

Arab Immigrant Mothers Parenting Their Way into Digital Biliteracy

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A growing body of research addresses children's development of literacy in multiple languages (I. Reyes), including the role family support plays in children's biliteracy development and sociolinguistic contexts (Bauer and Gort; Gregory). The great importance of the focus of this research—children's literacy learning—has understandably led literacy researchers to conceive of adult literacies primarily as what parents and elders contribute to their children's literacy development and academic success. Perhaps for this reason, little empirical research has explored the topic of how the adult literacies of parents are shaped through their participation in their children's emergent biliteracy. In this study we focus on the transnational literacies of immigrant parents and how they are influenced by using digital technologies to support their children's biliteracy. Using a qualitative case study design, we investigated the Arabic-English biliteracy development of Arab immigrant families in the US Southwest. The purpose of the study was to understand immigrant mothers' biliteracy skills in the new circumstances in which they were producing and interpreting written texts (Vieira 28-29). Unlike digitally-mediated technologies and strategies intended for explicit, directed language learning and teaching (e.g., Kern), here we focus on the participants' uses of digital technologies as they supported their children's language and literacy development in a new country and communicated with family members and friends in their countries of origin and other international contexts. We sought to answer the question of how mothers' literacies are shaped through the overlapping processes of helping their children become literate in Arabic and English and of helping their families stay in touch with family and friends in their home country via on-line and digital technologies. The study contributes to understandings of the literacies of Arab immigrants and literacy development through interpersonal relationships, and it generates pedagogical implications for adult educators working with Arabic-speaking immigrants.

THEORIZING THE DIGITAL LITERACIES OF IMMIGRANTS

The larger study from which these data are taken approached the biliteracy development of Arabic/English bilingual children from the framework of Digital Biliteracy. This construct was proposed by the first author (Al-Salmi, “Digital Biliteracy as a Social Practice”) to describe the ways transnational immigrants employ digital technologies to bridge distances and to optimize children’s learning about their family language, literacies, and cultural heritage while living in a geographical location distant from their home country. Drawing on work by theorists in New Literacy Studies (New London Group), multimodal literacies (Jewitt and Kress; Walsh), digital literacies (Casey and Bruce; McLean), and situated learning theory (Lave and Wenger), digital biliteracy explains how immigrants construct new identities and acquire new languages through participation in sociocultural activities via digital technologies, which they use as a means to relate to others who share their language and culture. As transnational agents who are engaging in enacting and maintaining interpersonal relationships, individuals expand their literacy repertoires by “moving” ideas that are embedded in digital texts and multiple languages, becoming, as a consequence, “digitally biliterate.”

In the present study we continue to view digital biliteracy, like other forms and instantiations of literacy, as an outcome of sociocultural processes, but we are also interested in literacy and texts as having dimensions of materiality and exchange that are shaped by the experience of transnationalism. Having spent parts of our scholarly lives researching and teaching outside our nations of origin, and having helped our own children develop biliteracy across national boundaries, we became interested in: how transnationals produce and interpret text; the nature of the tools, materials, and skills with which they read and write the texts they need in their daily lives; and the sources and destinations of the texts with which they are engaging.

More broadly, we are interested in the intersections of these dimensions and how Arab immigrant mothers learn how to develop and navigate these tools and skills and become “confident about using digital literacy” (Barton, Ivanic, Appleby, Hodge, and Tusting 55). In their discussion of literacy designs and social futures, William Cope and Mary Kalantzis use Edmund Husserl’s concept of “lifeworld” as the setting for the transformation that individuals experience as they become adult members of a particular group or community. In this sense, the lifeworld is the basis of cultural reproduction. They write: “The lifeworld is just there; it is what we unreflexively expect to be there because we know it is always there; it is the world in which our everyday understandings and actions have some purchase. It is the ground of our everyday lives” (206). For immigrant parents, however, the experience of living and raising biliterate children transnationally requires thought and action that go well beyond “unreflexive” “cultural reproduction.” Precisely because the “ground of everyday life” cannot be taken for granted in new national and linguistic circumstances, transnational parents develop new cultural understandings and attendant literacy forms and literacy practices. In the following sections, we describe what the mothers who participated in our study have experienced as transnational subjects.

ARAB IMMIGRANT MOTHERS AS TRANSNATIONAL SUBJECTS

One of the challenges contemporary immigration patterns present for the field of literacy studies regards the influence of transnationalism and globalization on previous understandings of who is reading and writing what and for what purposes. We use the term transnationalism to refer to the movements of people, media and texts, languages, and goods across national borders, particularly movements that are sustained over time and flow in both directions (Jiménez, Smith, and Teague). Although literacy is a relative late-comer as a lens for understanding transnationalism (Lam and Warriner; Darvin and Norton), it is well established in the research literature that the development of literacy by the kinds of immigrants we now call transnationals (Hornberger and Link; Smith and Martínez-León) involves both the revision and adaptation of previously known literate forms and practices, including what New Literacy Studies scholars describe in terms of “Available Designs” (Cope and Kalantzis) and the development of new literacy forms and practices that arise from the opportunities afforded by the immigration experience. In this article, we understand transnational literacies as “the written language practices of people who are involved in activities that span national boundaries” (Jiménez, Smith, and Teague 17). Scholars of transnationalism are questioning the role of the nation-state in the identity formation of contemporary immigrants, including proposals urging researchers to move “beyond the container theory of society” (Levitt and Glick-Schiller 1008). While the English and Arabic texts with which our participants engaged remind us that digital literacies are not contiguous with national boundaries (for example, the importance of the Quran as a text that links Arabs from diverse nations), the notion of crossing and re-crossing national boundaries is a fundamental dimension of the transnational life worlds we explored in the study. Crossing national boundaries was facilitated by the transnational digital activities and texts with which the participants engaged with extended family members. Belonging to a particular nation-state motivated the participants to initiate and sustain digital transnational activities in order to protect their identities as Arab speakers and as mothers of Arab-speaking immigrant children. As we will see, maintaining Arabic and religious beliefs were strong motivators in maintaining participants’ transnational activities, with national affiliation apparently secondary to Islamic religious identity.

