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The journal's mission is to publish research on adult basic and secondary education and transitions to college and career programs. It informs practitioners, researchers, policy makers, and funders about best practices in adult literacy, numeracy, and English language education in publicly funded, community and volunteer-based programs in a wide range of contexts. Each issue will consist of research articles focused on a particular theme plus other content of interest to readers (e.g., resource reviews, opinion pieces, and debates and discussions on timely topics of interest to the field).

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SPECIAL ISSUE

Online Learning, Technology Integration, and Digital Literacy
in Adult Language and Literacy Education.

The planning for this special issue, *Online Learning, Technology Integration, and Digital Literacy in Adult Language and Literacy Education*, began in December 2019. In the call for papers, I wrote, “Time spent participating in adult basic education programming should afford opportunities for adults to leverage access and support to not only develop digital literacy skills but also to employ them in support of their learning.” We had no way of knowing at that time just how central digital technologies and the skills to use them would become.

It has been nearly two years since the onset of the COVID-19 pandemic. I have heard this time described in different ways: a giant experiment in the use of technology in teaching and learning, a push to embrace innovation, and, of course, an incredibly stressful time for learners and everyone involved in supporting their education. The diverse set of articles in this special issue represent thinking that remained relevant throughout the pandemic, offering guidance to educators looking to sustain innovation that caught fire during the pandemic and pointing researchers to areas of future inquiry.

Two research articles explore unique aspects of communicating and learning through online mediums. Ellen Beattie’s *The Power of the Positive: Enhancing Online Student Engagement for Adult Literacy Learners* offers a blending of the disciplines of positive psychology and instructional design. In this review of key literature, Beattie considers the effects of emotions in online learning and describes how concepts from positive psychology might be applied to boost engagement and enjoyment of online learning. In “It’s Better That She Sees Me:” *Digital Visual Literacy Narratives of Women Immigrants in Chile and Implications for Adult Literacy*, Sondra Cuban and Jo Ann Arinder examine the role of Digital Visual Literacy (DVL) practices of immigrant women living in Chile who engage in transnational digital communication with their families. The research highlights the complexity of their efforts to achieve the right amount of visibility in their interactions and offers both theoretical and practical implications for researchers and educators exploring digital literacy and the means by which learners employ digital tools and resources to communicate online.

A report from the field follows. Rachel Riggs, in *The Digital Literacy Action Plan: A Strategy for Differentiation and Learner Agency in Digital Literacy Instruction* shares an original framework designed to support learner agency in their digital skills development, providing templates and examples for educators to use.

Next, in the forum article that I authored, *Supporting Quality Instruction: Building Teacher Capacity as Instructional Designers*, I address the heroic efforts of teachers throughout the pandemic and note how the field would benefit from scaling promising innovation. However, I also argue that the level of effort behind it is unsustainable and recommend structured use of technology integration and evaluate frameworks to help teachers build their capacity to efficiently and effectively design technology-rich instruction. Two response articles extend the discussion: *Beyond Crisis, Toward Justice: New Technologies in Community-Based Adult Learning* by Suzanne Smythe and *Beyond Frameworks: Supporting Adult Educators to Leverage Technology and Customize the Learning Experience* by Sarah Cacicio, Alison R. Shell, and Medha Tare. Smythe offers reflections on digital justice and the potential for technologies employed in education to serve as an “opening to new modes of social solidarity and digital justice.” Cociccio et al. share information about their work

on learner variability, justifiably arguing the importance of considering the whole learner in decision making about technology integration and describing how Digital Promise's Learner Variability Project Adult Learning Model can support provision of culturally relevant and learner-centered instruction.

The issue also includes several reviews and other resources. Sandra Ratcliff Daffron reviews Lilian H. Hill's *Assessment, Evaluation, and Accountability in Adult Education*, and Sarah Young Knowles reviews the second edition of Betsy Parrish's *Teaching Adult English Language Learners: A Practical Introduction*. In *Digital Game-Mediated Language Learning for Adults*, Elisabeth Gee and Yuchan (Blanche) Gao offer an overview of research on game mediated learning and game-informed instructional strategies and their application in adult language learning contexts, while David J. Rosen describes computer refurbishment options and notes important considerations to guide programs looking for ways to fill access gaps for their learners.

I want to express my gratitude to the authors, the Journal editors, and the editorial board for making this issue happen. The timing could not have been simultaneously more challenging (assembled during a global pandemic!) or better (much needed information!). I hope the knowledge included in it reflects the transformation in the field driven by the reliance on digital technologies since spring of 2020.

Jen Vanek, World Education
Special Issue Editor

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Research Article

“It’s Better That She Sees Me:” Digital Visual Literacy Narratives of Women Immigrants in Chile and Implications for Adult Literacy

Sondra Cuban, Western Washington University

Jo Ann Arinder, Washington State University

Acknowledgements: A version of this article is drawn from the authors’ paper presentation at AERA 2019

Abstract

Narratives drawn from a Fulbright study of immigrant women in Chile communicating with their families at-a-distance through information and communication technologies show that they utilized digital visual literacy practices. Digital visual literacy is a combination of digital literacy and visual literacy and even goes beyond these conceptualizations. By manipulating their levels of visibility through platforms on smartphone devices, immigrant women strove to create a sense of co-presence with their families abroad. This paper demonstrates the complexity and relevance of combining visuality with multi-literacies, voice, and gendered narratives of digital communication for immigrants inside and outside of adult literacy classrooms.

Keywords: information and communication technologies, digital literacy, immigrants, visual literacy, transnational families

This study is about the ways immigrants communicate with their transnational families through information and communication technologies (ICTs), especially smartphones. This phenomenon is important to study because of the increase in migration where more families are separated than ever before. Yet they want to see one another and feel a sense of connection from afar. This article presents the visual aspects of this ICT-based communication and the ways that migrants control their visibility with their family members at-a-distance. We focus on the ways they

navigate the visual aspects of electronic family communications or digital visual literacy (DVL).

DVL is generally defined as the ability to critically evaluate visual materials, including moving and 3D images in a digital environment, make decisions on the basis of digital visual representations; and use devices to create effective visual communications (Spalter & Andries, 2008; Martin et al., 2008). We asked the following questions to illuminate the phenomenon of DVL within transnational family communication:

- What are the experiences of women immigrants in communicating with their families through ICTs from afar?
- What are the digital visual practices they use to navigate their communication that impacts their visibility and sense of presence?
- What demographic, geographic, and technological factors affect this communication?

We developed themes of DVL and exemplary profiles of immigrant women's stories of communicating with their transnational families. Three immigrant women's narratives are profiled in this article along with themes of DVL that represented 55 immigrant women from Latin American and Caribbean (LAC) countries who were participants in a Fulbright Commission study that took place in Chile. Cuban conducted the study in 2017, collaborating with the Ministerio de la Mujer y la Equidad de Género (Ministry of Women & Gender Equity), as well as Chilean and migrant academics and activists. Afterwards, Cuban and Arinder analyzed the data.

Examining DVL within the Context of Chile

Chile is historically known as an immigrant sending country, particularly during the Pinochet regime when thousands of Chileans fled persecution (1973-1990). Yet since the 2010s, Chile has become one of the fastest growing receiving countries for immigrants in the LAC region and in the world (Dona-Reveco, 2018; UN DESA, 2017). Known as an "economic jaguar," Chile's reputation as a secure and successful South American country has drawn about 1.5 million immigrants, mostly from the LAC region and about half of who are women (Cabieses et al., 2013; Doña-Reveco & Levinson, 2012). Since 2014, Haitians,

Colombians, and Venezuelans fleeing natural disasters, politically unstable governments, and weakened economies have been the newest immigrants, while nearby Argentinians and Peruvians have moved back and forth from Chile for over a century. The new immigrants typically know little about Chile's social inequalities and that its democratic institutions and economy are more fragile than its "Chilean miracle" reputation (Richards, 2013, p. 1). Its privatized health, education, and social services, together with a segmented low-wage labor market and a lack of citizenship pathways have made LAC immigrants' social and occupational mobility especially difficult (Stefoni & Fernández, 2011). Plus, gender and racial barriers in Chile, stemming from a patriarchal, Europeanized, colonial history heavily impact new immigrants' integration into society particularly those of Afro-descendant backgrounds (Tijoux, 2015). Generally, socio-economic policies have been slow to adapt to Chile's diverse and growing immigrant communities.

Against this backdrop of inequalities, this study focuses on women immigrants' transnational relations through examining their long-distance family communication via ICTs, on smartphone devices and Wi-Fi-based social media platforms. We examine the uses of these ICTs by immigrant women from LAC countries with their family members who were separated through migration and the role of digital visuality in their communications. The phenomenon that we explore is likely shared by other immigrants moving to destinations like the United States.

Their visual navigation, combining talk, text, images, and media involved considerable emotional labor. Emotional labor is a concept in the sociological literature that focuses on the ways that women manage their relations and meet other people's needs through behaviors

such as smiling and comforting, especially in the workplace (Hochschild, 1983). ICT researchers (Baldassar, 2008; Madianou & Miller, 2012) have highlighted how emotional labor also occurs in high tech personal communications. This emotional work on the part of women immigrants with their families has less to do with their skills or education levels, and more to do with their gender, resources, practices, and family circumstances. As the three profiles and the themes illuminate, some participants in the study showed their families everything and broadcasted information, while others did not want to be revealed at all, or only partially disclosed personal information. This is what we mean by DVL. These DVL interactions involve complicated, intimate, navigational reading practices and this study focuses on the factors underlying this phenomenon within ICT-based transnational family communication.

Transnational Families, Communication, and ICTs

The qualities of long-distance communication between immigrants and their family members, is based on a burgeoning literature on migration and new media (Baldassar, 2008; Cuban, 2017, in press; Madianou & Miller, 2012; Nedelcu & Soysüren, 2020; Parreñas, 2008; Wilding, 2006). These researchers focus on immigrants communicating with their families through ICTs, particularly the ways they attempt to bridge social distance at-a-distance and the cultural and psychological effects of such communication in addition to their exchange of care and support. Only a few researchers however focus on the problematic aspects of the ICT-based transnational communication like navigational difficulties, technical connectivity, and the inequalities associated with ICTs—the infrastructure and

resources needed to access, use, and maintain such long-distance interactions (Cuban, 2017; Madinaou, 2016; Wilding, 2006). Even with visual displays, locational media, sophisticated audio features, and apps, family members often find it difficult to read each other's moods and feelings through the screens and subsequently experience only a "semblance" of intimacy (Parreñas, 2005, p. 334). These researchers therefore characterize the communication as "blessings and burdens" (Horst, 2006, p. 143). This is because of the lack of touch, the ambient screen environment, geographical distance, the resources necessary to access and use new technologies, and the different contexts and time zones which are not overcome by the speed and immediacy of the ICTs (Cuban, 2017). After all, "contact and connection are not the same thing" (Hannaford, 2015, p. 46).

Nonetheless, family members strive to connect to one another as best as they can. As mobile phones and computers are increasingly popular and user-friendly, visual features, too, are also important in creating a "shared world in which the interpersonal relationship is constituted" (Licoppe 2004, p. 138). Researchers have coined an outcome of these interactions as "ordinary co-presence" (Nedelcu & Wyss, 2016, p. 203) or "connected presence" (Licoppe, 2004, p. 135), which is defined as, "the condition of reciprocal orientation that is related to the potential for social interaction" (Palackal et al. 2011, p. 394). This observable co-presence with other members at a distance, includes a sense of being there for family members through ICTs (Baldassar et al, 2016). In part this is because the more the technological interfaces are mapped to the senses, the more a believable augmented reality seems to be created for users (Biocca, 1997). As we shall see immigrant women understand the imperfection of the ICTs and manipulate their levels of visibility with family members, sometimes appearing and

disappearing in a smartphone world where there is “limitless accessibility and manic connectivity” (Agger, 2011, p. 223).

The viscosity in today’s communication is omnipresent. In the past, when immigrants left their homes and families they were in little contact, if at all. The contact was mainly through textual/print means (like, sending letters) and then later, also, via audio/audial (phone voice calls and voice recordings) (Madianou & Miller, 2012). Visual communications were never possible unless visits were made, photographs were sent, or members described in detail what something looked like, words to be sealed in the imagination of the receiver.

Our DVL Framework

The viscosity embedded in digital communication, including social, cultural and sensory interactions surrounding seeing, is important to examine because nearly all of the participants used smartphones hosting integrated functions to communicate with their families on social media platforms that combined text, audio, and images. Yet the DVL literature is more about the how-to aspects of viscosity, for professional purposes, and, with an emphasis on computer platforms, ranging from altering images in Photoshop, to video gaming, to software programs, including computer aided drafting (MacGregor, 2013; Mirzoeff, 2006). Little research has focused on DVL as a socio-cultural practice, for family communication, and on mobile phone devices. We, therefore, rely on a conceptualization of DVL that is personal, open-ended, and less device-centric:

the ability to critically read, understand and analyze and to produce meaning from information and messages presented in visual, digital texts, to communicate and transmit visual messages effectively, to create and produce presentations expressing visual messages, by consideration and selection of how to present them. (Avni & Rotem, 2016, p. 40)

DVL is a combination of both digital literacy and visual literacy and even goes beyond these conceptualizations. Digital literacy research typically includes multimedia, but there is a heavy focus on *texts* that are produced, distributed, received, and exchanged through digital means (Guillen, 2014; Lankshear & Knobel, 2008). Visual literacy on the other hand focuses on *imagery*, with the purpose of “learning new and more sophisticated ways to analyze and use images” (Kovalchick & Dawson, 2004, p. 124). Our research moves beyond a focus on either text or imagery, or technology skills, to highlight the social practices of transnational families’ ICT uses that engage all aspects of audio, textual, and visual communication.

DVL also depends on technological affordances, especially infrastructure, funds, network connections, and equipment to maintain ICT-based family interactions at a distance (Parchoma & Wright, 2011). This aspect is also missing in the DVL literature. While some members have more experience and access to a variety of multimodal technologies, others have very limited access to these same technologies. Social affordances are also important; these are social characteristics like culture and gender associated with interacting through multi-media ICTs (Latour, 1999). Immigrant women participants in this study were found to differentially exploit their social and technological affordances so as to spread their presence over geographic distances within digital environments. Our DVL concept, then, takes the user past simply interpreting visual input to focusing on it holistically with other modes of communication, and through access, use, resources, and contexts.

Our conceptualization releases DVL from particular devices that are place-bound (computers) turning it into a mobile concept (through hand-held

devices), and which is critical for personal communications, as well as remote instruction as in the COVID-19 crisis. As we shall see, DVL is activated when family members call one another on mobile phones and interact. In this case, computers are no longer a necessary component of DVL. In fact, most functions that users employ to communicate are available through a phone in the back pocket. The phone then becomes a key factor for our focus on DVL as part of women immigrants' cross-border communication. Yet it is not the phone alone, but these members' emotional labor, time, money, and commitments to call that create the "social glue" (Vertovec, 2004, p. 219) that keeps the family ties active. DVL then becomes part of a complex web of long-distance family communication that centralizes visual experiences through screens, along with other modes, and which multiplies and accelerates transnational communications (Jiménez et al., 2009).

DVL in this context is also nuanced. It happens when family members navigate their screens together to make "an active, creative mode of vision" whereby everyone's eyes move and track colors, shapes, and spaces through talking and sharing information (Verhoeff, 2012, p. 13). They also map facial expressions to interpret feelings, which operate below the surface of the screens. DVL then can be "highly selective and interrupted" (du Preez, 2018, p. 85). Screens too can "shield from the vulnerability of visual engagement" especially when information is controversial (Verhoeff, 2012, p. 14). In this way, "subscreenic literacies" emerge that abbreviate visual communication (Lynch, 2017, p. 92). Understanding these varying levels of DVL might "offer a better understanding of how the cultural uses of digital spaces shape the ways [families] use language and, ultimately, experience the world around them" (Gilhooly & Lee, 2014, p. 389). Importantly, all of the participants owned phones

and were active and deft in navigating their communications with their away-families and none of the participants claimed to have problems communicating with them due to lacking skills.

Study Methods and Sample

This exploratory study used narrative interviews, observations, and visual artifacts. A socio-demographic analysis of the sample allowed us to glean patterns about the participants across various characteristics. Fifty-five immigrant women participants were selected to represent Chile's current immigrant population. The participants were recruited through a variety of places, including streets, bus terminals, Spanish language courses, non-profit organizations, and government institutions, like the Ministry. Participants also recruited one another through a snowball approach, whereby one participant mentions the study to a prospective one. Most participants came from: Haiti (13), Colombia (13), and Venezuela (9). Six participants were Mexican, most of them attending Chiles' universities. There were three Argentinians, two Peruvians, two Cubans and five Ecuadorians. Additionally, there was one participant each from both Brazil and Uruguay. Most participants were in their mid-30s, with varying levels of education, work histories, marital status, number of children, and arrival times. About half of the participants had partners or were married and had children. Twenty-one of the participants possessed university degrees, several of who were attending post-graduate programs in Chile. Several more dropped out of their university studies before graduating in their countries, only one of them attending a university program in Chile. Furthermore, there were four international exchange students from Mexico. Thus, the sample represents women's greater access

to K-16 education in the LAC region which is generally high (Maldonado-Maldonado & Felicitas Acosta, 2018). Ten participants had high school diplomas, with several more receiving 2-year technical degrees or certificates in Chile, and one participant attended a high school diploma program. Seven participants did not complete high school and four additional participants had a primary or middle school education. None of these participants continued their formal schooling in Chile. Nearly all of the Haitians attended community-based Spanish courses.

