistant teacher from the school who speaks Yup’ik. This event then inspired Julie to have Miss Iris read the book “Berry Magic” (Sloat & Huffmon, 2004) in Yup’ik to the whole class, which was captured in field notes:

*Miss Iris sits down in the chair at the front of the room, the children fanned out around her in a semi-circle. She introduces the book Berry Magic, which is not a Unite for Literacy book, in Yup’ik and starts to read, never pausing to translate. As she reads, the children look at her, rapt, and as she gets to the chorus in the story, she begins to sing. The children start rocking their bodies to the rhythm and the second time through, some begin to sing the Yup’ik words with her, “Atsa-ii-ya, Atsa-ii-ya, Atsaukina!” I find out later, the children have heard the story in English and while not fluent in Yup’ik, were familiar with the rhythm and pace Miss Iris had used in previous readings of the chorus.*

The children’s connections and fascinations with the various languages seemed to have an impact on the teachers, inspiring them to further recognize or reinforce multiple languages. As did Julie and Miss Iris, Amelia also responded to their interests. In that instance, after listening to the book in Inupiaq, several children asked if they could then listen to the book in Spanish, which she then facilitated by changing the narration language on the SmartBoard and prompting
the children to repeat the words in the second language. Their excitement with this development was heightened by the fact that Amelia allowed the children to come up and press the audio buttons on the SmartBoard, allowing them to make the choice of whether or not to listen in English or Spanish; nearly every child chose the latter and as she commented later, “They wanted to hear the ‘cool languages.’” Responding to their excitement even further, Amelia then extended the book exploration after their snack time. The children were quick to respond, prompting the various adults in the classroom reading with them to press the Inupiaq buttons, shouting, “Do it again! Do it again!” and laughing. In contrast with the previous findings, the dual language digital books were catalysts and appeared to change the instruction.

Interest in Sharing with Families

While none of the teachers were observed sharing the books with families, a number of them thought it was a good idea or had even taken steps towards recommending them. For example, Julie recommended the books on Unite for Literacy to an Arabic family, who already knew about it. Allison saw the books as being something good for children to use “instead of games” (when playing on their parents’ phones) when the parents were busy. Amelia spoke about incorporating them as an option for fulfilling the children’s weekly reading goals (reading a certain number of pages each week), as an option for younger children wanting to do “homework” like their older siblings, or for parents to use on car rides. Her response, which echoed Allison’s comments, positioned the use of the books as being related to entertainment or something the children might use more informally or independently. However, these were in contrast to the views shared by Jeffrey, who felt the dual language digital books were more beneficial for families because they were relatable, connected to different cultures, and a tool for them to use when reading to their children and working on comprehension skills. While Jeffrey’s statements emphasized emergent literacy concepts and Julie’s emphasis, in theory, may have been on reinforcing diverse languages (given that she specifically recommended them to a bilingual family), overall the uses did not reinforce how they used the books in their classroom.

In sum, the teachers used the dual language digital books to reinforce content and concepts, emphasize emergent literacy concepts, and recognize and reinforce multiple diverse languages; they also acknowledged the potential use with families. In most cases the dual language digital books did not fundamentally alter or change the teachers’ instruction, nor were the recommendations for families meant to fundamentally alter their interactions; which leads one to believe that in response to the second research questions, “Do teachers use these resources to foster early literacy and/or to help teach and preserve native languages?”, while the teachers were responsive and intentional in how they used the books to foster early literacy, in how they imagined families might use them, and in engaging the children, they did not typically use or view as ways in which to teach and preserve native languages.

DISCUSSION

The main research questions in this study were how teachers use dual language digital books in their classrooms and if teachers use these resources to foster early literacy and/or to help teach and preserve native languages. Based on the observations of six teachers, it was found that one-
third of the teachers used the books to introduce certain topics of inquiry or concepts the class was already studying or to reinforce popular concepts appropriate to their students’ developmental levels; approximately two-thirds of the teachers used the books to recognize and reinforce diverse home languages; and all six of the teachers taught or reinforced early literacy skills. These skills were taught and reinforced in a variety of settings, including whole group, small group, and independent exploration choice time.