Nadia Behizadeh claims that “writing is defined by texts people create for authentic contexts and purposes” (127). Here we are concerned with the digital literacies consumed, interpreted, and written by our participants for two purposes very dear to them: their children’s education and staying in close touch with family outside the US. We also kept in mind Néstor G. Canclini’s observation that while immigration often means the end of formal schooling, literacy learning continues, often in new forms corresponding to the immigrants’ transnational circumstances (169).

Children’s development of biliteracy in English and Arabic is a major concern of most Arab parents in the United States. The challenges of helping children develop literacy in Arabic while living in the US are characterized by limited access to books and printed materials in Arabic, a greatly reduced number of television and radio stations broadcasting in Arabic, not to mention the

low number of primary schools teaching Arabic (Alshaboul; Callaway; Palmer, El-Ashry, Leclere, and Chang). In addition to these material resources, the family's plans to return to the home country or to stay in the US complicate parents' and teachers' views on the importance of becoming literate in Arabic. For families planning to return with school-age children, one concern is whether US-educated children will be confident with the academic and religious texts they will encounter in their home country. Examples from Hana and Marwa throughout this study illustrate a greater concern for their children's English language development than for Arabic literacy development, because they believe their children will be able to develop literacy in Arabic when they return to their home country. For families planning to stay in the US, academic literacies will likely shift primarily or exclusively to English, but literacy in Arabic is essential for reading the Quran and for staying in touch with family and friends from home. Over the course of the study, Aseela, Kawthar, and Fatma emphasized the importance of their children's Arabic literacy development to enable them to understand Islam and appreciate the Arabic language, and as a means for communicating with loved ones in their home countries. It is important to point out that for many Arab immigrants, including three of the mothers who participated in this study, the decision to stay in the US or return home is not fixed and immutable, but rather one that fluctuates in rationale and timing as circumstances and conditions change in both communities.

THE PARTICIPANTS AND HOW WE LEARNED FROM THEM

This study emerged from a larger research project that investigated the emerging digital biliteracy of Arab pre-kindergarten children. That study (Al-Salmi, "Digital Biliteracy: Digital Technologies as Homes for Arab Immigrant Children's Biliteracy Development") used a qualitative case study design to explore the role digital technologies played in the Arabic and English literacy development of young immigrant children in an Arabic/English bilingual school and in family contexts in a city on the US-Mexico border. In documenting the literacy growth of five emergent bilingual children over a one-year period, we observed the remarkable effort and creativity that the mothers of the case-study children invested in fostering their children's biliteracy learning and school success. As we came to know these immigrant women from Egypt, Palestine, Mexico, and Libya we became fascinated by the new forms of information they encountered and the learning in which they were engaging as transnational mothers. In this article, we present examples from the same five case-study families, but our focus here is on the literacies of the mothers of the case-study children. We chose to focus on mothers, because they were the primary educators in these households, as women are in many Arab families. Between the ages of 25 and 38, Aseela, Kawthar, Fatma, Hana, and Marwa are the mothers of children spanning 1 to 10 years old. They are among the millions of people worldwide who are currently living outside their country of birth and who are using literacy to remain emotionally close to physically distant family and friends (Mihut) at the same time that they are navigating new life circumstances.

Data for the study were collected by the first author, an Arab/English bilingual who, like our

participants, was raising bilingual children in a Southwestern city on the US-Mexico border at the time of the study. Participants were selected to represent two distinct groups of Arab immigrants: those who plan to return to their home country and those who plan to reside in the US permanently. We used these selection criteria in order to compare members of the two groups in terms of their uses of digital technologies to support biliteracy. Each participating mother was interviewed at least three times, with some interviews taking place in the participants' homes and others in familiar sites such as the community center and the school playground. The first author conducted the household visits and interviews in Arabic, except when the participants wanted to use English. The first author's background as a native speaker of Omani Arabic and Standard Arabic allowed her to conduct and transcribe interviews in three different regional dialects of Arabic (Egyptian, Palestinian, and Libyan). The second author is a biliteracy scholar who has taught Arabic-speaking students in a multilingual school in Kenya. We share a background in applied linguistics and teaching English as an additional language with adult students. Thus, we were sensitive to the linguistic differences between the participants' regional varieties of Arabic and Standard Arabic and the language of reading, writing, and education in the participant's home countries, as well as to the challenges encountered by adult immigrants learning to read and write in English and by parents raising transnational children.

Participants' background

Aseela: "I found myself learning new words."

Aseela moved to the United States after she got married at the age of 28 and travelled to El Paso to live with her husband, Yazin, who first moved to El Paso in 2000 to study for a Master's degree in computer science. After graduating, he decided to stay in the city for a couple of years in order to establish himself economically. Like her husband, Aseela is college educated; she holds a bachelor's degree in finance from a university in Egypt. They have three children: Farah is 10, Ahlam is 7, and Ali is 4 years old. All three children were born in the United States. At home, Aseela, Yazin, and their children use an Egyptian variety of Arabic, yet the children use English to communicate among themselves. Aseela and her family have always planned to return to live in Egypt, but the political and economic situation there has been holding them back. As we will see, our interviews with Aseela demonstrate that her frequent interactions with digital technologies afforded her a space to learn new words and develop literacy in English.