The interviews, delivered in Spanish and Haitian-Creole by the researcher and translators, lasted around 1 hour and focused on participants' stories of their transnational communication and relations with families back home through ICTs, especially the visual aspects, and which encapsulated the central purpose of this study. The narrative interviews and the narrative analysis and resulting profiles and themes, probed deeply into the participants' experiences on intimate, mundane, and often undisclosed subjects (such as communicating with family), and were important for revealing their transnational identities and belonging (Dwyer et al., 2017). Our approach incorporated the performative aspects of their transnational communication which involved their "electronic emotions" including the ways they presented themselves to their families far away (Silva, 2012, p. 158). The participants discussed what it meant to see and interact with their families through ICTs and their meanings. The profiles and themes focused on the problematic aspects of DVL and transnational family communication to reveal the "breach between ideal and real, self, and society" (Riessman, 1993, p. 3).

We also collected visual materials that represented the participants' lives back home, especially

photographs and videos. These artifacts, with their visual power, supplemented the interviews and illuminated the participants' cultural and family biographies. They discussed what these artifacts meant, and how they felt they contributed to their livelihoods and communications as well as family memories (Pahl, 2012; Pink, 2009). A web-based story platform called MapMe was then used to connect the visual data with the interviews and socio-demographic analysis. MapMe had an easy interface and did not require coding skills to input the data. Following the menu and clicking we could transfer all of the data, organize it, and then store it. The system offered a glimpse into the participants' worlds beyond Chile and allowed us to develop a transnational perspective on their families and their communications. This analysis also allowed for a reflexive discussion to emerge between the researchers about the difficulties we experienced communicating with our families from far away.

Profiles and Themes of DVL

Through our analysis we found that the participants navigated their interactions effectively through a range of high, mid, and low visibility levels in an attempt to achieve co-presence with their family members. Their manipulation of imagery on screens involved their native languages, their affordances, and navigational techniques that were embedded in gendered norms. The following profiles and themes demonstrate that regardless of the education levels, participants were savvy in operating their phones and communicating with their families to achieve co-presence from far away. We use profiles of three different participants to give a close-up view of how the DVL phenomenon varied within transnational

family communication as well as themes that represented the 55 participants; for each of the three participants' profiles, we provide additional anecdotal evidence from other participants whose experiences fit these themes.

DVL Profile of Carmen and Theme: High Visibility, Ample Social Media, and Native Language Videocalls

Carmen, in her early 20s, was a journalism student at a Mexican university. She desired a career in film, "because I like doing that work—audio-visual." In migrating to Chile as an exchange student she said, "to travel and know a culture, it really makes you realize about living somewhere different from where you grew up... and that made me want to leave Mexico." However, she acknowledged, "it scared me the most to leave my comfort zone." Her mother was worried about losing her youngest daughter: "Whenever I call her on the phone," Carmen noted, "she wants to talk on videocall and right away she wants to show me whoever is around. For her, it's better that she sees me." Seeing her daughter while speaking to her on videocalls, made her mother feel "calm--- to see she is processing much better that I am far away." So, Carmen called her at least every other day. Through these calls, her mother was "getting used to the idea of me being far away." While she spoke with her mother on video through Facebook she interacted with her sisters on a daily basis through WhatsApp and mainly through texts and calls. While she had to consider the cost, it was not a barrier to her communication. She said, "I got a phone [but] they don't allow me to unlock it, so it costs me a lot more money if I don't have the Internet." Between short gaps in communication, she looked at a treasured photograph she brought of her extended family which reminded her that although she was away, she was still central to her family unit.

Theme of high visibility across participants.

Carmen's videocalls revealed the importance of having a highly visible presence with family members. She could interact in Mexican Spanish and her local dialect, with idioms and expressions that were familiar. It is important to note that Spanish variations accounted for an initial struggle Carmen and other LAC participants had in mastering the Chilean dialect, which contains distinct grammar, pronunciation, and vocabulary, and which had to be adapted by the participants to be understood by Chileans. A number of the participants, particularly, Mexicans, complained about being discriminated against, and laughed at for their Mexican Spanish and the students suffered from stereotypes, by Chilean students and professors, as partyers. One Mexican participant, claimed Chileans shouted, "tacos, and beer, let's go party" sort of thing... they yell, "tacos and cabrón." The idiomatic expressions slang and accents across the LAC region were quite different. In the case of Brazilian, Haitian, or Ecuadorian indigenous participants, whose first languages were not Spanish, connecting with family and using their first languages and forms of expressions were key to maintaining their cultural identities. All of those with minoritized dialects or languages in Chile felt more comfortable communicating with their transnational families especially during videocalls that allowed them to use familiar expressions in the vernacular and gestures that were easily understood and didn't have to be explained.

Recall Carmen used different video calling platforms, through WhatsApp with friends and sisters of her generation and Facebook, an older platform, with her mother. WhatsApp was particularly popular, being specifically mentioned by 21 participants, due to its fully integrated functions, enabling greater access points, as well as speed of contact, and the fact

that its user-friendly features utilized free Wi-Fi/broadband, which both Carmen and her family as well as other users had on both sides of the border. Manipulating these features enabled native language voice and literacy to flourish together while simultaneously increasing demands from family for more interactions. So, the participants' parents, in having one videocall, often demanded more as well as longer periods of talking and seeing their daughters.

Visual artifact exchanges, like photographs, supplemented textual and audio/videoconferencing interactions on WhatsApp, and also contributed to the cultural management of separated family members. With access to Wi-Fi, exchanging videos, messages, and photos was typical and often increased with more contact. Texting, voice calls, and voice messaging were also utilized. One Colombian participant, remarked, "I am grateful for the technology, that it was advanced through WhatsApp, voice messages, and I see them in video chat and that helps me to stay connected to my roots." Participants often preferred videocalls because they said they could "see" their family which was a plus vs. just using voice and listening through phone calls. Another Colombian participant stated that the group call was an excellent way to achieve co-presence: "She sees us, and we see her and since she's with my dad there we also see him." Some participants rejected videocalls for this very reason because it reminded them of how far apart they were, like one participant's videocalls that were "tough, we would talk on video and cry and cry."

DVL Profile of Pilar and Theme: Mid-Visibility, Rural Areas, and a Lack of Technological Affordances

Pilar, like Carmen, was also in her 20s. Unlike Carmen, however, she never made it to high

school and dropped out of middle school to work in an agricultural processing plant. She had also lived alone since twelve because of the financial difficulties of her parents. She was raised in the Canton Antonio Ante located in the Province of Imbabura, Ecuador and was indigenous Otavaleña. Pilar had a 6-year-old daughter, who she left in Ecuador with them. She had been in Chile less than a year, explaining: because "the economy in Ecuador is what forces us to migrate leaving all our loved ones behind." Pilar had her daughter when she was 17 under dire circumstances, "because I got raped." Coming to Chile was an opportunity she felt she had to grasp, when she was offered a domestic post by a Chilean family she met in Ecuador, "they offered me a job but I needed to travel, so I didn't think it twice and I came." Pilar was currently a street vendor and made clear that, "the purpose of now being here in Chile is to eventually bring my daughter, so that she can be here with me because having her in my country alone is very complicated and on top of that I'm also her dad." She kept in touch with her daughter through WhatsApp "video chat" and only briefly greeted the rest of her family. She explained the effect of contacting them: "The reward I get from talking to my family is to hear them say 'yes, we are good, we just want you to take care of yourself, God is with you and we are waiting for you to come back soon'." She did not want to talk much with her mother who she felt "suffocated" her as a teen and pushed her out of the house early to work. She called her daughter so she had a presence in her life, explaining: "I try to call twice a week since I've been here so my daughter doesn't forget me so that she won't tell me that I'm not her mom, because she's said that to me, that I'm not her mom because I'm not there with her."

Theme of mid-visibility across the participants. Participants with family from rural areas, like in

Pilar's case, had less income and could not call or pick up the phone as regularly due to data, cost, and infrastructural issues. The cost of maintaining regular service, or any service at all, prohibited regular voice calls or videocall communication. While lack of technological infrastructure seems an obvious factor of country living, it was more influenced by the economic status (as well as family income) of the participant and the family left behind. Most of the gap in digital technologies of the participants appeared to wrest on financial resources to communicate. For other participants, particularly those with family in rural areas or in countries with less advanced infrastructure, the communicative maintenance was not simple.

One Venezuelan participant's parents were living in the countryside and there was no regular way to stay in contact with them. She had to wait until someone travelled to visit them in order to contact them through voice calls: "Every 15 days, when my niece visits [my parents] and she lets me know, and I can talk to them. Otherwise I wouldn't know about them." Another Venezuelan participant communicated regularly with her father but it was not without difficulties. She spoke once a week to him and noted that "the Internet is really bad. It's not blocked communication---it gets cut off and there is no signal and it's difficult with the Internet." A Haitian participant tried to stay in touch with her son who lived with his grandmother in a rural area. While she had Wi-Fi access in Chile the access was not the same back in Haiti: "The biggest issue now is that I can't communicate with my son because they live in a province and that province has no signal." Another area where the location of family created a barrier to communication was Cuba. A Cuban participant talked to her mother, "every fifteen days we would communicate on this app called IMO which is an app that lets you video chat and it works in Cuba. My mom would go to places to connect, because in

Cuba there's no Internet like here."

DVL Profile of Sara and Theme: Low Visibility, Voice, and Gendered Expectations

Sara, in her mid 20s and with a high school degree, was from Buenaventura, Colombia, a major port city. She said she migrated to "seek better opportunities" for herself and to support her single mother after she had a stroke. As an only child she declared: "so everything changed when my mom got sick, so it was up to me now." As a sex worker in Colombian night clubs, she continued that work in Panama for 6 months, and then in Chile, after she arrived a year ago. With the minimum wage in Colombia being so low, she declared that, "what I make here ends up being a lot in Colombia." Because her mother lost her job when she got ill, Sara went into sex work. She explained: "I can't feel proud of being a prostitute but I have changed a lot and God willing by next year I'll have my own house so everything has been for the better."

Surprised at how much money Sara sent home, her mother continually asked her about her job in Chile. Sara said, "I always talk to her and every day she asks me what I do here. I told her the other day 'they sent me the school papers' just to change the conversation. And then I tell her I work at a factory." Seeing her mother struggle was difficult for Sara and she didn't want to burden her religious mother further with details about her life. She said, "It would be disappointing, perhaps she would say that there wasn't any need for all this, of being in such position [a sex worker], and I know that, that at times, at not seeing her working, or seeing me in college the way she wanted to, those thoughts would cause her greater pain."

She said her mother wasn't "very good with technology, she's not familiar with it" and so they talked on the phone every day. Sara also

didn't want her mother to see how tired she was when she picked up her early morning calls which woke her after long night shifts. Yet she wanted to be available. She said, "there are times she calls me, so I answer, that's why I never put the phone in silence or something like that...she calls, and I answer." When she couldn't talk to her she gazed at a photograph of her mother and held the rosary beads she gave Sara to remind her why she migrated. She said, "I don't wear it when I'm working, but that's what I have as memory from my mom." Sara took on extra customers to make more money to send her mother and she coordinated these meetings through voice calls. She told them, "just call me and schedule a time and we'll meet outside." Sara was selective about the content of her calls to both her mother and her clients to limit information about her to them. She managed her communication in a gendered way. She did this with her mother in particular like many immigrant daughters do through calling, remitting, listening, and supporting. Parreñas (2008) found that, "through the lens of transnational communication...women's migration does not initiate a complete shift in gender practices" (p. 81).

Theme of low visibility across the participants.

Sara's touching base with her mother, like for other participants, was a major reason for communicating and which connected to women's caring and emotional management roles. Touching base was part of emotionally managing family relations from afar due to their physical absence. Their phones and Internet access were necessities, not luxuries. Another Colombian participant felt responsible for her mother. She said: "I am the oldest. I am her support. I was the closest to her and that's the part I miss." Maintaining a parental role was another strong motivation to keep in touch. Mothers checked on their children all of the time and continued to be

their children's mothers-at-a-distance. A Haitian participant who had left her son behind depended on the phone as the only method of mothering. She said, "I usually ask how my son is doing, is he alright, what's going on with him." While unable to parent her child directly, she sought a method to maintain her presence as his mother from afar and their conversations focused on him, not her.

Scholarly and Educational Significance for Adult Literacy Practice

The findings revealed the range of visual maneuverings by immigrant women in their communications with far-away family members in pursuit of co-presence. When immigrants try to protect older parents, ill relatives, and children from knowing about their difficulties as Sara's case illustrated, they withhold information that would be difficult for recipients to take in. Therefore, having low visibility was critical to their interactions as part of protecting them. They might need to keep secrets, at least temporarily, to ensure the survival of the relationship and use only their voice to reassure the family member left behind that they've not strayed too far emotionally. In this case, the absence of screens defines the interactions between family members. We found that those immigrants who wanted their families to know a lot about their lives, on the other hand, desired high visibility, like Carmen; they were frequent video callers and shared lots of daily information and had high self-disclosure about themselves, including talking about their feelings and exchanging photos, and they depended on screens to connect with family in a highly visible way. The other type of interaction was in the middle and demonstrated a great deal of selection of both content and viewing. Calls were made but they were episodic, like in Pilar's case. They sought

contact with some family members, but not others, as Pilar did with her daughter, but less so with her mother. They also incorporated technological and geographical limitations. The act of calling itself was important to ensure the family left behind that the migrant members were OK. Pilar's calls also meant a commitment to continue to remit and she made sure the money she sent them was received and appropriately used. She rarely shared much with her daughter or her mother about her difficult street vending life. All three participants manipulated the ICTs for visual purposes to manage family relations and emotions through ICTs, and to create a sense of co-presence that worked.

The participants' ingenious navigation of their screens expands definitions of DVL, with new devices (smartphone platforms and apps), new populations (immigrants and transnational families) and for different purposes (personal communication). DVL, when embedded in transnational family communication, as I have shown, also expands both digital and visual literacies to include other sensory modes such as audio, especially when hearing and reacting to stories—that is the “environmental character” of multimedia communication (Krajina, 2009). Visual literacy researchers have focused more on surface issues, like ‘reading’ content and interfaces like, colors and lines. We have shown that there are deeper interpretations of DVL, when it comes to different populations and their socio-emotional practices of communicating, including multilayered intimacy and relationships. Furthermore, this deeper definition of DVL expands digital literacy definitions, with its focus on populations of varying educational and literacy skill levels. We have shown that educational levels alone cannot determine the type or purpose of communication; regardless of their levels, the participants selectively navigated screens for different reasons, and to achieve a sense of

co-presence in whatever way they could. And understanding how communication blockages occur with DVL is also important, due to the social and technological affordances on hand. The participants' creative uses of DVL through ICTs enables new interpretations of screen fluency focused on transnational family communication. On the surface, the screens appeared to offer sheer transparency. However, seeing family members from afar could become more visually complex. Screens, after all, can “stretch human interactions in time and space, and produce new spaces and forms of interaction” (Cruz & Sumartoj, 2018, p. 336).

There were educational implications that could be gleaned from these findings for adult literacy and ESOL populations, regarding the importance of affordances, social practices, and informal learning. First it was clear that education levels of the participants had little to do with their digital literacy practices, except the number of affordances they inherited as part of their social classes/backgrounds. Pilar had a middle-school education and Sara had a high school education. However, they both owned phones and had enough service provision to make calls, and were savvy in navigating their transnational communique. Yet the family members with whom they spoke did not always have the same affordances. Carmen had a high level of education, lived in an urban area, and her parents had the resources to communicate so she did so more frequently, relying heavily on the screens to achieve a sense of co-presence. Assessing these levels of affordances would be critical starting points for effective practice in digital learning classrooms to ensure equity among students (in accessing ICTs), but also in accessing important community-wide services (Vanek et al., 2020). The first stage of DVL is to learn about students' practices and the ways they have been shaped by their affordances, both social and technological.

Knowing for example, that students have to go to a library parking lot to access Wi-Fi to engage in remote interactions influences both digital curriculum and pedagogy.