While not in response to an explicit research question, an underlying theme present in the findings was that the teachers seemed to make many of their instructional decisions, not in response to having the researcher in their classroom but instead, in response to the children’s ages, interests, and skills. This applied to all three results. In the case of those who used the books to reinforce certain content or concepts, the teacher with slightly older students was able to engage in higher-level conversations around things like sea urchins while the teacher with much younger students responded by sharing shorter and more simple books that reinforced counting. This also played a part in the instructional settings they used. For example, Allison, who had the youngest students, simply incorporated the dual language digital books into her choice time, as opposed to trying to wrangle sixteen young children into a whole group instructional setting whereas Julie had slightly older children who could sit attentively in a group and listen.

The choices in which emergent literacy skills they reinforced were tied to their students’ developmental levels and needs as well, varying from demonstrating how one can use a picture cue to figure out a new vocabulary word, which was done with three to five year-olds, to modeling how one might decipher a digraph with four and five year-olds, to prompting them to make personal connections to a text with those ages two and up. There were also times when the teachers reinforced fluency, as Julie and Miss Iris did during the reading of Berry Magic (Sloat & Huffmon, 2004) or when Amelia had her students repeat the Inupiaq and Spanish translations during the reading of Is it Cold Outside? (Hartman, n.d.). In each of these instances, the teachers took cues from their students and seamlessly knit the prompts into their lessons, providing opportunities for the children to work on the skills that were most relevant to them.

This process of responding to cues also surfaced throughout the instances when diverse languages were reinforced. For example, Amelia and Julie spent more time listening to the books in languages other than English but they, and their children, seemed to have a natural propensity and interest in this, as was seen when Julie’s students sat rocking and singing during Miss Iris’ reading of Berry Magic (Sloat & Huffmon, 2004) and Amelia’s students requested the book be read in Spanish. In sum, the teachers used the dual language digital books but in a fashion that responded and attended to their children’s needs.

One element that seemed to help the teachers respond to their children’s needs was that the books were digital, easily manipulated, and could be heard. This reinforces the finding from Zucker et al. (2009), whose research indicated that such digital supports can support reading engagement, vocabulary development, comprehension, and phonological awareness skills, as this allows children, who cannot read on their own to explore and listen to books without needing assistance. Several teachers took advantage of this by allowing the children to use tablets or iPads to listen to the books during small group, free choice times, and even during dismissal. This afforded the children some autonomy and also took pressure off the teachers when it came to trying to pronounce many of the Indigenous words, an issue that was problematic for everyone but Amelia and Tanisha, who spoke an Indigenous language themselves.

Despite the fact that most teachers did not speak an Indigenous language, one finding that was of particular interest was the number of teachers who specifically tried to recognize and reinforce
the use of diverse home languages. This percentage was higher than those found in Naqvi et. al’s (2012) study and is particularly promising given that it has been documented that minority students who are empowered by their school experiences through the use of dual language books, may gain a stronger sense of identity. Hudleston (1987) found that by encouraging native languages, children viewed themselves as competent readers and writers (not being limited by developing language skills). While the data in this study is too limited to generalizations or conclusions, it leads one to wonder what effect the use of dual language books might have on children like Mary’s student who was Vietnamese, or the student in Tanisha’s room who made a connection to the word like “Aka,” a native word used in their home. Such connections are paramount for, as Cummin’s theoretical framework suggests, students who are empowered by their experiences in school develop more confidence and motivation to succeed (2000).