Kawthar: "I wanted to know the meaning of the story and the words in case they ask me."

Kawthar moved to the United States in 2002 from Jordan at the age of 24, when she married her husband, Ameen. Ameen moved to El Paso in 1988 after about 6 months in Ohio taking intensive English language classes. Currently, Kawthar is a senior-year BA student in nursing, while Ameen has a BA in business from a local university. Kawthar's husband doesn't have a stable job. He is currently a taxi driver in El Paso but is searching for a job more closely related to his studies. Kawthar's 3 daughters—Lama is 3, Zahra is 7, and Dana is 9—were born in the United States. Kawthar and her husband Ameen use a Palestinian variety of Arabic to communicate with their daughters at home. They sometimes use English as well, which is the main language their daughters use to communicate

among themselves. What impressed us most about Kawthar's story was her desire to become aware of the content of digital materials that she reads to her children and how this motivated her own literacy development in English.

Fatma: *"I wish I had the digital technologies they have today when I was a child."*

Fatma moved from Mexico to Phoenix, Arizona when she was 6 years old. She met her husband, Malik, in Chicago when she was 24. Malik moved from Egypt to the United States when he was 23 years old. Fatma and Malik's shared reasons for settling in the United States were to seek better economic and educational opportunities for their family. Fatma is a convert to Islam, while Malik was born Muslim. Both Fatma and her husband are college educated. Fatma has a BA in psychology and her husband has an MD. Fatma's 3 children—Ameer is 1, Manal is 4, and Ahmed is 7 years old—were all born in the United States. At home, Fatma speaks Spanish with her children, and their father speaks Arabic with them. They regularly watch Arabic and English cartoons and educational programs. At the time of the study, this trilingual family was not planning to look for jobs outside the United States, but they realized that they might do so in the future. Fatma realizes the role that digital technologies has on her children's literacy development in Arabic. An Arabic learner herself, she expressed the wish that she had been able to access to such learning technologies when she was a child.

Hana: *"Contacting my family members was a good way to keep Arabic alive."*

Hana came to the US in 2007 at age 19 with her husband, Munther, in order for him to take English Language classes that were a prerequisite for his Masters degree. After a year in Oregon, they moved to El Paso, where Munther enrolled in an engineering Masters program and then in a PhD program. Hana dropped out of school when she was 16 and got married a year later. Her two children—Azan is 5 years old, and Magid is 4—were born in the United States. Hana's family intends to go back to their home country, Libya, after her husband finishes his studies. They consider themselves temporary residents in the US and look forward to going back to their country. Hana believes that life in Libya is better economically and culturally, because her husband has a good job there. In addition, she thinks that living in Libya will provide her children with better opportunities to learn about their culture and socialize with their cousins. Hana reported that she adopted a digital approach as a way to keep Arabic alive in her household through digital communication with her family members in Libya.

Marwa: *"I feel embarrassed when I talk to my mother and Jehan starts to speak in English."*

Marwa and her husband, Yasir, are from Libya. They immigrated to the United States in 2011 when she was 24 years old. Marwa and Yasir came to El Paso in order in order to pursue graduate degrees. Marwa is taking intensive English language courses in order to pursue a Masters degree in mechanical engineering, while her husband is doing a PhD in geology. Marwa indicated that life in Libya is economically better than in the United States. Marwa has two children: Jehan, who 3 is years old, and her brother Ismail, who is 2 years old. Jehan was born in Libya while her brother was

born in the United States. Marwa affirms that her husband's job as an academic in Libya provides a good income that affords them better living circumstances, and that is why they do not intend to stay in the United States. Our conversations with Marwa revealed that although she and her husband encourage Jehan to speak English, she recognized the powerful role of Arabic as a medium to keep transnational communications alive with their immediate and extended family members in Libya.

Having introduced our participants, we discuss our findings in the remainder of the paper in terms of three main themes: (1) participants' backgrounds with digital literacies; (2) digital literacy practices related to children's learning Arabic and English; and (3) digital literacy practices related to communicating with family and friends in the home country. We analyze these findings in light of our theoretical framework and conclude with recommendations for further research and implications for adult literacy education with Arab-speaking immigrants in the US.

MOTHERS' BACKGROUNDS WITH DIGITAL LITERACIES

Prior to their experiences parenting young children in a new country, the participating mothers' backgrounds with digital technologies seem to have been quite limited. The mothers reported limited knowledge about the use of the Internet, computers, and tablets largely because their schooling and university education did not feature the use of such devices. Middle and low socioeconomic status mothers indicated that they first learned to use a smartphone after they came to the United States. All mothers also mentioned that they first learned to use the computer and the Internet when their children started school. The children relied on their mothers to explain something they did not understand, do a project assigned by their teachers, or simply listen or watch a clip they viewed at school or play a game their classmates told them about. For instance, Aseela did not know how to use a digital device when she first came to El Paso. In fact, she did not have a computing digital device at home at the time her first child started to go to school. Soon afterward, her husband bought a desktop computer and showed Aseela how to turn it on, use the mouse, and go online to find the websites where their daughter had homework to complete. This new type of learning was hard for her, but Aseela realized that “[She] had to learn how to do it in order to help [her] child. [She] wanted to make sure she is learning and is doing her homework right.”

The mothers who participated in this study took care of household responsibilities and were the primary caregivers for children, while fathers provided for the families economically through employment outside the home. However, we found instances in which the need to use digital literacies to raise biliterate children interrupted or complicated the traditional gender division of family labor. This notion frequently came up in interviews, as mothers spoke of their limited background with digital technologies and described the role that fathers played in helping them learn to use computers and how to navigate literacies online. In addition, fathers were responsible for “digital matters” such as purchasing hardware and software, helping mothers and children learn to use them, and fixing these devices as needed.