The participants' DVL practices were focused more on the nuances of 'reading' expressions, and emotional subtleties through video or phone calls. In conjunction with speaking and hearing words and sounds to understand one another, they tried to glean meanings from the communication with their loved ones on screens, in order to achieve a sense of co-presence. From an educational perspective, what becomes important is the practice and emotional labor of reading faces, expressions, and gestures on screens, as well as background spaces, in order to effectively communicate. This emotional labor has been especially demanding during the global pandemic when remote/distance education has predominated through Zoom calls, transforming all students and teachers into talking heads, and where the embodied aspects of interacting can be missed. DVL practices in classrooms could focus on a deeper reading of communication through a literacy education that values "lifelong and life-wide learning" (Reder, 2020, p. 48); one which encompasses family learning, informal learning, and other types of literacy practices that fit within learners' life worlds. The emotional labor of image management conducted through DVL and ICTs is an important learning topic and may be a natural starting point for transitioning learners into formal settings.

This leads to implications for developing a deeper visual pedagogy in adult literacy and ESOL classes. This would mean emphasizing ways to navigate visual identities—ways to self-present,

self-track, and navigate relationships from afar—along with discussing the emotional work of communicating and its meanings within different settings and contexts. This expands the learning content to include families and storytelling that enriches curriculum in adult education, ESOL, and community education. DVL can expand on photovoice and fotohistoria as well as digital stories of immigrants and their transnational families (Patiño, 2018; Yefimova et al., 2015). While a number of these educational projects are often used as interventions to improve services by making immigrant and refugee communities both seen and heard in the dominant culture, our perspective is based on the idea that transnational family communication can be a learned practice and developed through ICTs. Education that expands on this rich informal practice of families could also lead to new content (involving transnational family members in classrooms through technology) and peer learning among students.

Our focus on visibility provides evidence of immigrant women's agency and visibility as well as their adaptation struggles which challenges policy makers to address their needs and interests in the many roles they play in their lives, as workers, citizens, partners, mothers, and daughters. Larger questions remain, however, especially during the COVID crisis and its aftermath about the ways families interact at a distance, the ways policies play out with regard to human communication, and also the ways immigrant women deal with discrimination. These larger questions and issues need to be taken up by the adult literacy field and incorporated into practices.

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The Power of the Positive: Enhancing Online Student Engagement for Adult Literacy Learners

Ellen N. Beattie, Center for Intentional Learning

Abstract

The evolving neurobiological and psychological understanding of emotions, specifically positive emotions, provides fascinating insights into how learners' emotions can be evoked, and online learning environments can be crafted to maximize student engagement. Engaged online learners are more active, self-directed, and responsible; they persist and find academic success at higher rates. This article aims to maximize learner outcomes by combining the research and frameworks of online student engagement with the neuroscience and psychology of positive emotions. This research suggests that positive psychology interventions, which have been consistently correlated to positive organizational outcomes when similarly used in business initiatives, also apply to the online adult literacy classroom. The infusion of practical positive psychology principles and the purposeful use of positive emotions in the online setting are presented from three distinct perspectives: creating a positive culture, facilitation, and academic content.

Keywords: emotions, learning, online learning, self-directed learning, neuroscience, learner outcomes, positive psychology, adult literacy, digital learning

Learning environments in adult education are on a continuum of positive to negative emotions and experiences. Intense pride in learning and career goals sit beside genuine disinterest or disillusionment. Both ends of these outcomes are informed by past academic and life experiences, societal and family expectations, and a desire for change. The effects of positive and negative emotions and experiences have not been evaluated from the perspective of adult literacy. This does not make them any less real in their contributions to learner achievement. In fact, failure for the adult literacy learner is broader than a failed

test or a repeated course. Failure negatively influences workforce opportunities, well-being, and results in feelings of shame, humiliation, and uncertainty for the future.

Learner engagement has a pivotal role in learner satisfaction, persistence, and achievement. It is engagement that affects retention and achievement, two common challenges in adult literacy education. When the COVID-19 pandemic swept the world in 2020 and required adult literacy programs to transition to instruction online, new challenges to engagement, retention, and academic success arose. While practitioners

cited low reading levels, limited digital literacy, and fear and anxiety in the online learning environment, as reasons to avoid online learning for adult literacy learners it now seems clear that the future success for adult learning must incorporate its elements to meet the needs of continual learning and learner needs.

Positive psychology's mission is to bring awareness and development to the factors that allow individuals, groups, and communities to achieve optimal human functioning (Seligman, 2019). The evidence connecting positive psychology to satisfaction, well-being, and the achievement of organizational goals is strong across business and health care disciplines but minimal in education. While understudied, the impact of positive psychology on learner success may provide a new framework for adult literacy. This article is a theoretical review that aims to provide practical implementation strategies designed to increase learners' psychological well-being, self-efficacy, and engagement in an online adult literacy program.

Positive Psychology

Positive psychology is one of the newest and most influential branches of mainstream psychology, and there is growing scientific evidence that this approach can have a significant influence on people's lives. It explores the positive aspects of life, happiness, and well-being. The inception of positive psychology can be traced to Seligman's 1998 presidential address to the American Psychological Association. In the address, Seligman called on psychology professionals to adopt a new perspective on the value of the field: "Psychology is not just the study of weakness and damage; it is also the study of strength and virtue. Treatment is not just fixing what is broken; it is nurturing what is best within us"

(p. 1). Seligman's desire was to emphasize the core mission of psychology as one that supports people in leading purposeful, fulfilling, and productive lives. Differing from the traditional view of psychology as solely focused on curing mental illness and maladaptive states, positive psychology explores what is right with people, focuses on how people can perform at their best, and encourages individuals and groups to flourish. It has more clearly been defined as "the scientific study of what enables individuals and communities to thrive" (International Positive Psychology Association, 2019). Positive psychology is an applied science, which employs testing, measurement, and evidence to produce real-world interventions that will improve individuals' lives and the organizations and communities in which they live, work, and engage. Positive psychologists aim to progress beyond remedying weakness and damage, to explore and develop the optimal human condition.

Boniwell (2012), a prominent European positive psychology researcher and writer, proposed that the roots of positive psychology date back to ancient Greek philosophies and Eastern religions. Hinduism and Buddhism emphasize the importance of positive emotions like love, joy, kindness, and compassion, as well as concepts like mindfulness and meditation, which are also core components of Seligman's view of positive psychology. Themes within contemporary positive psychology include the good life, positive emotions, human flourishing, positive social networks, strengths and virtues, and well-being (Compton & Hoffman, 2013). Positive psychology research explores constructs such as resilience, appreciative inquiry, empowerment, gratitude, psychological capital, work engagement, supervisor and organizational support, positive teamwork and co-worker relations, and positive leadership (Fleck et al., 2013). Positive psychology refocuses psychology

as a science of human strength, with an aim to identify and foster those traits.

The concept of flourishing is derived from Aristotle's idea of *eudaimonia*, or well-being, happiness, and the highest of human good. Seligman's well-being theory ascribes to this concept, as the aim of positive psychology is to measure and expand human flourishing (Seligman, 2011). The well-being theory includes five independent elements: positive emotions, engagement, relationships, meaning, and accomplishment, which results in the often-referenced mnemonic PERMA (Seligman, 2011). To increase flourishing, one should focus on enhancing each of these five elements.

Positive psychology has been applied widely in business and health care fields to initiate positive effects on well-being and engagement. However, the reality that low-literacy adults face is often shame, disappointment, and a lack of hope and optimism (Armstrong, 2021) and suggests that similar positive psychology principles may benefit the learner. A purposeful intervention of positive psychology may help to build the confidence and hope necessary for effective adult learning. This review will explore two tenets of positive psychology, positive emotions and human strengths, which when implemented, may enhance adult online literacy education.

Positive Emotions

Affect is the umbrella term that psychologists use when referencing positive and negative feelings, emotions, and moods. Barbara Fredrickson (2004), a prominent social psychologist who has spent most of her career studying the positive emotions that develop psychological resilience and flourishing, has identified 10 positive emotions: joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love.

Fredrickson determined that positive emotions serve two critical functions: they broaden one's perspective, and they build psychological capital (i.e., the emotional reserves needed to deal with difficult situations). Fredrickson (2004) theorized that frequent experiences of positive emotions build one's capacity to approach goal achievement, increase self-efficacy, and strengthen perseverance and resiliency.

Fredrickson's initial research led to the broaden-and-build theory of positive emotions (Conway et al., 2013). According to this theory, positive emotions *broaden* one's awareness, attention, and cognition, and over time those experiences *build* one's psychological, social, emotional, and physical resources. Fredrickson (2004) proposed that positive emotions "broaden an individual's momentary thought-action repertoire," and this broadening leads to the "discovery of novel and creative actions, ideas, and social bonds, which in turn build an individual's personal resources: ranging from physical and intellectual resources to social and psychology resources" (p. 1367). The theory posits that negative emotions narrow people's thoughts and actions.

Positive emotions are both a primary element of and a consequence of positive experiences. In 2009, Fredrickson proposed an optimal well-being rate of three positive experiences to one negative experience, or a positivity ratio of 3:1. The emphasis on creating and savoring positive emotions creates an upward spiral, which contrasts with the negative spirals often associated with negativity and depression. Positive psychologists, including Fredrickson, are careful to not ignore or banish negative affect. In fact, Boniwell (2012) proposed that negative emotions can help individuals connect to deeper levels of themselves. Negative affect is a normal and expected component of human life.

Human Strengths

Positive relationships nourish the feeling of being supported and valued and relates to human nature's value of social connectedness. The relationships in life can enhance positive emotions and meaning, while also contributing to engagement and accomplishment. This section will explore the use of strengths for these purposes.

The identification, awareness, and use of personal strengths contributes to human flourishing by creating meaning and as a foundation to relationships. Biswas-Diener (2010), noted positive psychology researcher, has defined strengths as “our pre-existing patterns of thought, feeling, and behavior that are authentic, energizing, and which lead to our best performance” (p. 21). Significant scholarship has been devoted to how identification and development of character strengths connects to life satisfaction.

Strength-spotting is a valuable activity in the effective use of character strengths. Niemiec et al. (2017) defined strength-spotting as the careful, deliberate observation of the interactions and behaviors of others or the behavior and effect of one's self. Guided by a two-step process, first labeling the character strength observed and then describing how it is expressed, strength-spotting promotes a deep understanding of strengths and how they benefit individuals and environments (Niemiec & McGrath, 2019). Understanding and positioning people according to their strengths makes for both a more human-focused setting and happier individuals.

A strengths-based approach has a significant body of scholarship demonstrating its effectiveness across many disciplines. In an extensive review of the literature, Ghielen et al. (2017) discovered wide support for the claim that interventions aimed at increasing strengths, along with other

positive psychology interventions, produced significant effects on well-being and engagement in work. Shuttle and Malouff's (2019) meta-analysis of 14 studies explored whether strengths increased well-being; this analysis, in alignment with Ghielen et al. (2017), concluded that an emphasis on signature strengths significantly impacted happiness in nine studies, improved life satisfaction in seven studies, and decreased depression in seven studies. Results from both meta-analyses demonstrate the positive influence that the emphasis on strengths can have in increasing well-being.

Critiques of Positive Psychology

Positive psychology is not without critiques, the foremost being its perceived disregard of the negative experiences that individuals face in life (Niemiec et al., 2017). The use of the terms “positive” and “negative” may also be perceived as an attempt to trivialize two polar conditions of the human experience. Early critiques, like those of Held (2004) and Lazarus (2003), questioned whether positive psychology emphasized the good at the expense of the bad and separated psychology from the important work of alleviating and curing mental illness, dysfunction, and disorders of the brain. Positive psychologists have responded to such critiques, arguing that the use of “positive” and “negative” is not intended to signify two opposing states of being, but rather a continuum of human experience, with the goal of moving one closer to the positive. In addition, positive psychology's emphasis on optimal human functioning sought to repair a perceived imbalance in research and practitioners' focus on maladaptive states. Positive psychology advocates acknowledge that further research and practice will add a more comprehensive perspective to this relatively nascent subfield of psychology (Niemiec et al., 2017). Ultimately, positive psychology will continue

to adapt and develop as further scholarship and practice opportunities become available.

Evolving Understanding of the Psychology and Neuroscience of Emotion

As described above, positive psychology asserts a relationship between positive emotional states and well-being. An early prevailing thought was that if one could eliminate negative emotions, positive emotions would flourish in that space, but research has disproved this idea. Positive psychologists now view positive and negative emotions as independent (Compton & Hoffman, 2013). Today, emphasis is directly placed on the cultivation and creation of positive emotions, with an understanding that positive emotions can cultivate well-being and build upon themselves, producing an upward spiral of positivity (Fredrickson, 2013).

Psychology is not the only field to have an evolving understanding of emotion. Neuroscience's classical view of emotions viewed them as autonomic, largely unconscious behavioral or cognitive responses to significant events or objects. Early research on emotions proposed six universal emotions, characterized by facial expressions and recognized universally across cultures (Barrett, 2017). An early neurobiological perspective proposed that the amygdala, often referred to as the fear center of the brain, housed emotions. Emotions were the brain's way of alerting one to something that demanded attention. Under this classical view, emotions were considered primitive, not associated with complex cognitive functions, and unable to be overridden by conscious thought.

As neuroscience has advanced over the last two decades, an alternative non-classical theory of emotions has emerged. Barrett, considered the leading authority on the neuroscience

of emotions, devoted her career to exploring emotions. Initially, she attempted to replicate the earlier work on universal emotions; however, Barrett's (2017) research largely disproved the long-held ideas that emotions live in distinct brain structures and that humans experience a universal set of emotions. Rather, Barrett (2017) proposed that emotions are constructed in the moment, guided by core neural systems across the brain, and informed by a lifetime of experience and learning.

These findings are too preliminary to suggest a comprehensive understanding of emotions within neuroscience. Yet, advanced imaging does provide insight into how the brain processes positive and negative emotions. Machado and Cantilino's (2017) meta-analysis of 22 articles explored the neural correlates of positive emotions and found that the formation and regulation of positive emotions are associated with reduced activity in the right prefrontal cortex, as well as bilaterally in the temporoparietal cortex and the left prefrontal regions. Additionally, associations are also found between positive emotions and increased neural activity in the cingulate gyrus, interior and middle temporal gyri, amygdalae, and ventral striatum (Machado & Cantilino, 2017). Advances in neuroscience are providing insight into how the brain's neural systems process positive emotions and influence motivation, mental states, and cognitive abilities.

Online Learner Engagement in the Adult Literacy Classroom

Online learning is neither new nor novel. Research in online learning is abundant, as the modality has grown as a mainstream educational choice for adult learners. The virtual environment presents new challenges in engaging and retaining learners. Faced with mounting pressure to help

learners find academic and professional success, adult education practitioners must explore what online learning engagement and success entails.

Online learning created a paradigm shift in education, one that adult literacy had largely ignored until the COVID-19 pandemic presented conditions making it impossible to learn in face-to-face settings. Several factors challenge the effectiveness of online learning in adult literacy education. Instructors are often asked to teach online having received very little online pedagogy training. Additionally, the skills needed to be a successful, self-directed learner may prove to be more difficult for an adult with low reading levels, excessive life responsibilities, and hurdles such as limited digital literacy or lack of access to technology devices and broadband Internet. Nonetheless, the COVID-19 pandemic suspended in-person instruction, forcing adult literacy programs to proceed remotely to continue to fulfill the mission to educate and prepare learners for post-secondary education and training. This transition has presented challenges including ill-prepared instructional faculty, ill-suited course and curriculum designs, and learners unfamiliar with the modality and digital tools needed. Student engagement and achievement have often been compromised as a result.

Student Engagement

Student engagement has been defined as “the student’s psychological investment in and effort toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote” (Newmann et al., 1992, p. 12). Martin and Bolliger (2018) have emphasized that engagement “increases student satisfaction, enhances student motivation to learn, reduces the sense of isolation, and improves student performance in online courses”

(p. 205). Learner engagement is a collaborative process (Arghode et al., 2018) in which the learner invests their attention, and the instructor invests in their course design and facilitation skills. Student engagement, as a measure of learning quality, contributes to persistence, retention, and attainment of desired learning outcomes.

Online Student Engagement

The importance of student engagement is not unique to online learning, but the isolated nature of asynchronous learning from geographically separated locations requires an increased emphasis. Students’ interactions in the online learning environment are a critical predictor of persistence and learning achievements (Lafreniere et al., 2017). To be wholly engaged in the learning experience requires moving beyond engagement with academic content to include purposeful and meaningful interactions with peers and instructors.

Humans are inherently social beings. Socialization and connection in an educational setting create experiences in which learners maximize their engagement and learning. Martin and Rimm-Kaufman (2015) noted that student interactions within the online learning environment build social and emotional engagement; these relationships create a sense of community for online learners (Luo et al., 2017), leading to a higher rate of persistence. Different patterns of social interaction exist in the online learning environment, which will be elaborated on in the framework for interaction and engagement section. This is an important distinction because, as more courses are offered in an online learning environment, the aim is to create high-quality course designs and effective facilitation to maximize learner engagement levels and corresponding student success.