There is also reason to hope that the students could carry their experiences using the dual language digital books in the classroom into their homes. While none of the teachers spoke extensively about introducing them to families, albeit for one reference from Julie, most said they thought it “was a good idea” to share the resource with them. Additionally, Allison and Tanisha took the time to show their students how to access the dual language books online, which the students could then replicate at home. Through developing the students’ ability to access these books at home they have the potential to interact with their family members in dual language digital book reading and “discover reading as an important skill, valued not only by the dominant language society, but also by members of their own or other language-minority communities” (Naqvi et al., 2012, p.523). In this case, while not viewed during the observations explicitly, the dual language digital books have the potential to connect the student’s home and school lives, particularly if the teachers take the time to teach the parents dialectical interactive story book reading techniques (Whitehurst et al., 1994), how to make intentional decisions when using digital books, or foster the “trick-up effect” by providing families with tips to reinforce media literacy lessons (Rogow & Scheibe, 2017). This could include having teachers model how to develop digital knowledge and skills, choose a quality digital books for all learners, establish routines for accessing books on digital devices, adopt and adapt evidence-based instructional techniques, and link digital books to provide integrated teaching and learning (Roskos, 2017).

While the results were telling, as it characteristic in many qualitative studies, commentary around what was not seen is also important. In this study, while teachers did reinforce multiple languages, they did not appear overly concerned about the vulnerable state of the Alaska Native languages. Although they mentioned in their interviews that it was good to use and share the books with their diverse families and their center focuses specifically on serving Alaska Native and American Indian populations, promoting Alaska Native languages was not at the forefront of their minds. This may be due to the fact that already, as Jeffrey had commented, few of them and their children speak an Alaska Native language. And, as established earlier, the teachers were focused on responding to the immediate needs of the children; this makes it difficult to attend to much larger issues, like those around language revitalization. Additionally, the dual language digital books in this study were mostly incorporated into without changing the instruction. However, if teachers do not attend to these issues, intentionally using dual language books and promoting Indigenous languages amongst the youngest of learners, who will?
Implications

These findings have implications for a variety of stakeholders, including teachers, families, and school administrators.

**Teachers.** All six teachers observed in this study were able to incorporate the use of dual language books into their classroom practice and during these observations, children in five of the classrooms were exposed to multiple languages. While the observations were too brief and the number of subjects too small to make any concrete conclusions, it is worth considering the many benefits that students receive when they are exposed to and learn other languages (Ovando & Combs, 2012). As such, we recommend teachers consider how they might transform their classrooms to incorporate the linguistic, cultural, social, and intellectual backgrounds students bring to school, incorporating children’s home languages in meaningful ways that improve children’s literacy skills and reinforce their cultural identities (Dudley-Marling & Stires, 1992). To do so, we recommend moving beyond just having the children listen to the words but instead, repeat them. For, if teachers prompt their students to use the expressive vocabulary of the Indigenous or heritage language, the students have opportunities to learn and use these words with greater frequency, which could assist in long-term language revitalization efforts. This could result in outcomes different from those documented by Miller, whose work documented that often when teachers use the receptive vocabulary of a home language in their classroom, it is to support the acquisition and understanding of English (2016).

For those teachers who are not comfortable using multiple languages or reinforcing biliterate practices, they can still contribute to students’ biliterate abilities by allowing the students to lead the way (Delbridge & Helman, 2016). Evidence-based strategies for teachers who do not use bilingual instruction but have students who are include collaborative writing of life events, authoring dual language texts, creating vocabulary bridges, considering identity during reading, and hosting family literacy nights (2016). Family literacy nights that encourage greater family support and involvement in education would be a great way to introduce the school community to the dual language digital books. Since it cannot be assumed that families will seek out these resources or naturally know how to use them, teachers should make a point of introducing them and modeling how one can use the dual language digital books to introduce content and concepts being attended to in class, teach early literacy skills, and recognize and reinforce multiple languages, the same ways in which the study participants used them. Even better, it would be advantageous to integrate the family’s language and culture into these programs and collaborate with families to construct the family involvement programs in the first place, a strategy that has emerged as being especially fruitful when considering literacy and language programs that have long-term impacts on dual language learners (Lewis & Ginsburg-Block, 2014).