The participating Arab mothers reported that their English language skills were limited before they started to surf the Internet and use digital devices in order to assist in their children's education. Aseela stated that she wished she could "learn English in a way to be able to understand what [she] read, or communicate with non-Arabic speakers." In the same way, Marwa expressed her desire to improve her English proficiency because, as she puts it, her low "TOEFL score has been an obstacle" preventing her from achieving her goal of enrolling in and completing a Masters degree in Mechanical Engineering. According to these mothers, their limited English skills were a primary reason they were not using digital devices and the Internet. They did access some Arabic websites, but they reported that their access was very limited because they did not want to "go through the stress of looking up the meaning of technical English words" (Hana) or "trying to sign up on websites before accessing their content" (Aseela). With initial help from her husband, Aseela taught herself to operate a computer in order to go online and understand what her daughter was expected to do in the online homework. Her task was hard, but her persistence paid off and she "started to learn more vocabulary, but most importantly [she] learned how to use the computer."

In contrast, Fatma, a Spanish first language speaker and a fluent English language speaker, reported that she was not very interested in digital technologies at first. However, she was very interested in learning Arabic and thought that finding materials online could support her children's Arabic language development as well as her own. As her children grew closer to school age, she found digital devices to be important tools for identifying and finding sources to support her children's education, which led her to sign up for educational websites and download educational materials in English.

DIGITAL LITERACY PRACTICES RELATED TO CHILDREN'S LEARNING ENGLISH AND ARABIC

In this section we present findings on the ways our participants' digital literacy practices were shaped by the work they did to support their children's learning in and out of school. For purposes of simplicity, and to capture possible differences of language modality, we begin with the digital literacy practices motivated by or related to children's learning of English and then describe the practices related to Arabic literacy development.

English literacy development

In their efforts to support their children's biliteracy in English, the participants made use of digital technologies in order to offer their children extra practice to succeed in school. In addition, these mothers used digital technologies to support their children in doing their homework, but they found that they first needed to understand the meaning of English words in order to guide their children in doing homework—in paper and digital formats—and to check that they had done it right.

The mothers' journeys in the online sphere were full of literate instances. Aseela reported: "my English has improved a little since I started to look up definitions of words that my child asks me

for their equivalence.” She commented that she became able to carry on simple conversations with non-Arabic speakers and interact with them with greater confidence. Interestingly, Aseela told us that when she began to socialize with non-Arabic speakers, she was able to befriend some of them and was occasionally invited to their homes. She attributed her greater confidence in using English in these new settings to “looking up meaning of words . . . [She] would remember these words when [she’s] trying to say something in English and [she] feels good about it.” Kawthar also felt that her online quest added to her vocabulary development and ultimately improved her speaking. She describes her English development as a result of helping her children: “looking up meanings online but also reading to my children . . . I learned to read English better because at times my children ask me to read English stories to them, so I try to find the stories online, read and understand them before I read to my children. I wanted to know the meaning of the story and the words in case they ask me.”

Motivated by a strong desire to keep abreast of her children’s education and find a variety of materials to support their education and interests, Hana found that her “spelling and typing speed improved.” Hana credited this improvement to her frequent use of search engines to identify television programs and videos her children could view online. She noted, “I had to do it several times a day in order to help my children find the cartoons they want to watch and stories they like to read.”

Arabic literacy development

Aseela’s son’s desire to explore and the availability of a desktop computer at home were compelling reasons for Aseela to start her quest in the digital technology world. She described her journey as learning “how to use the search engines in order to help my child find definitions of words he would ask me for their equivalence in English. [She] found [her]self learning new words as a result of that.” Aseela began to add more to her own vocabulary log by translating words between Arabic and English, mainly using Google as a search engine, but also using Google Translate as a medium for translation. Kawthar reported that she “learned how to sign up to certain websites like Engrade.com and StudyIsland.com in order to check [her] child’s progress in school and follow up with her assignments. [She] had to figure out meaning of many words to do that.” Kawthar’s efforts to help her children with homework led her to navigate digital technologies and access websites, and ultimately to overcome the linguistic challenges she encountered as an adult learner of English.

Similarly, Hana wanted to assist with her children’s English language development. They asked her if they could use the same website that they were using at school, ABCmouse.com. Trying to read more and launch the website, Hana discovered that she “needed to sign up for an email because the website they wanted to use required an email. [She] had to navigate through steps to do that and translate new English words into Arabic.” Surprisingly, Hana told me that in the past, she refrained from signing up in forums, even Arabic language sites, because they required an email address. Yet when her children asked to use an educational website at home for the purpose of learning, Hana was motivated to learn the steps to do both, signing up for an email and going through the steps to create a trial account. She said, this “required that I look up so many words on Google Translate, but now it is easy for me to sign up. I tried it once and it is not that hard once I knew what I was doing.”

Writing development

As parents of very young children learning Arabic and English literacy in and out of school, the participants developed interesting strategies for promoting their children's literacy development in Arabic. These strategies included watching content and using platforms: cartoon broadcasts in Modern Standard Arabic (MSA) and regional or local dialects of Arabic (mostly the Egyptian dialect); educational programs in MSA; social networking sites such as Facebook, Twitter, Whatsapp; and email in addition to regular phone calls over the internet using Skype, Viber, Dingtone, and Tango. In implementing these strategies to foster their children's literacy development, the mothers typed Arabic words into search engines in order to identify and locate the materials they were looking for. They wrote Arabic words using Google Search and YouTube to find learning materials (in English and Arabic) for their children.