Emotional States and Learning

Emotions contribute to learning. Exploring the role of emotions in learning is not a new idea, but concepts such as social emotional learning, the Theory of Control-Value Theory of Achievement Emotions, and research into the neurobiology of emotions provide expanded insight into the topic. Immordino-Yang and Damasio (2007) explored the connection between emotion and cognition, presenting a foundation for understanding the emotional aspects of learning and calling for interdisciplinary collaboration of neuroscientists, psychologists, and educators. Immordino-Yang (2015) later published *Emotions, Learning, and the Brain: Exploring the Educational Implications of Affective Neuroscience* sharing a decade of research into the emotion and learning connection, aiming to revolutionize educational theory and practice.

Immordino-Yang (2015) proposed that emotions powerfully motivate learning as emotions activate neural circuitry that evolved to support basic survival instincts. As deep thinking is required for learning, she postulated an inherent connection between meaningful thinking, learning, and emotion. Leveraging the emotional facets of learning provides opportunities for meaningful learning and promotes transference of the educational experience to real-world skills and application. Immordino-Yang's work provides a foundation to further exploration of the role of emotions in learning.

Social emotional learning (SEL), also referred to in the literature as socio-emotional learning, provides a framework for understanding and developing the mindsets, attitudes, feelings, and emotions to support learning and life success. Weissberg et al. (2015) identified five core competencies of SEL: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. SEL positively impacts academic

achievement as learners develop emotional regulation (CASEL, 2020).

Positive emotions during the learning process positively correlate with learning and engagement (Perkun & Linnenbrink-Garcia, 2014). Pekrun's Control-Value Theory of Achievement Emotions posits that student's appraisal of their control over and value of a learning situation elicits an emotional reaction, which determines motivation toward learning engagement (Pekrun, 2006). Dela Rosa and Bernardo (2013) found that positive emotion of enjoyment was correlated with engagement of deep learning strategies and associated with students' adopting both mastery and performance goals toward the learning process. Research by Huang et al. (2019) supports this emphasis on positive emotions, concluding that emotions such as happiness and enjoyment result in increased interactions between learners and instructors.

Neuroscience informs the relationship between emotions and learning. Prevailing knowledge supports that emotionally charged events are memorable. A clear connection exists between the high emotional arousal of an event or experience and the memory consolidation of that event or experience, biologically explained by cortisol's release and subsequent influence on the hippocampus, where the brain stores memories (McGaugh, 2013). Learning under high stress and anxiety fosters surface learning and hinder deep learning (Chen et al., 2015) and negatively impacts memory and recall (Smeets et. al. 2008).

A Framework for Online Interactions and Engagement

The geographical separation inherent to online learning, potentially leading to social and emotional separation, challenges the trust and

personal interactions that support the learner-instructor relationship. Moore (1991) articulated an understanding of this challenge with the transactional distance theory, which aimed to explain the interactions patterns between individuals, environments (Yu et al., 2020). Transactional distance theory proposed that the perceived pedagogical distance between instructors and learners can be minimized by increasing purposeful interactions (Kyei-Blankson et al., 2016). Moore believed that organizational and instructional principles could alleviate feelings of distance, minimize communication gaps, and address challenges to learner motivation. Three distinct relationship dynamics emerged from Moore's (1993) research into effective online courses: learner-to-instructor, learner-to-learner, and learner-to-content. Each relationship influences social and emotional connections and sense of community. Each interaction type is described below.

Learner-to-Instructor

Learner-to-instructor interactions prompt higher levels of student engagement in online courses (Martin & Bolliger, 2018), spanning vital course components including expectations, feedback, grading, and participation in discussion boards. Compared to other interactions, Martin and Bolliger (2018) identified learner-to-instructor interactions as the most valued by learners.

Instructors' choices of communication can strengthen learner-to-instructor interactions. Varied communication channels increase the likelihood and richness of interactions, which decreases feelings of loneliness for the learner. An instructor's approachable and encouraging tone can also help build relationships. Personalized messages and timely feedback serve as additional communication channels. A high-quality

communication strategy ensures that learners know that there is a real person on the other side of the computer.

Learner-to-Learner

Learner-to-learner interactions occur between peers, either synchronously or asynchronously, without the instructor's direct involvement (Yu et al., 2020). Banna et al. (2015) have suggested that the inclusion of discussion boards, live chat sessions, group tasks, and peer assessments foster interactions between learners. Gunsekera et al. (2019) have found that learners who engage in peer interactions achieve learning objectives and report higher satisfaction levels. Similarly, Kyei-Blankson et al. (2016) have reported that these interactions encourage collaborative and cooperative learning, promote deep learning, and connect to higher levels of presence felt by learners. Learner-to-learner engagement enhances the sense of community, belonging, and positive relationships.

Findings from Banna et al. (2015) have indicated that learners highly value synchronous interactions with peers and instructors. Connecting visually mirrors in-person interactions and minimizes feelings of loneliness and isolation. Course elements like weekly live chats can support relationships, build trust, and minimize feelings of isolation.

Learner-to-Content

Learner interaction with content refers to a "one way process of elaborating and reflecting" on the course content, objectives, or materials (Yu et al., p. 4). The most effective learner-to-content strategies involve active learning, in which learners fully participate in the learning process. Active learning guides learners to build self-efficacy, problem-solving skills, critical and creative thinking, and confidence. Problem-based learning, applying theory to practice, and active

learning are well-researched andragogy strategies that strengthen learner-to-content interactions by requiring learners to intensively invest their effort.

Martin and Bolliger (2018) identified several learner-to-content interactions most valued by learners, including discussions structured with guiding questions, the application of course content to realistic scenarios, and the ability to interact with content in more than one format (e.g., text, video, audio, or simulations). Effectively designed discussion questions prompt learners to contribute their insights and experiences while engaging with the research-based exploration of course content. The application of course content to realistic scenarios reinforces the andragogical concept of providing a clear purpose for learning and, when appropriate, choice in the student's approach to academic work. Technology aids the instructor who seeks to enhance course content.

Weaving Positive Psychology Into Adult Literacy Online Interactions

This section explores online learning's evidence-based engagement strategies framed through positive psychology. Instructors who understand positive psychology principles and the biological and psychological underpinnings of emotion can foster a classroom environment for optimal learning. This section will be divided into the following sections: creating a positive culture, facilitation, and academic content. Each section aims to maximize the adult literacy learners' engagement and persistence with the ultimate goal of increasing learning achievement.

Positive Psychology in Creating a Positive Culture

Opportunities exist to enhance learning outcomes

within a purposeful educational culture and climate. The instructor plays a prominent role in forming positive relationships, clear communication, effective instructional practices, and fair and consistent assessment practices to create a positive educational culture. The online learning environment is new to many adult literacy learners and commonly results in feelings of anxiety and isolation; these feelings can impact learner motivation and engagement, yet instructors can create positive classroom cultures with targeted strategies. This section will explore how instructors can create a positive culture through a welcoming space with structure, messaging, introductions, and feedback.

Structure

The structure of an online course can either help or hinder the transactional distance highlighted by Moore (1991). Structural elements include design elements such as content, navigational elements, and multimedia. Structure should be clear, consistent, and easily understandable for the learner.

Designing a course structure that aligns with positive psychology principles eases the transition for learners. The use of a "Get Started Here" element minimizes ambiguity and provides a clear path for new online learners. Access to a daily monitored "Ask Your Instructor" thread demonstrates a caring approach, individualized support, and investment into learner success. Weekly overviews and summaries, either text, audio, or video formats, provide structure, keep learners on pace, and allow opportunities for questions.

Messaging

Communicating early and often helps learners understand the structure of the course, minimizing anxiety. Martin and Bolliger (2018)

concluded that the three most valued strategies from instructors were regular announcements and email reminders, addressing learners by their names in discussion forums, and the ability to post questions to the instructor in a discussion forum. These elements speak directly to minimizing transactional distance and feelings of learner isolation, making them vital course start components. Welcome announcements set the tone for the course, outline expectations, and promote relationships between instructors and learners. Creating a personalized welcome email sent individually to learners with specific “get-started” steps can be immensely beneficial in opening communication channels. Consistency between modules’ elements and weekly messaging from instructors assist learners with understanding where to focus attention each week.

Announcements and personalized messages can dually be used to convey vital course information and to motivate and encourage learners. Messages that celebrate holidays, recognize noteworthy happenings, or highlight course-related news encourage interactions beyond the course material and foster positive relationships. Many online learning management systems allow for more immediate and real-time text-like messaging. Early in the course, these elements of messaging promote a positive culture and subside learner fears and anxiety. Positivity is easily infused into announcements and messaging as tone, rhetoric, imagery, and color quickly translate to positive interactions.

Instructor Introductions

Instructor introductions provide a solid foundation for a positive culture through positive emotions. Text-based instructor introductions can use images, personal pictures, and font colors and styles to present a friendly and approachable

demeanor, but this is only one format for introductions. Video is more effective than text at communicating personality to students (Borup et al., 2012). Lomonte (2019) compared course introduction videos created in a professional studio, which were high-quality and edited to perfection, to videos created informally by the course instructor; this research found that learners preferred the informal videos, which led to more positive impressions of the faculty member. Instructors who can present themselves as approachable, friendly, and supportive will encourage positive emotions and positive relationships in the learning environment.

Feedback

Feedback also provides key interactions between learners and instructors. Innovations in learning management systems create ease in providing multiple methods of feedback, including audio and video components. A meta-analysis from Killingback (2018) revealed that alternative forms of feedback, including audio, video, podcasts, and screencasts, increased comprehension of feedback, was more personalized, and fostered a sense of belonging. Alternative feedback provides a human touch and may increase learner interest in implementing feedback. An instructor’s genuine caring nature can be employed to drive a positive approach to feedback and create a respectful classroom community.

Positive Psychology in Facilitation

Positivity is contagious; it builds social connections and nurtures deeper interpersonal connections when shared with others (Fredrickson, 2013). Facilitating learning opportunities that enhance social connections through collaboration and interactions is an important design element for effective online courses (Lister, 2014). Social connection, one’s

interpersonal and interdependent relationships, results in a sense of belonging. A distinctive advantage of an asynchronous online learning environment is the ease and regularity with which learners can interact. Kurucay and Inan (2017) reported that learners working collaboratively achieved significantly higher learning achievement than those working independently. This section will explore how instructors can infuse positivity through facilitation techniques in group introductions and discussions.

Group Introductions

The first week of the class provides a natural opportunity to designate time for group introductions, which Martin and Bolliger (2018) identified as valuable to online learners. Not only can students connect socially, but the opportunity to identify similarities builds peer support and can counter feelings of isolation. Instructors responding to each student's introduction separately begin to build trust, a necessary component of relationships. Solid relationship-building activities in the first week of a course can transition learners into productive members of future discussions.

Positive emotions are the foundation to high-quality relationships in online classrooms minimizing the social isolation felt by online learners. Traditional threaded introductions can take a more positively infused approach when learners are asked to take a strengths assessment, such as the VIA, and report results. Including a component based on character strengths serves to emphasize the uniqueness of each learner.

Innovative introduction activities could also involve multimedia and varying activities. Learner engagement research (Park & Lim, 2007; Um et al., 2012) has found that presenting multimedia learning content, such as images or videos,

maintains students' positive emotions, elicits more student attention, and increases students' sense of self-efficacy. Asking learners to include their favorite meme or motivational quote can add personalization beyond course elements. Well-designed introduction activities foster community and reinforce that high levels of engagement support learning success.

Group Discussions

Discussion activities actively engage learners in the course content but are equally beneficial in promoting social engagement and community. Social engagement presents unique challenges in the online setting, so course elements must be designed purposefully to engage learners socially and build community. Discussions can serve as a substitute for in-person social interactions, such as casually chatting before class and at breaks. These social elements are an integral part of the learning process.

Non-course related discussions can also encourage positive emotions. Informal discussion encourages learners to engage in more personal conversation. Infusing humor into discussions can enhance attention, recall, feedback, and provide humor breaks (Erdoğdu & Cakiroğlu, 2021). Humor reduces learner anxiety and stress and improve cognitive engagement by aiding understanding, facilitating problem-solving, and increasing cognitive effort. Humor also aligns with Fredrickson's positive emotions of joy and amusement and promotes interest, which is essential to sustained engagement.

The facilitation of discussions by instructors allows for the infusion of positive psychology principles. Posts can highlight exemplary thinking or analysis, encourage strengths, and promote social connectedness when learners share connecting thoughts. Addressing students by name in

discussion posts and messages provides distinction between individual and group conversations and addresses the contributions of individuals. Positive design multimedia can be implemented to add interest and positivity to discussions. Finally, high levels of instructor presence in the discussions demonstrates the instructor's investment to the course content.

Positive Psychology in Academic Content

A programmatically-designed master syllabus or standardized content may provide overarching structure to an online course and still provide flexibility for instructors to choose, create, and enhance content. Content creation provides a venue to promote positive emotions, with a special focus on joy, interest, amusement, and inspiration. Supplemental resources allow instructors to create a rich, interactive, and personalized learner experiences. This section will explore how instructors can enhance positivity through course design, multimedia, and instructor-created content.

Course Design

The study of positive instructional design is in its infancy, though early research suggests that learning material created in alignment with a positive design increases learning outcomes. Li et al. (2020) compared the results from two distinct groups, one with a neutral design and one with a positive design. While the positive design had an insignificant effect regarding students' emotions, it was positively significant to outcomes, as measured by retention and transfer tests (Li et al., 2020). The results demonstrated that the positive design group outperformed those taught from a neutral design. This finding suggests that learning is most effective in a supportive and positive environment.

Multimedia

Learning tools can also be explored from the perspective of positive psychology. As noted earlier, Martin and Bolliger (2018) identified that learners appreciate varied formats. Advances in technology allow opportunities for multimedia tools, interactive content, and immediate communication strategies. Ample opportunities exist to create and integrate educational videos, stimulations, animations, and infographics into course content and use analytics to identify success.

Park and Lim (2007) have explored the effects of visual illustrations on learning interest, achievement, and motivation in multimedia learning. Results indicated that multimedia content that includes images and videos, instead of plain text, helps maintain positive emotions, elicit attention, and increase students' sense of self-efficacy. Visual illustrations did not affect students' recall or comprehension of the material. Similarly, findings from Um et al. (2012) suggest that applying emotional design principles to learning materials may induce positive emotions and that positive emotion in multimedia-based learning facilitates cognitive processes.

Instructor-Created Content

Wide evidence exists for the effectiveness of instructor-created learning tools. Findings from Mandernach et al. (2018) have suggested that instructor-generated content increases the likelihood that students will engage at levels higher than they would with equivalent generic content from the Internet or textbook publishers. Qualitative support from the Mandernach et al. (2018) study suggests higher levels of satisfaction, engagement, and connection from the use of personalized audio lectures by faculty members. Beyond audio tools, instructor-featured videos are well-researched and have been shown to provide

significant advantages to learning achievement. Findings from Borup et al. (2012) have indicated that learners find their instructors more “real, present, and familiar” and that video interactions closely align with face-to-face instruction (p. 195). Videos can be effectively used in adult literacy learning, as the tool allows for replay to increase comprehension (Geri et al., 2020) and for interactivity elements to increase engagement (Geri et al., 2017). Instructors’ presence on screen can lead to a higher level of perceived instructor presence (Wang & Antonenko, 2017; Wang et al., 2020). Instructor-created learning tools provide connection and limit perceived transactional distance.

Conclusions and Future Research

This article explored how positive psychology may be employed to increase learners’ psychological well-being, self-efficacy, and engagement in an online adult literacy program. Taken together, the concepts of learner engagement and positive psychology may have direct applications to building psychological well-being for learners, which can aid in overcoming the myriad of challenges the adult literacy learner faces. This review has been one of the first attempts to connect positive psychology to adult literacy.

Raising awareness of the importance of positive relationships, interactions, and content in the online setting provides the field of adult literacy guidance in optimizing the learning environment by addressing the emotional component to engage deep and meaningful learning. While positive psychology is not a panacea for the retention and engagement challenges in adult literacy programs; if carefully explored and implemented, it could provide another tool for easing students’ discomfort and maximizing academic outcomes in the online classroom. Improved psychological well-being is a precursor to many adult literacy education goals such as improved academic outcomes, increased workplace success, and the successful integration of learners in society.

Future research is needed to explore how positive psychology, including positive emotions and positive relationships and interactions, can benefit adult learner engagement and achievement. A natural progression of this work would include empirical studies exploring how positive emotions affect the adult literacy learner’s achievement. Ultimately, findings could be used to address the psychological well-being, resiliency, and academic achievement of adult literacy learners.

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Report from the Field

The Digital Literacy Action Plan: A Strategy for Differentiation and Learner Agency in Digital Literacy Instruction

Rachel Riggs, World Education

Note: This paper reflects work that was undertaken while Rachel Riggs was affiliated with Frederick Community College.