**Families.** Families should be encouraged to develop their native heritage languages without fear of hindering the academic development of their child in school; as was witnessed in this study, many of the teachers were actively seeking out opportunities to recognize and build off families’ biliteracy and culture, as opposed to commonly held misperceptions that teachers are concerned that a second language is a hindrance. For those not confident speaking the Indigenous languages of their peoples, as is the case for many Alaska Native families where generations have been prevented from learning their heritage language, reading dual language
digital books like those available on Unite for Literacy helps ensure all family members are exposed to, and see the value in, native heritage languages. This is especially important in Alaska, where the Alaska Native Language Council has explicitly spoken out about the need to help native peoples acknowledge and heal from the historical trauma inflicted through state and school policies and to support language normalization (Smith et al., 2018).

Additionally, families can and should use their children’s teachers as models for how they might reinforce early literacy concepts while engaging in shared book reading. In this study, the teachers seemingly effortlessly wove in questions that helped emphasize comprehension strategies, vocabulary, and phonemic awareness. Despite the natural fluidity witnessed in the classrooms, it cannot be assumed that all families naturally know how to do the same with their children. Thus, using the teachers as models might be one way for families to increase the quality of the interactions; a second would be attending a scaffolded program within a family literacy night where families not only receive dual language books but assistance in using dialogic reading strategies (Rodriguez-Valls, 2011), as families’ use of dialogic reading has been critical in helping children make significant gains in language skills (Whitehurst & Lonigan, 1998); and a third would be by receiving in-depth training and while this method tends to increase parents’ sense of self-efficacy (Lewis & Ginsburg-Block, 2014), all three options show promise in strengthening both the home-school connection and children’s literacy skills.

**School Administrators.** In order for change to occur, someone must take the lead and school administrators are in a unique position to do so, as they work at the systems level with both teachers and families. Given that young children are more likely to experience incomplete acquisition of their heritage languages without systematic support at home and school (Kohnert, Yim, Nett, et al., 2005) and Cummins’ suggestions that schools can be successful in helping empower their students (1986), this is a role we encourage administrators to take on by considering the following measures:

First, given the increasing interest in dual language education (U.S. Department of Education, 2015) and the mounting evidence that dual language programs both support biliteracy and greater family involvement in education, school administrators might consider if a dual language or immersion school might benefit them and the families they serve and second, how they might obtain dual-language materials. “Resources, both material and human, must be considered, along with community interest. In the case of less commonly taught languages, these issues may define what is possible” (Klee, Lynch, & Tarone, 1998, p.7). While Unite for Literacy’s site was used by these teachers, it is not to be implied that it is the only tool that supports dual language learners. Thus, school administrators are urged to not only consider how they might implement an immersion or dual language program but also how they might partner with other researchers and educators, like myself, to create dual language materials.

Second, administrators should be aware that if they use dual language materials that utilize a digital medium, such as we did, they need to provide systemic supports. This includes providing teachers with professional development that support Universal Design for Learning principles and the use of evidence-based tools; school-based information technology teams; and technical support that can respond to troubleshooting requests (Biancarosa & Griffiths, 2012). Ideally, they would also want to urge their teachers to consider e-book quality, the physical environment, physical engagement, and instruction when choosing to integrate digital books into reading instruction (Roskos, 2017).

A third point of consideration is in regards to how administrators might assist their teachers in incorporating multiple languages into the classroom. While the teachers in this study
did so in a variety of ways, studies have shown that first, when teachers of dual language learners participate in professional development that is content-specific, incorporates coaching, and uses assessment in progress monitoring, “teachers made significant gains in the quality of their language and literacy practices and general classroom environment” (Hoisington, Young, Anastasopoulos, & Washburn, 2015, p.25); and second, when teachers gain knowledge about levels of scaffolded dialogic reading, their teaching improves, boosting students’ engagement (Matera, Armas, & Lavadenz, 2010). Thus, administrators should not only consider whether an immersion school might benefit their students and how they might obtain materials but also how they would support their teachers in helping realize the potential benefits.