The mothers' choices of materials to provide their children were influenced by what they had watched during their own childhoods. Aseela confirmed her choice: "I specifically wanted them to watch 'Al-Manahil' and 'Abla Fathela.' Those were programs we watched when we were young and learned a lot from them." Although Kawthar wasn't able to locate these programs because she did not have the Arabic keyboard on her computer, she said, "If I can find those cartoons we used to watch as children, those would be great to teach them Standard Arabic." The mothers reported that they found these cartoons, programs, and social networking sites to greatly advance their children's Arabic literacy, especially their Arabic speaking skills, choice of words, and ability to write using MSA without inserting words from local or regional Arabic varieties. On that note, Aseela explained how her children resorted to her in order to write in Arabic: "when my children want to post a response on Facebook, they ask me to help them write what they want to say in Arabic. They mostly think in English and do not find the equivalent words in Arabic" without her guidance.

Hana's experience with translating words throughout the process of signing up for an email and searching for children's material on the Internet affected her Arabic proficiency. She discovered that the Arabic words that she encountered online were different from the local Arabic words she used in everyday life. For example, Hana reported that she did not know the meaning of the word "inqur" (رِقْنَ) , which is the equivalent of "click." However, when she translated it to English and then translated the English word "click" back to Arabic, she understood what the word meant. She credited these additions of new MSA words to her writing log with improving her understanding of Arabic words and her ability to write in Arabic.

KEEPING ARABIC PRESENT IN THE HOME: INTER-GENERATIONAL, TRANSNATIONAL COMMUNICATION VIA DIGITAL TECHNOLOGIES

A second motivation for the mothers' growing familiarity with digital forms of literacy in Arabic was a desire to stay in touch with family and friends in the home country in order to emphasize the importance of the Arabic language. All five mothers regularly engaged in one or more of the

following online literacies: Skyping, texting, or calling family and friends, or communicating with them through Facebook, YouTube, or other social media platforms. They spoke of using these online encounters as opportunities to support children's proficiency in Arabic. For example, Kawthar described her children's literacy development in Arabic as largely spontaneous, unplanned on her part but encouraged by her mother:

I encourage my children to talk to their grandmother, who in turn encourages them to speak Arabic. They hesitate at the beginning because they are concerned they might not be able to convey a message right. However, their grandmother tries to involve them, bringing up topics they like to talk about. In fact, even when they throw in a word in English, their grandmother asks them what it means.

Hana made a similar point. She described the limited time that her children spend on the phone with their grandmother and grandfather in Libya to be worthwhile; as she said, "contacting my family members was a good way to keep Arabic alive in my children's minds. They try to talk and you can see them thinking about how to respond." Hana was delighted to see that there is a way to keep Arabic present at home and to encourage her children to try to speak it. She added, "we are going back home and Arabic is what everyone speaks there. I do not want them to feel left out, it is important that they speak Arabic now." She added, "when I talk to family in Libya, I ask my children to talk to them too. They speak a little Arabic but not much; but that helps them remember there is this language called Arabic."

Marwa also used Internet calling via Skype to keep Arabic present at home. She explained her desire to have her children hear Arabic and understand it, even if they do not speak it well. She described how Jehan and her grandmother living in Libya communicate using Skype: "I use the computer to Skype with my family, [and] Jehan would talk to my mother in English and my mother doesn't understand anything and calls me to help translate what she is saying. But at least [Jehan] hears Arabic, even if she can't speak it."

In fact, Marwa badly wanted her daughter to speak Arabic. She shared the feeling of shame she experienced when Jehan was unable to express himself in Arabic; she said, "I feel embarrassed when I talk to my mother and Jehan starts to speak in English." Marwa noticed that Jehan tries to speak Arabic, but when she is unable or when her grandmother doesn't understand her English, she looks for objects around her to explain what she wants to say. For instance, during one observation in the family home, Jehan attempted to tell her grandmother that she wanted a doll with a red dress. She wasn't able to say this in Arabic and her grandmother seemed unable to understand what her granddaughter was saying. Without being directed by her mother or grandmother, Jehan went to her closet, took out a red dress, and then she went back and brought her teddy bear. She held them both up to the camera to show to her grandmother and said, "doll and red dress. Not bear, doll." This incident, involving digital technology and transnational communication among female members of three generations, illustrates the affordances that digital technologies can provide in bridging geographical distances and, at the same time, making possible intergenerational communication and creating at least the potential for language development. Through digital technologies that were largely new to them, the participants were able to maintain and build social relations with

geographically distant family members. Furthermore, by engaging with digital technologies, these transnational mothers provided a platform that made it possible for them to develop their literacies in two languages through a sociocultural process mediated by digital technologies and situated in a meaningful context (Lave and Wenger).

In general, it seemed that the mothers' intention to provide Arabic materials at home was to keep Arabic alive so their young children could hear and understand it, and in the hope that they would eventually learn to speak and write in it. Kawthar commented, "Communicating with extended family members helps them understand that even if their mother and father can understand what is said in English, other family members might not . . . so they always remember that it is an important language." Thus, communication with family served not so much as practice in using Arabic, but rather as a reminder to children that Arabic is an important language, one they would need to know to keep in touch with family.

During the process of parenting their children into Arabic through digital technologies, the mothers found themselves writing in Arabic and thinking about different ways of speaking in Arabic. Children's questions and inquiries provided them with learning experiences that they did not initially foresee for themselves. Aseela, for instance, described her intention to use digital technologies to support her children's literacy development in Arabic, as well as an unexpected change in her own Arabic writing ability,

When I found digital technologies had a positive impact on my children's English language development, I wanted to provide my children with Arabic language development in the same way. Frankly, that helped improve my typing in Arabic as well because I was writing in Arabic and trying to remember what I used to watch when I was young.