Abstract

When I began my career in adult education as an adjunct ESL teacher, I felt well-equipped with an understanding of second language acquisition and evidence-based teaching methods. At the time, I knew nothing about digital literacy. Once I began to understand its importance and the challenges that it posed in the classroom, I developed the Digital Literacy Action Plan, an instructional strategy designed to differentiate, increase learner agency, and address digital equity concerns. This article is written for adult basic education instructors who aim to integrate digital literacy skills into their instruction in a way that is meaningful to each learner and empowers learners to acquire digital skills autonomously.

Keywords: digital literacy, instructional strategies, learner agency, differentiation, digital equity

When I began conceptualizing the Digital Literacy Action Plan (DLAP), there were two students in my Intermediate ESL class who aptly illustrated why differentiation and learner agency are so important in digital literacy. Helena is from Iran and her hand trembled on our first visit to the computer lab as she moved the mouse across the screen to sign in. The second, Michael, is from Côte d'Ivoire. He had recently enlisted in the U.S. Army and was able to convert an Excel spreadsheet into a bar chart sooner than I could sketch the same chart on a whiteboard. Helena wanted to use computers to support her children's education and Michael wanted to learn how to leverage technology for business management. I knew they

each needed a completely personalized plan and as an educator I couldn't pass up the opportunity to facilitate their growth in this area.

Understanding the Scope and Urgency of Digital Literacy

As defined by the American Library Association, digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills (Visser, 2013). However, when I first heard the term, my understanding was limited. Per the requirements of the program I worked for, digital

literacy pedagogy included visiting the computer lab five times per 10-week session, which amounted to about eight out of 60 instructional hours focused on digital skills. Many advised me to get my students set up with accounts on websites that offer free touch-typing practice. The digital literacy instruction I offered at the time was isolated from our work in the classroom and somewhat random as I haphazardly reserved time in the computer lab to fulfill that five-visit requirement. As I chose objectives for the time in the computer lab, I realized that whatever I chose, whether it was creating an email address, using a typing program, or formatting a document, there were students that flew through the activity while others took the entire time just signing in. A learner's success in these tasks was not predictable based on their reading, writing, listening, or speaking skills, resulting in a group of students whose English proficiency may be similar but whose digital literacy differed greatly, adding to the challenge of defining a set of objectives.

Between class time, lesson planning, and the occasional computer lab visit, I researched digital literacy and participated in professional development around the topic offered by the college and other organizations. At the Maryland TESOL fall conference, I was first introduced to the Maryland Department of Labor Digital Literacy Framework for Adult Learners (2019). The framework defines seven essential elements of digital literacy necessary for adult learners to function in an increasingly tech-driven society: technical, civic, communicative, collaborative, computational thinking, investigative, and productive. Reading and understanding the framework was a first step toward recognizing that the scope of digital skills that the learners in my classroom needed was broader than just the technical skill of touch-typing or the communicative skill of using email.

Eventually, digital literacy research led me to information and increased awareness around digital exclusion and how it impacts English learners, in particular. The National Skills Coalition (2020) reports that 40% of workers with limited English have no digital skills and only eleven percent have advanced skills. This critical equity issue directly impacts the learners in my classroom and shifts my view of digital literacy integration from something I was *required* to do to something I am *compelled* to do, effectively and systematically.

Given the scope of digital skills and the urgency of digital upskilling, differentiation and learner agency are two challenging but key practices to apply in digital literacy integration. Adult learners facing digital exclusion should be given the options and agency within the classroom to work toward acquiring digital skills that are immediately relevant to their life, work, and educational goals. Recognizing that the trips to the computer lab and my prescriptive digital learning objectives were falling short, I formulated the DLAP to implement digital literacy in a way that addresses differentiation and learner agency.

Origin of the DLAP

Once I recognized the disparity between Michael and Helena's goals, but the common need and desire for digital skills, I decided to administer a survey to the class asking them what they wanted to do with technology and how it fit with their life goals. Then, I suggested possible resources, websites and what to search for, and had them each create a plan for how they would use their time in the computer lab. Michael wanted to learn a program that our school computers didn't have. So, we worked together to brainstorm ways that he could research Microsoft Access features without the program itself, look into comparable products, and analyze whether, when, and how

he could purchase the program to be used in his company. Helena was not quite ready to jump into emailing and using Google Classroom so I helped her identify which technical skills she needed to get there and what resources were available. On the next visit to the computer lab, Michael watched YouTube tutorials on how to use Microsoft Access for project management while Helena did “mouserise” and started a typing program. The DLAP was integral in creating this personalized, concierge method of addressing each student’s specific needs.

Of course, from a teacher’s perspective, creating a personalized learning plan for each learner is not always practical. I began experimenting with different ways to formalize this approach to include higher learner involvement, phases that incorporated learning at various levels of complexity, and integration into the other learning objectives of the class. To increase learner-centeredness, I created a tool that students could use for planning and tracking their progress. (Figure 1) Then, I structured the creation and completion of the DLAP into four steps in order to engage learners on all cognitive levels and weave the DLAP, and the awareness of how technology impacts all aspects of life, into what we were doing in the classroom. Thus, the design of the DLAP was intended to be a practical solution to integrating digital literacy into language learning in a way that recognized the individuality of the learner and the critical issue of digital equity.

The DLAP

The DLAP is a plan students create to align the acquisition of digital literacy skills with their individual goals, choosing their own learning objectives, resources, and device(s). The instructor facilitates the process by providing guidance, scaffolding, feedback, and class time for learners

to develop and execute their DLAP. It is helpful to use a digital skills framework, like the Maryland Digital Literacy Framework (2019), to organize and guide the process of creating a digital literacy action plan. The ideal result of creating and completing the DLAP, in addition to developing digital literacy skills, is to facilitate a process that supports adult learners in developing strategies and confidence that will assist them in lifelong learning and digital resilience.

Step One: Goal Setting, Connecting Digital Literacy to Life Goals

The first step in the DLAP is to include digital skills in a goal-setting lesson at the start of the class session. From my observations, instructors usually practice this in some form, as they use a discussion of goals at the start of a class to get to know and motivate learners. The DLAP takes this one step further by determining what role digital skills and technology (internet, devices, media, etc.) play in reaching a learner’s goals. During this lesson, the objective is to show learners that digital skills are connected to all aspects of life. If we begin the discussion at the outset of the class, the rationale for creating a DLAP becomes clear. This goal-setting phase will establish the relevance of digital skills to all learners, leveraging their goals in other areas to spark interest and motivation for creating a DLAP.

Consider Helena and Michael. Imagine that *life*, *work*, and *education* were written on the whiteboard with large circles around them for students to write in their goals. Helena might have come to the board and written nothing in the work or education bubbles. Her main goal for learning English was to support and stay connected with her children. For Michael, on the other hand, the work bubble would have been filled in with his desires to upskill in business management. Now imagine that there’s a larger circle drawn around the three

bubbles with the label *technology*. While learners may not be able to identify goals in all three areas of life, work, and education, this simple visual will show them that no matter which of those categories their motivation falls into, technology will play a role for all lifelong learners.

Step Two: Planning

After learners have identified which digital skills they need to reach their goals, they move into the planning phase. This phase entails breaking down their overall goal into a set of steps, attaching a timeline to each step, and listing resources they will use. The instructor's role in the second step of the DLAP is to help students by suggesting resources and assisting with setting a realistic timeline.

The resources offered to learners could be a list of multiple suggested materials (e.g., websites) or a single recommendation. Again, this is where having a framework and supplemental materials is helpful. With or without a framework, it's important to build and maintain a list of open resources to recommend to students. When suggesting resources consider ease of use, accessibility, and planning.

Suggested Resources

1. GCF Learn Free Technology Tutorials (GCFGlobal.org)
2. DigitalLearn.org
3. Google Applied Digital Skills (applieddigitalskills.withgoogle.com)

Step Three: Learning

Once goals have been defined and plans are set out, the learning phase begins. During this step, students will begin to work through their timeline, utilizing the resources they have selected to achieve the learning objectives they have set

for themselves. I always include time within our normal class periods for students to work on, discuss, and receive feedback on their progress (see Figure 2 for an example timeline). Since they will have unique action plans, each student will be working independently. However, group discussions and regular check-ins will help foster a sense of community during the process.

It is important to remember that each step in this process will be more of an art than an exact science, and that will become clear during this third step. Students will discover that a certain resource isn't working for them. They may find out that their timeline was unrealistic. It is, of course, for that reason that teachers facilitate learning experiences. The key idea is that the learning takes place not just in the achievement of the final objective but through the analysis and trial-and-error that is involved throughout the process. Keep in mind that the act of setting goals, gathering resources, and analyzing the usefulness and validity of those resources are all important digital literacy skills in and of themselves.

There will be varying degrees of "success" when we talk about students acquiring that final goal. In Helena's case, by the end of the class session, she became much more comfortable navigating the mouse, signing in and out of the computer, opening web pages, and typing. She also learned that free and open resources exist with which she can gain a great many digital skills as she progresses on her learning journey toward becoming a more active participant in her children's education. Michael managed to get a better grasp on Microsoft Access by watching YouTube videos and visiting Microsoft forums. He also voluntarily assisted other learners with their action plans, strengthening his ability to lead and troubleshoot. From an outsider's perspective, perhaps the ideal result would have been to see

Helena managing her own Google Classrooms or to hear that Michael had a lofty credential to add to his resume. While those outcomes would be wonderful, that is not the real aim of the DLAP. The purpose of the DLAP is not to achieve mastery, but to empower learners to set measurable digital literacy goals and leverage resources in order to acquire the skills necessary to be an informed and evolving digital citizen.

Step Four: Reflection

The final step in the DLAP is that of reflection. The reflection can be modeled around the first three of Carol Ann Tomlinson's (1999) methods for differentiating instruction: content, process, and product. Consider creative ways to group students and different methods for reflection. For example, a group of students could prepare a brief presentation on what they aimed to learn, their opinion of the DLAP process, and the outcome. Being an English instructor, I try to always think about how I can incorporate language skills and forms throughout the process. Therefore, depending on the group I'm working with, the reflection could end up being a class discussion or a written essay. During the reflection, I elicit their thoughts on the resource(s) they used (content), how the DLAP assisted them (process), and what they were able to achieve (product).

Conclusion

After implementing the DLAP over time, I have seen its ability to encourage learners who once felt the daunting burden of digital literacy, as they took the reins and forged their own paths as legitimate and capable digital citizens. The DLAP offers digital literacy development that caters directly to students' goals, models the importance of planning, and provides time for learning, exploration, and reflection. Its inherently individualistic approach requires a lot of effort on behalf of both facilitators and learners. It is, however, an approach that prioritizes digital literacy instruction as an equity initiative and considers the individuality and dignity of adult learners. As the digital divide continues to widen, and especially in light of the complication presented by the coronavirus pandemic it is incumbent upon adult educators to collaborate and innovate in the integration of digital literacy. My sincere hope is that the DLAP will benefit learners and instructors as they navigate this crucial component of lifelong learning.

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Figures

FIGURE 1: DLAP Graphic Organizer

Name:

Date:

My Digital Literacy Goal:

STEP 1:
GOAL
SETTING

Materials/Resources:

<div>Steps:</div>	<div>Timeline:</div>	<div>Notes:</div>	<div>Next Steps:</div>
<div>STEP 2: PLANNING</div>		<div>STEP 3: LEARNING</div>	

FIGURE 2: Example DLAP Timeline

EXAMPLE DLAP
TIMELINE -10 WEEKS

WEEK 1	WEEK 2	WEEK 3	WEEKS 4-9	WEEK 10
GOAL SETTING				
	PLANNING			
		PLANNING		
			LEARNING	
				REFLECTION

Supporting Quality Instruction: Building Teacher Capacity as Instructional Designers

Jen Vanek, World Education

A predominant narrative about adult education during the COVID-19 pandemic has been about how teachers, under unprecedented hardship, endeavored to work in new ways, drawing on technology tools and digital resources to sustain instruction when they could not meet learners in person (Belzer et al., 2020). Though teaching and learning at a distance did not resonate well with all teachers and learners, those who persisted did realize notable success in continuation of work and learning (Vanek, 2021). In order to succeed, teachers had to embrace working in entirely new ways - especially in the way they planned or designed instruction.

There was sufficient success in the field that, by spring of 2021, a common and very salient conversation among teachers and adult education leaders alike was about how to define “the new normal.” That is, how the field might leverage or build on instructional innovations (e.g., flexibility of programming, focus on digital skills development, personalization of learning) without, what was acknowledged by many as, the unprecedented level of work for teachers during the pandemic. Perhaps the answer lies in finding ways for teachers to more quickly make efficient and sound decisions about digital resources and technology integration. I offer here a suggestion -- encouraging structured use of technology integration frameworks and strategies to evaluate

the effectiveness of their decision decisions and implementation. Doing so can help teachers build on what they learned as practitioners during the pandemic and build their capacity to design technology-rich instruction that meets the needs of diverse learners.

Looking Back in Order to Move Ahead

Though there were efforts made to leverage technology to enhance and extend learning opportunities in adult literacy, basic academic skills, and ESOL programming prior to the pandemic, many programs found it difficult to prioritize that work. Common challenges included lack of resources to support students, students’ limited access to devices, and both practitioners’ and learners’ skills and comfort learning with digital resources (Vanek et al., 2020). There is little reported research on the level of use of technology in adult education classrooms (Lister et al., 2014); however, federally reported data on participation in distance education does exist, as reported in NRS Table 4C, and shows this reticence reflected in the percentage and number of learners participating in distance education prior to the pandemic.

Participation in distance education was consistently low in the years leading up to the

pandemic. In program years 2016-2017 and 2017-2018, they represented just 3.8% of all learners. In 2018-2019, the number rose very slightly to 4%. Across these years, data show that distance learners performed nearly as well or better than non-distance learners (National Reporting System for Adult Education, n.d.).

2019-2020 NRS data show a marked increase in distance learners (up to 16% of all learners), which included 3 months of the pandemic. However, MSG attainment for distance learners dropped from about 45% in the previous year to 39% in the 2019-2020 program year (National Reporting System for Adult Education, n.d.), which includes the earliest months of the pandemic and can likely be accounted for by the rapid rush to distance learning by programs and teachers who were ill-prepared to help learners succeed. Though it should be noted that these data offer a limited perspective for a number of reasons,¹ this jump in distance education hours shows that it may have been a previously under-utilized but promising option for adult education.

Beyond the formal distance education reported on in NRS Table 4C, programs also relied on remote live instruction during the pandemic, which was an entirely new enterprise for many of them. A nationwide survey on instructional shifts during the early months of the pandemic showed that half of instruction was provided synchronously and remotely (Belzer et al., 2020). This monumental shift accomplished within a matter of weeks further indicates the potential of programs to use digital technologies to enhance and extend learning opportunities.

Teacher's Decisions about Digital Technology and Resource Integration

How was any success possible? There was a deluge of professional development throughout the pandemic (World Education, 2020), and programs provided paid time for teachers to collaborate to craft sharable activities and lesson plans (Vanek et al., 2021). Because hardly anyone had prior experience delivering live remote instruction (including those providing the professional development!), they perhaps relied on what instructional design scholars Lachheb et al. (2021) refer to as “core judgements.”

These strategies provided enough support to launch pandemic-era instruction; however, many of the decisions were hastily made (out of necessity) and complicated the work of teachers. Moving forward, use of a framework, especially when teachers are new to crafting technology-rich activities or lessons (Cherner et al., 2021; Kimmons et al., 2018; Tunjera et al., 2019), can mitigate the tendency for ad hoc decision making around technology use in instruction. Over time, a teacher's past experience and lessons learned from productive failure and successes can help establish confidence and design capacity that leads to more sound choices for technology integration (Ertmer et al., 2010).

Tech Integration Models or Frameworks

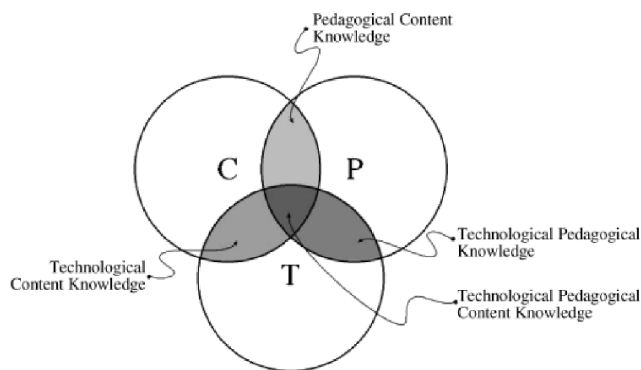
There are several popular models that ask teachers to consider why they are choosing a particular technology or digital resource and then reflect on the impact of the choice on either their instruction or student learning (Kimmons et al., 2018). Models that I have seen used in adult education settings include TPACK, SAMR, and the Triple E Framework.