**Limitations & Future Directions**

This study is not without limitations. To start, this study used a very small sample size and those that participated, did so in part because of the educational coordinator’s interest in infusing more dual language practices; it is not clear if they would have used the dual language digital books if left to their own devices. Also, while it is important to honor and respect teachers’ schedules, preferences, and ownership of their classrooms, by coming in at the precise time they requested, it was not possible to see how the teachers used the books in a more natural, less contrived, setting. Ideally, there would have been multiple observations in each classroom, completed over different parts of the day, leading to a more authentic assessment. Finally, while the teachers’ perceptions and actions were important to capture, this study did not fully acknowledge the impact the families might have, as it did not include the families’ use of the dual language digital books or recognize the potential issues that occur when they themselves do not use their heritage language. Attending to these two points would have provided a more complete picture of how the books are used and could benefit or compromise children’s early literacy and language acquisition skills.

One of the other major limitations was related to the books themselves, as those that were available to the teachers in this study were limited. Many of the other Alaska Native languages lack representation within the digital library and there were no alternatives for those without access to a mobile device, computer, or tablet. The stories are not necessarily reflective of each culture reading them, as they are more general, concept-driven books that were created for a very diverse audience, not just an Indigenous one. This element, the use of books that represent important cultural values and practices of the community, proved to be incredibly valuable in a study of Latino mother’s involvement in a culturally responsive interactive book-reading intervention (Hammer & Sawyer, 2016) and unfortunately, that was not attended to in such a thoughtful way in this study. This is less than ideal, as that both compromises the potential impact of the dual language books and could demonstrate to students that others do not necessarily value their unique cultures, a message that is unfortunately often received throughout their schooling (Cummins, 2005).

Third, it would be disingenuous to make any statements regarding whether the teachers’ use of dual language digital books had an impact on the students or their perceptions of whether or not their culture was reinforced and valued. Additionally, one cannot ascertain whether or not using dual language digital books will lead to biliteracy or the preservation of Indigenous languages, both of which were part of the impetus behind the study. These limitations can only be overcome with a significant investment in time and resources. It is our hope that more studies
of this nature might be performed so that donors, administrators, and volunteers agree to invest in future efforts to provide more resources and support teachers in their use of dual language children’s books. In Alaska in particular, efforts must be made quickly to preserve Indigenous languages, and investing the resources into finding alternative ways to do so is essential.

CONCLUSION

“Allowing children access to their native language is one way of enabling those who have been silenced to speak” (Hudleston, 1987, p. 840).

By having access to dual language digital books, communities across Alaska are finding themselves with more tangible resources that have the potential to help encourage early literacy development and to promote native languages; they are receiving the message that their language and culture matter; and they are seizing opportunities for elders and children, speakers and non-speakers, to read together. For some, this may be the first time they have had access to an abundance of books; for many, the first time they have had books in their native heritage language. The symbolism in this – in having materials to read and listen to in languages other than English – is powerful and it is our hope that it signals an appreciation for language, for peoples, and for cultures. However, the real value is when teachers and families consciously make the decision to use these dual language books intentionally and thoughtfully, using them to teach content and concepts, reinforce early literacy skills, and systematically teach Indigenous languages; when teachers show families their language and culture are important by demonstrating an appreciation of and willingness to include their heritage languages within the classroom, inspiring families to become more involved in their children’s lives and thus helping support their academic development; and when teachers help children learn and use their heritage languages so they experience the many advantages of becoming biliterate. For while dual language digital books are important, it is the use of them that ultimately will make the difference.

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REFERENCES


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**CHILDREN’S BOOKS**