In addition to increased writing speed in Arabic, Aseela's knowledge of Arabic was broadened to include standard and regional/local varieties. She commented that her search for the cartoons that she watched when she was a child had also "refined" her Arabic, because she "had to select the words to type, and the words had to be standard Arabic." The emphasis on using MSA words in doing digital searches stems from the abundance of local varieties and dialects of Arabic used in different Arab countries, and sometimes within the same country. As a result, most materials that are available digitally and that can be accessed online are most easily located when searching with MSA words and terms. Aseela's constant search for just the right word in standard Arabic (in order to locate the right material she was looking for) seems to have increased her literacy abilities in Arabic.

Hana noted a similar experience—trying to find the cartoons that her children wanted to watch on YouTube—and commented on unanticipated benefits to her own language and literacy abilities. She stated, "the way they say it in English pushes me to translate it to Arabic, but then I usually search using my own dialect and nothing comes up. It was a good way to make me go back to think in standard Arabic." According to Hana, experiences like this one also helped in communicating with Arab people from other countries who spoke different dialects. Marwa also spoke of watching cartoons and TV programs produced in different Arab-speaking countries with her children. These experiences "made her remember the old days and kind of polishes her Standard Arabic and pronunciation after a long time of not using or hearing it." In contrast, Fatma, whose first language

is Spanish and who is learning Arabic as an adult, figured that helping her children learn Arabic has helped develop her literacy in Arabic, although not to the same extent as her children. In seeking to provide her children with material in Arabic by looking up books and cartoons online, she found herself “trying to write in Arabic because it was a key to find books in Arabic for [her] children.”

Literacy in Arabic and English: What digital technologies could have done!

Reflecting on their children’s digital biliteracy development, several participants expressed regret they had not had access to similar resources as children. The mothers reported growing up in homes with only one (or two, in the case of Egypt) national television channels, and that these broadcasted a very limited number of cartoons and other programs for children, almost exclusively in Arabic. Looking back at their own non-immigrant childhoods, the participants observed that learning a new language at a young age through digital technologies conveys many advantages. For example, Aseela commented, “After I learned to use the computer to provide my children with practice in English and Arabic, I feel like I wish I had this technology when I was a kid. It is amazing how children can absorb [language] just by watching TV, cartoons and playing games.” We found such comments indicative of the mothers’ wishes that they had possessed the digital resources for learning English during their own childhoods, but also increased recognition that it is not “too late” for adults to learn English and that their own language acquisition was supported by their use of digital technologies, especially by practicing and learning with their young children. Similarly, Hana noted that after her children pushed for the use of digital technologies at home, she began to use digital technologies more frequently and to appreciate their value. She explained, “I’m using digital technologies more often now and enjoy it a lot. In addition to keeping me in touch with my family I’m learning English, which is good to help my children with their schoolwork. I envy them. I feel would have learned a lot if I had the materials they have now.” In addition, Fatma expressed that learning a language at a young age is a positive opportunity that she wants to provide for her children. She described the role of digital technologies as essential to learning Arabic. Although she is already fluent and literate in Spanish and English, Fatma described the task of learning to read and write in Arabic as daunting:

It has so many levels. I do not even know when I will get to an advanced level. It’s really hard and complicated. Like especially with the Quran, like one word has so much meaning that even if you look it up in the dictionary you won’t get the right one and just reading the translation we are missing so much meaning. So if you want to understand it you have to really know Arabic. When I think of all of this, I wish I had the digital technologies they have today when I was a child. That would have made a difference to my proficiency Arabic now.

In Fatma’s view, Arabic is complex and difficult to learn. She questions when she will reach an advanced level of proficiency, and she describes the limitations of a more conventional resource for language learning—the dictionary—for reading a key Arabic text. Considering the digital technologies available today, specifically those used by her children at school and home, Fatma believes her own abilities in Arabic would have benefitted from them.

IMPLICATIONS AND DIRECTIONS FOR FURTHER RESEARCH

In this study we used a digital biliteracy framework to focus on Arabic-speaking immigrant mothers' literacy development around two aspects of their lifeworlds as transnationals: raising and educating children bilingually in a new country and remaining in touch with family in the home country. The study thus addressed two topics—how immigrant parents' own literacies are shaped by helping their children become biliterate, and the literacies of Arab immigrants in the US—that have received little attention from scholars, and which, we believe, hold implications and suggest directions for further research. We conclude with a discussion of three compelling areas for literacy and composition researchers interested in exploring digital biliteracies with Arabs and other immigrant groups in the US.

Our findings raise questions about the intersections of literacies in motion and transnational movements with contemporary understandings of motherhood, parenting, and, by extension, gender. While our focus on Arab immigrant mothers “parenting their way” into digital biliteracy has emphasized the learning that resulted from helping their children learn, Al-Salmi (“Digital Biliteracy: Digital Technologies”) observed uses of literacy to accomplish other tasks associated with parenting, including creating shopping lists, recording family events on a wall calendar, and writing and sharing recipes. This last category was especially productive; the mothers we studied showed us examples of recipes they had written down as friends dictated them, digital photos of handwritten recipes as well as favorite recipes they searched for and found online. Future studies could address how mothers employ the digital technologies needed for keeping family health and immigration records and for maintaining the family home. Based on our study, we speculate that the confidence to undertake such tasks may begin with the skills and interests first developed by helping children. Similarly, a comprehensive portrait of the digital biliteracies of Arab immigrant women will depend on looking through lenses other than that of motherhood (e.g., in their interpersonal relationships as children, sisters, but also as students, workers, etc.).