¹ Table 4C likely under-reports actual engagement in distance education because 1) not all states report distance education time, 2) states use it to report participation only for learners engaged in distance education as a majority of their time, and 3) states likely reported less time in 2020 because OCTAE essentially relaxed reporting requirements during the pandemic. “The U.S. Departments of Education and Labor (Departments) will not make any determinations of performance success or failure based on PY 2019 performance data, submitted by October 1, 2020.” (*Program Memorandum Octae* (No. 20-3), 2020)

TPACK

The Technological, Pedagogical and Content Knowledge (TPACK) framework (illustrated in Figure 1), illustrates teacher knowledge about the content they teach, required pedagogies, and how to use technology in support of instruction. The framework guides teachers to consider their awareness in each area with the goal of making sound choices about technology use (Mishra & Koehler, 2006).

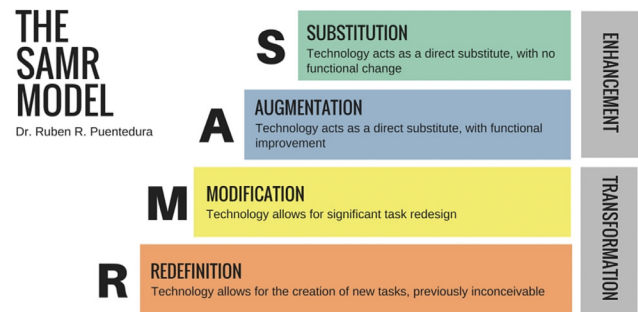
FIGURE 1. TPACK model (Mishra & Koehler, 2006, p. 1024)



SAMR Model

Puentedura's Substitution, Augmentation, Modification, and Redefinition (SAMR) model (SAMR, n.d.) moves beyond teacher knowledge to illustrate the impact of a technology, whether it has the potential to enhance or transform instruction. At the substitution level, a technology has no impact on instruction, and the student task remains the same. With augmentation, instruction is likely enhanced and improved, but the teacher could accomplish the activity with either a different technology or none at all. Transformation is the goal at the opposite end of the spectrum, where the use of the technology completely modifies, or at the redefinition level, the technology choice creates opportunities for new ways of teaching and learning. (SAMR, n.d.). See Figure 2 for more information.

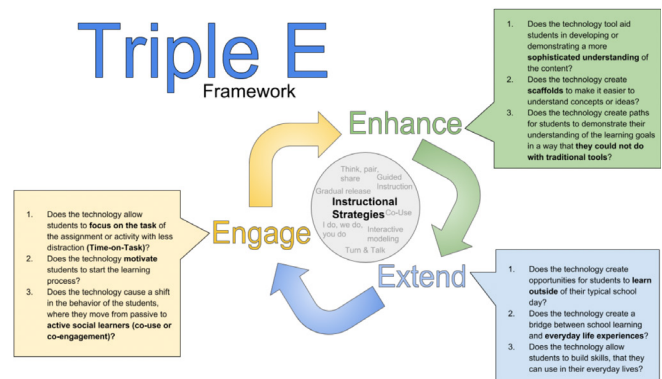
FIGURE 2. The SAMR Model (as shown on SAMR Model, n.d.)



The Triple E Framework

The Triple E Framework helps us understand how students learn because of a chosen technology. Kolb (2017) writes that technology is used for three reasons: to support student engagement, enhance learning, and provide a means to extend learning outside of class. A perfect lesson might offer use of technology that hits on all three purposes. The Triple E Framework is unique among these models because it **focuses on what students do** with technology. Figure 3 illustrates the model.

FIGURE 3. Triple E Framework (Kolb, 2017)



Which Model Is Best?

Essentially teachers need to think about their focus for reflection and planning. Is it the teacher, the technology, or the learning? The infographic shown in Figure 4 can help teachers differentiate among them.

FIGURE 4. Technology integration framework summary

TPACK Focus on the teacher	<ul style="list-style-type: none">• Measure of teacher knowledge and preferences• Helpful for understanding technology tool and instructional goal alignment and tensions
SAMR Focus on the activity	<ul style="list-style-type: none">• Potential impact of a technology on an activity• Helpful for understanding how a technology will shape instruction
Triple E Focus on learning	<ul style="list-style-type: none">• Potential of a technology to shape a learner's experience• Helpful for understanding why it supports learning

Different frameworks resonate well with different teachers—depending on planning style, comfort, and past experience.

Developing Pedagogical Design Capacity

Drawing on any of the frameworks presented above to scaffold design and technology integration decisions can help teachers gain confidence and a sense of how a given technology or digital resource will play out in use. Over time, teachers can develop their pedagogical design capacity (PDC), a teacher’s capacity to rely on current knowledge and other resources to adapt or construct curriculum and materials to meet the specific learning needs of a given context (Brown, 2009). Teachers with developed PDC can deconstruct and reassemble instructional resources in order to design pedagogically beneficial materials and activities. Teachers with low PDC require support if they are to meet their instructional goals. A teacher builds PDC over time, after experiencing success and productive failure drawing on or making use of their own media with different and diverse groups of students. As teachers develop PCD, they can more nimbly encounter, evaluate, and adapt or create digital resources and resources (Vanek, 2017).

Evaluating Design and Technology Integration Decisions

For teachers to further develop confidence, or their PDC, incorporating digital technologies and resources, they need to have a sense of whether or not their choices have created opportunities for learning. It is challenging to disentangle the impact of a particular digital resource or integrated technology on learning, given the multitude of variables at play when evaluating instruction, but scholars in the field of instruction design point to a range of strategies that might be helpful. These include formative evaluation in development of resources (Calhoun et al., 2021; Morrison, 2019; Ritzhaupt, 2021), teacher self-evaluation and ample integration of formative assessment in the instructional sequence (Wiley et al., 2021), and collaboration with peers (Hokansen, 2013).

Teacher Self-Evaluation

Even if materials are designed based on prior research and there are opportunities for summative evaluation measuring learning outcomes, teachers need to engage in their own evaluation to see short term learning goals are met. Teachers also need to ensure that learners have adequate access to the technologies required for learning - and know how to use them.

RISE Analysis. Continuous improvement of digital resources is critical when putting instruction online (Wiley et al., 2021). Because teachers make a multitude of decisions when designing instruction, not every single decision can be validated by extensive study, so teachers need to continuously engage in hypothesizing about how instruction, activities, resources employed will maximize learning (Wiley et al., 2021).

The Resource, Inspection, Selection, and Enhancement (RISE) analysis can support decision making by identifying learning outcomes where students had seemed highly engaged with instructional materials, but simultaneously performed poorly on aligned assessments (Wiley et al., 2021). To do a RISE analysis, teachers first review assessment items to ensure they, too, are aligned, then reflect on why learners might be struggling, looking for any mismatches and lack of alignment or confusing elements of the assessment, activities, or materials.

Design Critique. The evaluation process need not be completely internal and done independently but benefit when done with peers. “Design critique” depends on working in collaboration with peers or more knowledgeable others to access formative feedback that can move design forward or redirect it (Hokansen, 2013). It can take the form of a “desk critique,” a conversation between the teacher or designer and a friendly critic, where both learn more about the design and extend their skills. A benefit to peer critique for a teacher is that it can help them deepen their capacity for self-reflection and their own read of the work with a critical eye. Involving more teachers in a PLC provides an opportunity for group critique - where teachers provide critique and learn together.

Including Access as an Evaluation Measure. In their recent work for USAID, Murray et al. (2021) similarly direct teachers to center evaluation on learning objectives and learner engagement in activities. Their Reach, Engagement, and Outcomes (REO) model measures characteristics through both formative and summative evaluation. The inclusion of “reach,” a learner’s access to devices, the internet, cellular networks,

and digital learning content, in the REO model is important. The lack of access is a barrier to adult basic education; only about half of households earning less than \$30,000 per year have a computer (Anderson & Kumar, 2019) and half of all Americans say they are not confident in using technology to learn (Mamedova et al., 2018). Evaluation must include analysis of whether or not students have the devices and internet access required to make use of instructional technologies and the developed resources.

An Example

In our work at the EdTech Center@World Education, we are supporting the use of technology integration and evaluation and noted how this positively impacts the work of teachers. A new course, Building an EdTech Strategy Toolkit Template, designed by my colleague Jeff Goumas together with OTAN’s Penny Pearson, walks teachers through a structured consideration of strategy for technology tool adoption. Starting with learner-centered factors — including learners’ access, motivations, and skill levels — we ask teachers to consider the “what,” “why,” and “how” for any technology adoption decision to be leveraged for evidence-based strategies. As a culminating activity for course completion, teachers implement their chosen strategies (use of a technology for a specific purpose) and then reflect on their decision. An open access resource is available to help any teacher move through this process. The template integrates a mix of the three technology integration frameworks and evaluation strategies described above and is available here: <https://bit.ly/best-strategy-template>. Teachers can use it to document their decisions guided by these framing prompts. See Figure 5.

FIGURE. 5: Elements of a tech integration strategy

WHAT	WHY	HOW
<p><i>Provide the name of the strategy.</i></p> <ul style="list-style-type: none">• Concisely explain what learners do as part of this strategy.	<p><i>Provide a salient reason the strategy is effective. This may include:</i></p> <ul style="list-style-type: none">• Eases a process• Addresses barriers• Enhances or extends learning• Builds critical skills	<p><i>Identify the type of tool you would use to implement the strategy.</i></p> <ul style="list-style-type: none">• Provide specifics around how to leverage that particular tool within instruction.

Through the course, we are attempting to provide a fluid process linking evidence-based technology integration frameworks with structured reflection and evaluation. Over time, we hope to see teachers internalize it, to develop their core judgements or pedagogical design capacity and the need to depend less on use of a structured process.

Conclusion

The breadth of instructional and communication technologies, and the digital resources employed to carry out distance education and remote instruction, have the potential to extend the reach of our adult education programs, offering more flexible personalized opportunities for busy adult learners and boosting the digital literacy skills for those who had previously faced barriers of access to digital technologies. However, planning is more complex when adding in technology integration and digital resources and challenges that arise when integrating technology without planning can absolutely derail a lesson. Some initial structure provided by technology integration frameworks and employing formative evaluation strategies can lead to solid design decisions and can help teachers make them more fluidly over time. This is the way to build a "new normal."

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Beyond Crisis, Toward Justice: New Technologies in Community-Based Adult Learning

Suzanne Smythe, Simon Fraser University

In the disorienting early days of the pandemic, educators and learners in adult literacy, basic education and English Language Learning programs accomplished a rapid shift to “crisis remote teaching” to accommodate physical distancing mandates and lockdowns. The flurry of studies documenting these “pandemic pedagogies” (Canadian Association for the Study of Adult Education, 2020) suggest that educators and learners alike were surprised at how quickly they were able to incorporate new digital pedagogies (Belzer et al., 2020; Smythe et al., 2021). As Vanek argues in her forum piece *Supporting Quality Instruction: Building Teacher Capacity as Instructional Designers*, this was an important accomplishment given that, in most community-based settings, in-person pedagogies predominated prior to the pandemic. Writing from Canada in the fall of 2021, community-based programs continue to navigate competing desires for social connection and pedagogical advantages of in-person learning, as well as the convenience and “COVID-safe” nature of synchronous and asynchronous online learning. How might the community-based adult education field harness the pandemic experience to inform technology integration moving forward? What principles should guide such decisions? Vanek takes up these vital questions, as she encourages the “structured use of technology

integration frameworks and strategies” to support educators to make effective decisions about technology integration and online learning.

In this response, I join Vanek in imagining the role of new technologies in community-based education as we settle into a “new normal.” I build upon and extend Vanek’s suggestions by drawing upon research and practice oriented to digital justice. Digital justice is at once a set of principles, a pedagogy and a movement (Allied Media, 2020; Detroit Digital Justice Coalition (DDJC, 2021) toward fair and ethical digital and social futures. Proponents of digital justice leverage critical digital literacies and online activism to subvert and expose technologies that are implicated in online harms such as surveillance, discrimination, and social exclusion. Movements such as the DDJC (2021) have generated principles and practices toward accessibility, equity and participatory decision making in digital ecosystems.

To anchor this conversation, I first describe my experiences as an adult literacy researcher in Canada, working closely with community-based educators and researchers to map new pedagogies, as well as fissures of digital inequality, that have deepened during the pandemic. I then consider how concepts of digital equity and digital justice

may help us to think through the benefits and problematics of technology integration in adult and community-based education. Here, the politics of technologies are central, as is how we mobilize concepts such as “distance” and “in-person,” learning. I conclude by adding to Vanek’s questions and principles new considerations for technology integration toward the digital/worlds we want.

Pandemic Pedagogies and Technology Integration

In April 2020, the Canadian Association for Studies in Adult Education launched a webinar series to capture adult education practices during the pandemic. They called the series *pandemic pedagogies*, noting,

Adult educators across Canada are doing extraordinary things to deal with a multitude of issues associated with COVID-19: home/social isolation, (health) literacy, trauma and stress, poverty and unemployment, racism, changing means of communication and work, just to name a few. (Canadian Association for the Study of Adult Education, 2020, para. 1)

This inspired statement led us to inquire more deeply into pandemic pedagogies in British Columbia, Canada (Smythe et al., 2021), with a particular interest in how educators were using digital technologies to adapt to physical distancing rules and lockdowns during the first and second waves. We were surprised that participants first and foremost told stories of the changing power relations surrounding their work during the pandemic, and then went on to describe new digital pedagogies. Perhaps this was so because digital technologies are not an add on; they are embedded in these social and political relationships (Bayne et al., 2020; de Roock, 2021). We held 30-45 minute interviews with 24 community-based educators and outreach workers who described to us in-the-moment inventions and adaptations that were remarkably similar to those described in Belzer et al.’s (2001) review

of new pedagogies of COVID-19. The educators surveyed in their study reported a range of pedagogies, some technology-mediated and some not, such as providing flexibility for learners in how and when they completed their work, more diverse, just-in-time methods for learners and educators to communicate with one another, novel uses of social media to post learner assignments and provide feedback, as well as new ways to gage learner “time on task” and to “capture learner contact hours” (2021, p. 2).

In our study in British Columbia, Canada, educators similarly reported a constellation of strategies drawing upon old and new technologies: phone and home visits to check on learners’ well-being; creating and delivering print-based learning materials to homes, food security hubs and other meeting places; setting up Wi-Fi hot spots in parking lots to help people complete their (mostly online only) emergency income applications; creating just-in-time tutorials via WhatsApp chats for using Zoom for ESL classes, some of which transformed into rollicking, multilingual, cross-border cooking and dance classes.

Amidst the crisis was the sense that a profound pedagogical transformation was underway, not only because educators and learners were using technologies in new ways, but because usual relations of power were shifting. Educators and outreach workers noted that the responsive, just-in-time and experimental approaches they were adopting animated an “ethic of care” (Ba, 2020) and relationships of “social solidarity” (Smythe et al., 2021) that they said subverted client-provider, learner-instructor, and novice-expert hierarchies that had come to define their programs before the pandemic. Educators and learners navigated new Zoom/MS Teams platforms together and collaborated to address many other unprecedented challenges, such as applying for online for

emergency income benefits. Racialized learners and learners who identify as LGBTQ2S+ said they could exercise their sovereignty to join an online class in which anti-racist, gender inclusive pedagogies prevailed, rather than settle for an unsafe class that was physically close by. Recognizing the value of their local knowledge and multilingual capacities, administrators accorded front-line educators and outreach workers more power to make decisions about how programs should be run.

Although the pandemic moment opened new possibilities and new relationships, it was also very clear to these educators that the social and economic effects of the pandemic intensified suffering and hardship among communities that already experience systemic racism, transphobia, gender discrimination and oppressive labour conditions. As Gangadharan (2017) has observed, income, race and gender inequalities reinforce and entrench digital inequalities.

For example, in Canada, equitable access to technologies is a matter for markets to decide, hence access to crisis remote learning was dependent on learners' access to a privatized internet that is unaffordable to many. Adult literacy and ESL educators in our research study reported that they lost about 20% of their students due to connectivity issues, and because "some families just can't manage it" (Smythe et al., 2020, p. 23). Just as Belzer et al. (2020) described, many learners thrived and learned new digital literacy skills as they connected to their educators and classes, but others who were more digitally excluded fell away. Women were less likely to have access to devices as these were often distributed to children or their male partners first.

This is but one account of the pandemic within community-based adult education programs and time will tell what the transformational potential

of this moment becomes. However, as Vanek demonstrates, the experience opens up complex questions about the role of technology integration in community-based adult literacy settings, and I take up some of these in what follows.

A Closer Look at Technology in Integration

What do we mean by technology integration? Phone calls and photo-copied lessons dropped to people's homes leveraged older technologies that were mobilized in new ways. Social media networks and messaging systems, often repressed in classroom environments pre-pandemic, took on new importance as an engine for information sharing. Video conferencing platforms such as MS Teams and Zoom were not necessarily new but found new purpose in making learning possible when physical distancing became necessary. These approaches weave pedagogies in ways that complicate binaries between distance, in-person, synchronous and asynchronous learning.

Although written with post-secondary education in mind, Bayne et al's *Manifesto for Teaching Online*, first published in 2011 and updated in 2016, and in 2021, offers a set of value propositions for teaching online. They advocate rescinding the term "distance learning" in favour of "digital pedagogies," arguing that "distance" is a deficit term that positions what learning is not (e.g., the privileged, in-person mode), and that "distance is temporal, affective, political: not simply spatial" (Bayne et al., 2020, p. 17). What is consequential is not only *where* learners are, but how educators, learners and technologies together can create equitable and productive learning experiences that are responsive to context and learning needs. This informs another of the manifesto propositions that "[T]here are many ways to get it right online. 'Best practice' neglects context" (Bayne et al., 2020, p. 20).

The Politics and Material Force of Technologies

As Vanek argues, educators need support to move through the “what, why, and how for any technology adoption decision.” How to support this decision making given the complexities noted above? From digital equity and digital justice perspectives, new technologies are both political and material. New technologies are political because they are usually designed by some people for others and reflect the often-hidden interests and desires of these far-off designers (Allied Media, 2021; Golden, 2017). Technologies are material because they have physical properties (keyboards, screen size, light and so on) as well as built-in and often hidden automated and algorithmic properties that affect how we feel, what is possible to do with our bodies, and what kind of learning and social interaction is possible. We often only notice the material properties of new technologies when they behave in unexpected ways. Golden (2017, p. 373) refers to this as the “subscreenic” aspect of technologies: the hidden but important things that machines (and humans) are doing beneath the screen. The politics and material nature of new technologies means that decisions that funders, programs and educators make about using new technologies are also political decisions: Who might be excluded? What are the implications for learners’ rights to privacy and consent? What kind of learning is incentivized? What is the scope for educators’ professional knowledge and autonomy?

The use of smart phones in community-based education programs is another example of how the politics and material nature of technologies can play out. As Vanek (2021) describes, community-based programs that have moved online during the pandemic have lauded the role of smart phones in bridging gaps in access to the Internet

and to devices. Correa et al. (2018) agree that mobile phones offer a gateway to the internet for those excluded from fixed broadband and computer access, and they are a useful tool for social activities and just-in-time communication. However, mobile phones are less suited for education, work and other information-seeking and creation/production activities (Correa et al., 2018, p. 1076). Correa et al. (2018) compared the digital skills of mobile phone and computer (e.g., laptop/desktop) users and found that “mobile-only use does not necessarily lead to a more complete digital inclusion process because it was related to lower levels of skills and less diverse types of uses of the web compared to those people who also use the computer” (p. 1078). The physical properties of devices *matter* in terms of what kinds of writing, learning and interaction are possible for different learners. Following this, educators may need to attend to the devices learners are using, and design and assess learning expectations accordingly. This is a digital justice approach to education that “ensure(s) all members of our community have equal access to media and technology, as producers as well as consumers” (DDJC, 2016, para. 1).

Vanek astutely notes that it is “challenging to disentangle the impact of a particular digital resource or integrated technology on learning, given the multitude of variables at play when evaluating instruction...” (p. 4). As described earlier, some of the variables at play include how technologies are designed and by whom. Williamson (2015) shows that some of the most popular learning management systems and platforms including google docs and proctoring software, are designed by for-profit companies that monitor, measure, and collect information about learners’ online behaviours. Not only does this information help to increase profits, the ways that these systems behave also “shape learners’

actions, thoughts, conduct, and subjectivities” (Williamson, 2015, p. 101, in Golden 2017, p. 375). Learners’ data and behaviours are therefore monetized, and decisions made about their learning based on machine-generated data has real-world consequences.

Toward Digital Justice

During the COVID-19 pandemic everyday lives and livelihoods of marginalized citizens became even more reliant upon digital technologies, yet these citizens, learners and community members are also more likely to experience biases and inequalities including “misclassifications, over targeting, disqualifications, and flawed predictions” (Gangadharan & Nikras, 2019, p. 882). But far from rejecting the use of digital technologies, adult educators can thoughtfully integrate technologies by considering: Who designs this technology? How could it be used to lift up student voices and promote community-building and social solidarity? What are its

capacities for creativity and production? How will data and information about learning be secured and shared? What are learners options for free and informed consent and sovereignty over the technologies they use? All these questions rely on the professional judgment of educators empowered to make decisions that are informed by the context in which they teach and learn, and critical awareness of automated inequalities (Eubanks, 2018). Natural allies in this work already exist in the digital justice movement.

The account that opened this commentary suggests that pandemic pedagogies are not a temporary, crisis-oriented response, but rather an opening to new modes of social solidarity, and digital justice as we build resiliency for other collective challenges, including those of the climate crisis, the intensification of inequality, and public health crises yet to come (Bayne et al, 2020). What becomes of this moment will not be determined by technology integration alone, but rather by intentional decisions about the social-political-material-ethical-digital futures we want.

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Forum: Online Learning, Technology Integration, and Digital Literacy*(Part 3 of 3)*

Beyond Frameworks: Supporting Adult Educators to Leverage Technology and Customize the Learning Experience

Sarah Cacicio, Alison R. Shell, and Medha Tare, Digital Promise

Much like adult learners, adult educators enter the classroom with diverse educational, professional, and lived experiences—and varying levels of familiarity with digital tools and technology. But in the hours following the 2020 COVID-19 outbreak and subsequent shutdown, educators across the nation were suddenly tasked with teaching online. For the most part, educators in adult literacy, academic, and ESOL programs had limited experience with online learning prior to the crisis (World Education, 2020). As Vanek describes in her forum piece, *Supporting Quality Instruction: Building Teacher Capacity as Instructional Designers*, the majority of educators had to quickly learn and adopt new ways of planning and delivering instruction. Over time, the conversation around the role of technology in adult education shifted. In spite of the tremendous hardship experienced in and outside of the classroom, the crisis revealed an untapped opportunity to meet the needs of adult learners more effectively through flexible programming, digital skills development, and personalization of learning. Vanek indicates that online learning may be “a previously under-utilized but promising” instructional option in adult education. To better leverage technology across the field, the author suggests that educators adopt clear models or frameworks to effectively design instruction, make informed decisions about digital

tools and platforms, and ultimately, meet the complex and varied needs of adult learners.

But how can we meaningfully integrate technology into adult education without fully acknowledging the backstories, emotions, and skills of the learners and educators who serve them? While Vanek acknowledges that different frameworks resonate well with different teachers, depending on their planning style, comfort, and past experience, the underlying factors that may influence decision-making are not adequately explored. The purpose of this article is to delve deeper into the myriad individual and systemic factors that impact the adult learner, educator, and their interactions through the lens of learner variability. Embracing well-designed and implemented education technology is a major step in the future of equitable and sustainable learning for adult education, and understanding the whole person remains at the core of learner success.

Understanding Learner Variability

Learner variability is the recognition that all students differ, and that learning sciences research guides us in understanding how these differences matter for learning (Pape, 2018).

Research is clear that adult learners, much like their younger counterparts, vary greatly in terms of their cognitive abilities, social and emotional considerations, and unique background situations (Tare et al., 2020). Adult learners are motivated to improve their education and career outcomes, but to successfully pursue pathways that lead to greater social mobility, they also need affordable childcare, stable housing, access to high quality healthcare, and livable wages (Simpson-Baird, 2020). When background factors such as these are considered together, along with content-specific factors, adult educators can better identify what each learner requires to realize their goals. Educators who adopt a whole learner framework can build stronger relationships with their students, create more meaningful learning experiences, and promote better outcomes. This process includes strengthening culturally responsive teaching by incorporating students' identities and real-world issues into learning environments and instructional practices (Harrison, 2021).

Digital Promise's Adult Learner Model, created by the Learner Variability Project (LVP), synthesizes learning sciences research across four key areas of adult learning—literacies, cognition, social-emotional, and learner background. It explains how factors such as digital literacy, working memory, motivation, and adverse experiences impact learning, and critically how these factors interact with each other. For example, research shows that having greater self-efficacy for using computers can reduce the amount of anxiety adults feel about technology use—anxiety that may have arisen from prior negative experiences with schooling (Saadé & Kira, 2009). As such, we may better be able to target the root of a challenge which may have broader and longer-lasting impact. For instance, addressing this learner mindset to promote efficacy in technology use,

as well as its origins (e.g., lack of social support, stereotypes based on their identity) may increase persistence in learning these skills and ultimately, improved performance.

LVP's Adult Learner Model curates instructional strategies that span active learning, collaboration, multisensory, and metacognitive support to promote the development of high-quality, personalized learning experiences that address the needs of the whole learner. Taking a whole learner approach is critical to advancing high-quality, technology-rich instruction to improve adult learner outcomes across the field, but to do this effectively, we must consider the realities that impact instructional decision-making and activities beyond models or frameworks. The following section takes a closer look at some of the underlying and systemic challenges that often affect teacher-student interactions in adult education, such as a majority part-time staff, a lack of racially diverse teachers, and mixed expectations for online learning.

Factors that Impact the Adult Education Workforce

Majority Part-Time Staff

In the wake of the pandemic, the ability for adult educators to understand and adjust to the realities of students has become even more of a necessity (Simpson Baird, 2020). Adult educators are committed to this work, but it is well documented that instructors often struggle to meet the complex needs of the adult learner population due to limited time and resources. Adult educators work across a variety of learning environments, from school districts, adult charter schools, and community colleges to workforce training programs, library programs, and correctional or re-entry facilities—each with its

own instructional design and access challenges. Educators recognize that planning and delivering high-quality, technology-enabled instruction also requires addressing inequities related to internet connectivity, access to appropriate devices, family and job responsibilities, and health and safety (Means & Neisler, 2020). Despite the growing need for investment in adult education and training, the profession continues to rely heavily on part-time instructors and volunteers, including retired K-12 teachers, often with little to no defined training or support (Harrison, 2021). Approximately 78% of adult educators funded under the federal Workforce Innovation and Opportunity Act (WIOA) are employed part-time, providing instruction for more than 1.4 million learners through adult literacy, high school equivalency, and English language programs annually (Bergson-Shilcock, 2020). While part-time educators are wholly invested in their students, they may not have the time, training, or resources to adequately leverage technology integration frameworks in ways that support the whole learner. Further, research shows that there is often a cultural, racial, and socioeconomic disconnect between the adult learner population and the administrators and educators who serve them.

Educator Background

The U.S. population is expected to be minority white by 2045, but as U.S. demographics continue to shift toward a more racially diverse population, the number of K-12 teachers of color has not kept pace (Digital Promise, 2020). This same trend is reflected in adult education. While adult learners are predominantly young, Black, Latino, and/or immigrant-origin people who are seeking socioeconomic mobility, administrators and teachers in the adult education field remain overwhelmingly white, often older and/or retired, and from high socioeconomic statuses

(Harrison, 2021). Research in K-12 education shows significant benefits to increasing a diverse educator workforce, with more teachers reflecting the identities and experiences of their students. Teachers who share a similar background to their students have been shown to have more empathetic understanding of student perspectives, higher expectations for academic performance, and improved student engagement (Digital Promise, 2020; Egalite & Kisida, 2018). This is not to say that teachers with different racial, socioeconomic, cultural, or linguistic backgrounds are not able to build meaningful connections or effectively apply culturally relevant teaching practices. Rather, teachers whose identities reflect student populations are more likely to *already* see their students as capable of knowing their own needs, able to be self-guided, and interested in events that impact their day-to-day lives (Harrison, 2021). When students feel known, accepted, and supported in their learning environment, they have the sense of belonging they need to take risks and work through challenges that allow for engaging and productive learning. In her groundbreaking piece, *A Diversity Call to Action for Adult Education*, Harrison (2021) makes clear the need for educators to support their students' racial and cultural identities "so that they can go into the workforce and further schooling as their whole selves." Today, teachers must also help cultivate and support adult learners' digital identities to better prepare them for success in education, work, and life.

Educator Mindset

Research shows that teacher expectations of student success matter and can become a self-fulfilling prophecy by promoting or impeding success according to their expectations (Papageorge et al., 2020). Further, teachers' success in promoting a growth mindset in their

learners is heavily tied to their own growth mindset (Yeager et al., in press). Not only do learners need to be engaged and confident to be successful learners, but educators need to believe in themselves, and their students. Adult educators, much like learners, are more engaged and motivated when learning experiences offer them ownership of their learning, as well as prioritize immediacy of application, self-direction, and sharing of life experiences as a source of knowledge. Prior to the pandemic, most adult education courses took place in-person across a variety of learning contexts. Many states reported that adult education staff needed convincing that all learners could be successful in a virtual learning environment. Supporting teachers in shifting mindsets through high quality professional learning is crucial to shifting effective practices online and promoting student achievement (World Education, 2020).

Applying Technology Integration Frameworks with a Whole Learner Approach

When it comes to professional development for technology-rich instruction, a blend of self-directed frameworks and facilitated training through a whole learner approach can provide opportunities for educators to grow their own digital skills and reflect on how they can best serve their students. Vanek encourages adult educators to leverage frameworks and strategies to make more efficient and sound decisions about digital resources and technology integration. One of her recommendations includes the Triple E Framework created by Professor Liz Kolb, which suggests that digital tech should engage, enhance, and extend learning goals (Kolb, 2020). Dr. Kolb recommends using this framework for evaluating digital strategies and reflecting on technology in

conjunction with the Learner Variability Project's whole learner models. In this way, educators are taught to identify and consider the particular factors that are relevant for their learners and to seek research-based strategies that would support them individually. Once this understanding is in place, technology decisions are made based on which tools can best provide the support needed by different diverse learners. This approach can also help to fill gaps in educators' knowledge of adult learning theories such that they understand why particular technologies may be beneficial, supporting their use of technology for diverse learners more broadly. Building adult educator capacity in technology use is absolutely vital to the advancement of learners.

The Promise of Digital Learning in Adult Education

Adult learners have differing abilities and experiences with technology, but they are deeply motivated to continue their education and expand their digital skills. Research reveals that adult learners have already shown a mindset shift when it comes to using technology to advance their education and career goals. In May 2020, Simpson Baird and a team of researchers conducted a survey of more than 1,800 adult learners across seven adult charter schools in Washington D.C. to learn how the pandemic was impacting them. At the time, an overwhelming majority of adult learners—more than 92% people of color, including over 50% English learners—expressed challenges with technology and a preference for in-person learning. In December 2020, the team administered a follow-up survey to determine how learners were faring after several months of virtual learning. Compared to spring 2020, the majority of the approximately 1,500 respondents enrolled in fall 2020 indicated higher levels of competence

with technology, more confidence in supporting their children's education, and higher levels of employment (Simpson Baird et al., 2021). Overall, adult learners also expressed a greater appreciation for the increased flexibility that virtual learning provides, such as eliminating a commute, being able to learn from anywhere there is Wi-Fi, and not needing to secure childcare to study (Simpson Baird et al., 2021). As Simpson Baird (2020) poignantly notes, for many adult learners, "their futures as well as the economic livelihoods of their families are contingent upon learning English, finishing high school, or gaining a credential; they do not want to put any of this on hold because of the pandemic" (para. 12). While this is a small sample of adult learners, these findings support what Vanek suggests: that distance education may be a powerful and promising option for the adult education field moving forward.

Understanding student realities goes beyond gauging access to devices and broadband internet or surveying skills and interests.

Adult educators must also take into account multiple factors related to literacy, cognition, social-emotional, and learner background, in addition to how their own experiences can impact their students' learning. Vanek and colleagues at World Education's EdTech Center offer a learner-centered protocol for decision-making, encouraging teachers to explore the "what," "why," and "how" of strategies to ensure that technology is integrated purposefully to meet learner needs, and we recommend contextualizing this protocol to even more deliberately consider the "who." Through the lens of learner variability, educators will be able to make more informed decisions about technology integration and expand equitable access to high quality education and training for adult learners. When educators have the background knowledge, mindset, capacity, and support they need to truly understand their learners, they can more confidently select and implement edtech tools and strategies to create meaningful relationships and learning experiences.