In terms of family literacy, the role played by Arab immigrant fathers is a worthy area of study. While fathers' contributions to young children's biliteracy development might be less frequent than those made by mothers (Clark), we noted that the fathers in our participating families played key roles in obtaining, setting up, and maintaining digital devices, as well as in teaching mothers how to use them. Given their high levels of formal education and participation in work outside the home, we believe that Arab immigrant fathers hold forms of knowledge and practice digital and print literacies that may differ in important ways from those we have described for mothers. Likewise, fathers' contributions may be evident at different points in their children's literacy trajectories and may vary depending on the gender of their children. Finally, we wonder about the gender roles of female and male Arab immigrant parents that are represented through literacy. For example, in the larger study, “Digital Biliteracy: Digital Technologies,” Al-Salmi noted a clear preference among pre-school girls and boys for colors (pink and blue, respectively) they associated with gender norms and voiced in their selection of cartoon and video characters. How do such expressions of gender roles

among immigrant families compare with those among non-immigrant Arab families? Considering the potential of the transnational experience and of digital technologies to provide children with access to alternative, non-traditional discourses, we believe that these are worthwhile questions for research.

A second area for future research concerns the relationship between digital biliteracy and transnational identities in Arab communities. Our study took place in a small, relatively recently formed Arab immigrant community in the US Southwest, far removed from larger, more established diaspora communities in other regions of the US. We have emphasized people and their texts crossing national boundaries, and in part this is due to our focus on individual mothers and families as units of analysis, rather than on the collective social networks of a particular example of chain migration. The digital literacies of Arab immigrant mothers and their families in large diaspora communities may be quite different (Callaway; Wei). We might expect, for example, that the more elaborate social networks in larger immigrant communities could support greater opportunities for informal learning from female peers with expertise in reading and writing in Arabic or English, or knowledge of digital technology. Similarly, the two areas of mothers' literacy and writing explored here—support for children's biliteracy development and staying in touch with family in the home country—would presumably take different configurations. Would greater access to Arab language print media and to greater numbers of Arabic speakers, characteristic of Arab communities such as those in Michigan, New York, California, and Washington, DC influence parents' linguistic and literate choices? It may be that greater availability of print resources, television stations, and radio programming in Arabic would limit Arab immigrant parents' use of internet literacies as input for children's language and literacy development, but we speculate that more widespread Arabic language vitality might also generate more interest in digital literacies produced in Arab nations beyond the US. Similarly, studies of digital biliteracy in Arab immigrant communities of different sizes in the US and Europe would provide valuable points of comparison with studies of the digital biliteracy development of non-immigrant Arab mothers in their countries of birth. Comparative studies along these lines would add to understandings of how digital literacies impact transnational identities and vice versa.

Finally, as this study has shown, Arab immigrant parents actively seek to maintain their native language for the purposes of maintaining intergenerational family ties, fostering their children's knowledge of Islam and Quranic literacies and other core culture traditions, and preparing children for Arabic language schooling in the event of an eventual return to their home country. In contrast to their parents' desires and family language policies, in most of the participating families, children understood spoken Arabic but responded to their parents primarily in English. However, as researchers have asserted, parents' insistent use of the first language in daily family discourse makes it possible to improve children's proficiency in the heritage language (Eilers, Pearson, and Cobo-Lewis). We welcome new research in Arab immigrant communities that focuses on the factors influencing young children's resistance to or acceptance of Arabic at home and school. While familial factors, such as the number of siblings in the household, birth order, and the number of years between children's ages, are likely (Gregory), we believe that digital literacies offer immigrant families new

and unprecedented opportunities to maintain Arabic. In closing, we believe that research closely documenting the effects of such factors on language development and literacy socialization among immigrant parents and children is much needed. We hope the present contribution will encourage colleagues to join us in considering these important questions.

WORKS CITED

- Al-Salmi, Laila. "Digital Biliteracy: Digital Technologies as Homes for Arab Immigrant Children's Biliteracy Development." Unpublished Diss. University of Texas at El Paso. 2014. Print.
- . "Digital Biliteracy as a Social Practice: Biliteracy Development through Digital Technology." *Proceedings of Society for Information Technology & Teacher Education International Conference*. Eds. Ron McBride and Michael Searson. Chesapeake: AACE. 2013. 4352-60. Web. 10 Dec. 2013.
- Alshaboul, Yousef Mohammad. "From Inside the Arab Family: What Family Literacy Practices Occur When Raising Bilingual and Biliterate Children?" Diss. University of North Texas. 2004. Ann Arbor: UMI, 2014. Web.
- Barton, David, Roz Ivanic, Yvon Appleby, Rachel Hodge, and Karin Tusting. *Literacy, Lives and Learning*. New York: Routledge, 2007. Print.
- Bauer, Eurydice B., and Dumisile Mkhize. "Supporting the Early Development of Biliteracy: The Role of Parents and Caregivers." *Early Biliteracy Development*. Eds. Eurydice B. Bauer and Mileidis Gort. New York: Routledge, 2012. 14-33. Print.
- Behizadeh, Nadia. "Mitigating the Dangers of a Single Story: Creating Large-Scale Writing Assessments Aligned with Sociocultural Theory." *Educational Researcher* 43.3 (2014): 125-36. Web. 14 May 2014.
- Callaway, Azusa. "Home Literacy Practices of Arabic-English Bilingual Families: Case Study of One Libyan American Preschooler and One Syrian American Preschooler." Diss. Georgia State University. 2012. Ann Arbor: UMI, 2013, Web.
- Canclini, Néstor G. *Consumers and Citizens: Globalization and Multicultural Conflicts*. Minneapolis: U of Minnesota P, 2001. Print.
- Casey, Leo, and Bertram Bruce. "Sustaining the Inquiry Cycle: Digital Literacy Reframed." *Proceedings of Society for Information Technology & Teacher Education International Conference*. Eds. David Gibson and Bernie Dodge, Chesapeake: AACE. 2010. 1372-379. Web. 13 Jan. 2014.
- Clark, Christina. *Why Fathers Matter to their Children's Literacy*. London: National Literacy Trust, 2009. PDF file.
- Cope, William, and Mary Kalantzis. "Designs for Social Futures." *Multiliteracies: Literacy Learning and the Design of Social Futures*. Eds. William Cope and Mary Kalantzis. London: Routledge, 2000. 203-34. Print.
- Darvin, Ron, and Bonnie Norton. "Transnational Identity and Migrant Language Learners: The Promise of Digital Storytelling." *Education Matters* 2.1 (2014): 55-66. Web. 5 Feb. 2014.
- Eilers, Rebecca. E., Barbara Z. Pearson, and Alan B. Cobo-Lewis. "Social Factors in Bilingual Development: The Miami Experience." *Childhood Bilingualism: Research on Infancy through School Age*. Eds. Peggy D. McCardle and Erika Hoff. Clevedon, UK: Multilingual Matters Ltd. 2006. 68-90. Web. 6 July 2014.
- Gregory, Eve. *Learning to Read in a New Language*. Thousand Oaks: Sage, 2008. Print.

- Hornberger, Nancy, and Holly Link. "Translanguaging and Transnational Literacies in Multilingual Classrooms: A Biliteracy Lens." *International Journal of Bilingual Education and Bilingualism* 15.3 (2012): 261–78. Web. 4 April 2014.
- Jewitt, Carey, and Gunter Kress. *Multimodal Literacy*. New York: Peter Lang, 2003. Print.
- Jiménez, Robert T., Patrick H. Smith, and Brad L. Teague. "Transnational and Community Literacies for Teachers." *Journal of Adolescent and Adult Literacy* 53.1 (2009): 16-26.
- Kern, Richard. "Technology and Language Learning." *The Routledge Handbook of Applied Linguistics*. Ed. James Simpson. London: Routledge, 2011. 200-14. Web. 16 April 2014.
- Lam, Wan Shu Eva, and Doris Warriner. "Transnationalism and Literacy: Investigating the Mobility of People, Languages, Texts, and Practices in Contexts of Migration." *Reading Research Quarterly* 47.2 (2012): 191-215. Web. 15 March 2014.
- Lave, Jean, and Etienne Wenger. *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge UP, 1991. Print.
- Levitt, Peggy, and Nina Glick Schiller. "Conceptualizing Simultaneity: A Transnational Social Field Perspective on Society." *International Migration Review* 3 (2004): 1002-1039. Web. 4 August 2014.
- Li, Guofang, ed. *Multicultural Families, Home Literacies, and Mainstream Schooling*. United States: Information Age, 2009. Web. 16 April 2014.
- Martin, Natalie. "Arab American Parents' Attitudes Toward their Children's Heritage Language Maintenance and Language." MA thesis. University of North Carolina at Chapel Hill. 2009, Ann Arbor: UMI. 2013. Web. 1 Oct. 2015.
- McLean, Cheryl. A. "A Space Called Home: An Immigrant Adolescent's Digital Literacy Practices." *Journal of Adolescent & Adult Literacy* 54.1 (2010): 13-22.
- Mihut, Ligia Ana. "Literacy Brokers and the Emotional Work of Mediation." *Literacy in Composition Studies* 2.1 (2014): 57-75. Web. 16 May 2014.
- New London Group. "A Pedagogy of Multiliteracies: Designing Social Futures." *Harvard Educational Review* 66.1 (1996): 60–92. Web. 12 April 2014.
- Palmer, Barbara C., Fathi El-Ashry, Judith Leclere T. and Sara Chang. "Learning From Abdallah: A Case Study of an Arabic-Speaking Child in a US School." *The Reading Teacher* 61.1 (2007): 8–17. Web. 18 May 2014.
- Reyes, Ileana. "Biliteracy Among Children and Youths." *Reading Research Quarterly* 47.3 (2012): 307-27. Web. 23 May 2014.
- Reyes, María de la Luz, ed. *Words Were All We Had: Become Biliterate Against the Odds*. New York: Teachers College P, 2011. Print.
- Smith, Patrick H., and Natalia Martínez-León. "Educating for Bilingualism in Mexican Transnational Communities." *NABE Journal of Research and Practice* 1 (2003): 138–48. Web. 23 May 2014.
- Vieira, Kate. "On the Social Consequences of Literacy." *Literacy in Composition Studies* 1.1 (2013): 26-32. Web. 16 May 2014.
- Walsh, Christopher S. "Creativity as Capital in the Literacy Classroom: Youth as Multimodal Designers." *Literacy* 41.2 (2007): 79-85. Web. 15 March 2013.

- Wei, Li. "Multilinguality, Multimodality, and Multicompetence: Code- and Mode-Switching by Minority Ethnic Children in Complementary Schools." *The Modern Language Journal*_95.3 (2011): 370-84. Web. 12 April 2013.
- Wells, Gordon. "Children Talk Their Way into Literacy/Los Niños se Alfabetizan Hablando." *Enseñar a Escribir sin Prisas...Pero con Sentido [Teaching Writing without Haste...but with Sense]*. Ed. Joaquín Ramos García. Sevilla, Spain: Publicaciones M.C.E.P. 2003. Web. 16 May 2014.