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Book Review

Review of *Assessment, Evaluation, and Accountability in Adult Education*

Sandra Ratcliff Daffron, Western Washington University (Emeritus)

Hill makes a compelling reason for adult educators to consider this book – she reports there have been no new textbooks on assessment, evaluation, and accountability specific to the field of adult education in the last decade. While

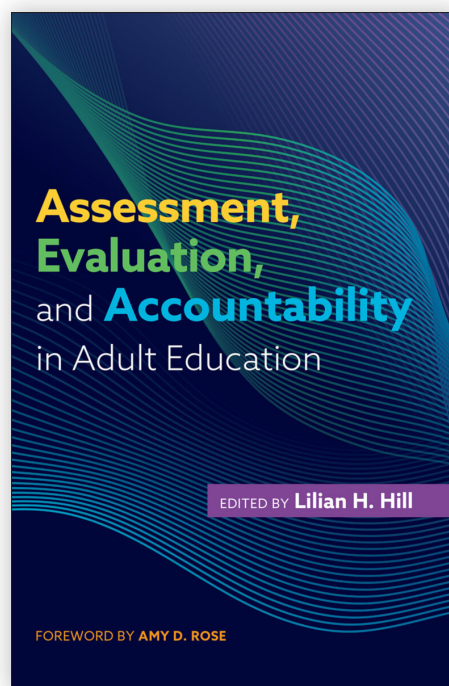
that is true, evaluation, accountability and assessment is usually required of all adult educators, in the course of their day-to-day operations, whether it be teaching, management, administration, training or carrying out educational projects. While this lack of specific textbooks on evaluation, accountability and assessment directed to adult educators is a concern, the demands by those funding adult educational programs continue to expect and often to demand accountability. As Hill points out, adult educators

have had to turn to other areas of practice such as training, student affairs, higher education, online learning, counseling, psychology, and special education to formulate evaluation plans to meet the demands of accountability. Indeed,

those adult educators working in fields of adult basic education will hear, “Prove to us this student has progressed. How many grade levels have they moved upward in reading?” Moving up grade levels in reading doesn’t always assess all

the progress a student makes. Or continuing professional educators are often faced with the comment, “Since you are an adult educator, produce a one-page evaluation form that effectively measures our program.” This request comes from content experts who have not learned about evaluation and assessment and want a quick and simple measurement of the speaker’s ability, the usefulness of materials, and the temperature of the coffee, food, and the meeting room. Those requesting such

forms look at the score of each task to determine if the speaker is successful, the materials were adequate and if the speakers should be invited back to speak again. These scores are often used to prove to the program sponsors that the



Hill, L.H. (Ed). (2020). *Assessment, Evaluation, and Accountability in Adult Education*. Stylus. 263 pages, \$35.00, paperback.
ISBN: 9781620368510

audience learned the intended objectives. Hill provides definitions and examples of evaluation, assessment, and accountability taken from a wide variety of articles and chapters from books, many which are current and others that have served as the basis of adult education teachings over the years.

This book is designed to provide a variety of evaluation, assessment, and accountability perspectives from the field of adult education. Each chapter is written by contributors representing the field who were challenged to describe and explain their approach to evaluation, assessment, and accountability. The very practical approach of the contributors, help the learner see that there is no “one size fits all” to evaluation and it is important and necessary to understand, measure, and assess learning. The book has 14 chapters with Part One introducing and defining program evaluation and learning assessment. Hill provides a comprehensive introductory chapter of the scope of evaluation, assessment, and accountability and the rubrics for measurement. While other adult education resources may offer these same rubrics, it is very helpful to have the scope of the field in one place in this book. Each chapter of the book has current research for graduate students to pursue. Part Two, Three and Four provide an array of assessment and evaluation practices in the field of adult education. The fields represented are adult literacy and adult basic education, professional military education, continuing professional education, licensed education (law, engineering, nursing, medicine) and other professions, human resource development (HRD), public service agencies (for building community capacity), health care in higher education, distance learning, competency based education and other delivery methods. The last part of the book focuses on higher education practices in the field of adult education.

Evaluation and Recommendation

With such a broad scope to include all types of evaluation and to see how the types of evaluation, assessment, and accountability are tied to the broad field that comprises adult education, the reader would wonder how this is even possible. Does the book meet such a broad purpose? To find the answer to that question, one must turn to the chapters to see how the authors approach their challenge.

For those teaching Adult Basic Education (ABE), accountability is tied to funding and the government funding measures success with scores. This chapter explains the tests used: TABE, CASAS, BEST, the expectations of workforce students and the best instruments to assess and diagnose. Note: I wish I had this chapter when teaching Life Skills and conducting staff development for ABE and ESL teachers.

Another chapter lays out the assessment and evaluation measurements for continuing professional education (CPE). This chapter gives the reader a good background of the field with Houle, Cervero and Wilson, Daley, Mazmanian, Davis, Knox, Kirkpatrick, and others who have contributed so much to this area of practice. The tables and charts in the chapter pull the best practices together in one place. One statement helps to summarize the challenge facing CPE, “Although there is no singularly correct model for valuing or evaluating continuing professional education programs, the need for evaluation is undiminished” (p. 99). Note: I worked closely with many of these authors throughout most of my professional career and find the reader will benefit from the scope of the research in CPE in this chapter.

The chapter on distance education is a must read for all educators. Simone C.O. Conceicao

is excellent in speaking about the evaluation, assessment, and accountability of distance education. Since the COVID-19 pandemic has thrown the world into chaos, educators have had to face the reality of teaching remotely whether they like it or not. Headlines have screamed about the inadequate use of distance education, the children who have lost a year of knowledge and skills because distance learning was no better than no learning at all. Just ask any parent and grandparent and they immediately become experts on distance education, and they can tell you how terrible it has been for their children. Those of us who have used distance education know there is great value in teaching this way and the future will undoubtedly incorporate virtual learning, virtual meetings, and virtual communication in all types of education and training. Distance education will not go away, therefore, educators ought to make the effort to learn to teach with this

method effectively and with creativity. Conceicao provides examples and guidance for measurement of this method of teaching. Again, I wish I had this chapter when I taught adult education courses through e-learning.

To summarize my review of this book on evaluation, assessment, and accountability, I wish I would have had this book to hand to my ABE colleagues and my graduate students. When teaching evaluation classes, I used a collection of articles, chapters of books and my own experience. Students brought in the instruments they used with their professions, and most were check sheets to measure the speaker, the materials, the comfort of the room and the temperature of the coffee. This book is like a “one stop shopping.” It will appeal to the educators from the broad field of adult education with very practical applications supported by recent research. I give it a hearty “thumbs up!”

Resource Review

Review of *Teaching Adult English Language Learners: A Practical Introduction*

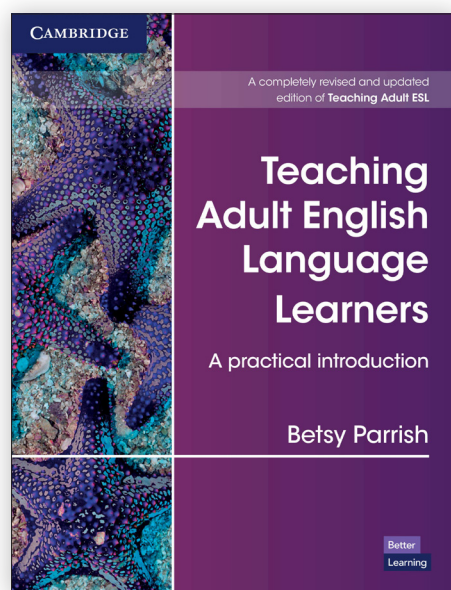
Sarah Young Knowles, TESOL Program, American University, Washington, D.C.

Two words stand out in the title of Betsy Parrish's second edition of this important volume: *practical* and *introduction*. In fact, *practical* is really an understatement for this accessible, useful, and relevant update to Parrish's original 2004 book.

Teaching Adult English Language Learners provides research- and practice-based guidance, recommendations, and examples for novice and experienced teachers alike. Graduate students, community-based volunteers, teacher educators, program directors, and classroom teachers will all gain informative background knowledge about the field of adult ESL while also finding hands-on activities that can be put immediately to use with adult English language learners.

The core themes of this second edition remain the same as the first edition. Key takeaways from both editions include a focus on knowing and responding to learners' needs, teaching language for meaningful purposes, and using interactive

activities to facilitate English language acquisition in the classroom. The 2019 edition is still full of sample lesson plans, activity ideas, templates, teacher vignettes, charts, reflective prompts, resources, and "scripts" for effective teacher talk, many of which are completely new here.



However, each chapter has been significantly updated with new research, references, and practitioner experiences to reflect changes in adult ESL in the last 15 years. For example, readers will find a much greater emphasis on working with adult students with limited or interrupted formal education and emerging literacy skills. Also important, the book explores how recent shifts in the United States toward college and career readiness can be applied to

adult English language learners. Chapter 8, which focuses on the selection and use of instructional materials, highlights new teaching and learning technologies that require equal attention to language and digital literacy skills. Chapter

Parrish, B. (2019). *Teaching Adult English Language Learners: A Practical Introduction* (2nd ed.). Cambridge University Press. 388 pages. \$40.50 paperback. ISBN: 110870283X

10 explains in clear and comprehensive terms how new guidelines, such as the *English Language Proficiency Standards for Adult Education* in the United States and the *Australian Core Skills Framework*, can be useful at both the programmatic level and the practitioner level for designing and assessing learning outcomes.

Throughout the book, we also see connections being made to more contemporary concepts in applied linguistics. In Chapter 6, Parrish encourages translanguaging practices as an effective alternative to English-only classroom policies. In Chapter 7, she shares trauma-informed educational practices for working with victims of abuse, war, or other traumatic experiences. In Chapter 8, she explains how adult English language learners can benefit from the integration of language learning and new core digital competencies, going beyond the now simplistic “computer-assisted language learning” approach of the early 2000s.

Parrish’s voice in this revised edition remains thoughtful, friendly, and inviting. She is the perfect companion for practicing teachers who work through the book on their own, either individually or as part of a study circle, and for teacher educators who assign readings from the book. At the end of each chapter, there are suggestions for further exploration or practice that are targeted to both pre-service teachers and in-service teachers. These summative activities guide the reader to examine their own beliefs and practices while applying new strategies and ideas from the book.

Readers are also encouraged to explore additional resources available from the [publisher’s website](#), all of which are free, easily accessible, and updated occasionally by Parrish herself. Although they are not included directly in the book, these supplementary resources open up a door into the larger community of adult ESL practitioners,

researchers, and policy makers. Teaching toolkits, videos, study circle guides, research reports, and practice briefs will introduce readers to many other timely options for professional development.

Those of us who are familiar with the original edition might notice that there has been a small revision to part of the book’s title itself: *Teaching Adult ESL* (2004) has changed to *Teaching Adult English Language Learners* (2019). At first glance, this change may seem insignificant, but I believe that it speaks to the core philosophy of Parrish’s approach. She wants the learners themselves – along with their needs, interests, and goals – to be at the center of teachers’ classroom practice.

Although Parrish’s book is already comprehensive, I found myself wondering if there is a place in the book to address employment opportunities as well as employment concerns in the field of adult ESL. In the United States, full-time, well-paid jobs in adult education are few and far between. Graduate programs are time-intensive and costly. Many teachers are drawn to the field because they love what they do, but leave when they face the realities of job security and salary. Parrish cannot change this reality, but it is worth acknowledging and connecting readers to advocacy efforts currently in place.

Teaching Adult English Language Learners: A Practical Introduction belongs on every adult ESL teacher’s bookshelf (or electronic device!) as required reading. In this book, Parrish serves as an informed mentor, a collaborative colleague, and a bridge-builder between research and practice. When she writes the next edition, I suggest that she replace the word *Introduction* in the book’s title with *Compendium* or *Encyclopedia*. Her book does not just skim the surface, but rather provides a thorough blueprint for high quality adult ESL programming, classroom instruction, and professional development.

Digital Game-Mediated Language Learning for Adults

Elisabeth Gee and Yuchan (Blanche) Gao, Arizona State University

Over the last two decades, digital gaming has become one of the most popular forms of entertainment, with worldwide revenue surpassing sales of TV, movies, and music (Reuters, 2018). Players of digital games span all age groups and backgrounds, partly due to the popularity of “casual” gaming on smartphones and tablets. Gaming has become a hub for social interaction, through multiplayer games, fan communities, game jams, and esports.

Digital games also have increasingly been viewed as promising tools for teaching and learning. The potential of games to immerse players in virtual environments that can require complex problem solving, literacy and computational skills, collaboration, and systems thinking has captured the attention of educators across settings and with learners ranging from preschool to postsecondary education (Boyle et al., 2016; Connolly et al., 2012).

The popularity of digital games for learning has been particularly pronounced in second and foreign language (L2) education. Digital games have variously been viewed as a means of making rote language practice more fun and engaging, introducing new vocabulary in a (digital) context, and providing opportunities for authentic language use with other players, among other rationales. A growing number of publications offer strategies and recommendations for game-

mediated language learning (GML2; Peterson, 2013; Reindardt, 2019; Reinders, 2012), and varied games have been recommended for GML2.

While theoretically and conceptually, a strong case can be made for the value of digital GML2, the empirical evidence in support of GML2 is less convincing. The considerable diversity in games and game genres as well as how games are incorporated into language instruction make it difficult to generalize about the benefits of GML2 in general or the outcomes of particular games or strategies. In addition, while there have been many studies of GML2 with adult learners in college classrooms, there has been little research on the use of GML2 in adult literacy and basic education programs.

In this article, we will identify and describe several different approaches to using GML2, drawing in particular on Reinhardt and Sykes' (2012; 2014) framework and related literature. We will conclude with a brief discussion of potential applications to adult literacy and basic education settings and learners.

Types of Game-Mediated Language Learning

A common assumption about the use of digital games in education is that learning takes place

through individual learners playing games designed specifically for education. In reality, games can be used in many different ways depending on the learning goals, resources, and preferences of educators and learners. Educational games are just one part of a broader set of approaches that have been associated with GML2. Reinhardt and Sykes (2012; 2014) distinguish between three broad types of GML2: game-enhanced, game-based, and game-informed.

Game-Enhanced GML2

Game-enhanced GML2 is the use of games designed for entertainment as part of formal instruction. Some such games can provide opportunities for contextualized language learning, as learners encounter and interpret written and spoken language during game play. York (2020) describes how the multiplayer (and free) game *Among Us* can be used to promote language learning among students within and across classrooms, as well as remotely. Other entertainment games encourage and motivate language learning in popular and potentially familiar casual game formats, such as *Words with Friends*. As Reinhardt and Sykes note, pedagogical mediation is important to take full advantage of the language learning opportunities associated with such games. Pedagogical mediation (Sykes & Reinhardt, 2013) consists of creating “wraparound” activities that help focus learners’ attention and efforts towards language learning. Such wraparound activities can include framing game play as a learning activity, identifying specific language learning goals, debriefing after game play, or creating extension activities, such as having learners talk about themes in a game or write game reviews (e.g., Miller & Hegelheimer, 2006; Reinhardt & Zander, 2011; York, 2020). Reinhardt and Zander (2011), for example, asked students to identify popular social networking

games (such as *YoWorld*), teach each other how to play, and identify the language learning opportunities associated with these games. As deHaan (2020b) notes, however, creating meaningful activities can be time-consuming, and students may question activities that are not explicitly tied to language learning goals.

Game-Based GML2

Game-based GML2 involves the use of games designed specifically for learning. While there are numerous educational games on the market, there are relatively few games designed specifically for L2 learning, and many have not received positive evaluations from practitioners. L2 educational games vary considerably in how they are designed to support second language learning. Some games use direct instruction and practice, for example, to introduce new vocabulary and or grammatical rules (e.g., Kao, 2020; Yu, 2018). *Wordcraft*, for example, allows teachers to create simple multiplayer vocabulary games involving tasks like matching words to definitions (Meyers, 2018). Other games immerse learners in a virtual world where they use L2 in game play to make progress in the game (e.g., Chen, 2016). For example, in the award-winning mobile game *Codex: Lost Words of Atlantis* (XPRIZE, 2019) players learn how to decode and pronounce English words as they take on the role of adventurers who are trying to uncover the secrets of Atlantis. *Spaceteam ESL*, another mobile game, promotes verbal fluency by requiring players to share instructions with each other as they learn to pilot a spaceship (Berry, 2021).

There are many challenges in using educational games for L2 learning. Educational games in general are often aimed at children and have characters or storylines that are too childish for adult learners. Even popular games can quickly become unusable as digital tools

evolve. Furthermore, evaluating the quality or appropriateness of L2 educational games can be important. Often the label “educational game” is applied to digital applications that are little more than interactive workbooks, without the design features that can make games effective learning tools (Reinhardt, 2019). Many educational games used in published studies are developed by the researchers and difficult or impossible for teachers to obtain, while designers of commercially developed educational games often do not publish evidence of their games’ effectiveness.

Game-Informed GML2

Game-informed GML2 consists of using instructional strategies based on learning principles associated with games and play, or alternatively, using specific tools or techniques found in games. This approach does not rely on the use of games themselves but assumes that educators can emulate the ways that well-designed games help players learn to master complex and challenging tasks. Educators can use the learning principles that inform games to create more successful learning experiences. James Paul Gee’s (2003) list of 36 learning principles drawn from games is the most well-known; while these principles are not specific to language learning there are many obvious applications. Among these principles, Sundqvist and Sylvén (2012) identified three that are closely related to L2 acquisition, namely active, critical learning principle, practice principle, and regime of competence principle. Educators have also drawn on theories of language play to inform L2 teaching and learning (e.g., Hattem, 2014).

A somewhat different approach is the use of specific techniques or tools associated with games, such as designing learning activities in the form of quests, awarding badges for particular

accomplishments, or even designing entire lessons in a game-like format like Jeopardy. This approach is commonly described as “gamification” and typically is aimed primarily at increasing learner engagement and motivation. For example, Barcomb and Cardoso (2020) developed a gamified course management system (*English Detective*) with points and badges to teach students’ English phonology. Other popular commercially available examples include Quizlet, Duolingo, and Busuu, although whether or not these are games or gamified instruction is debatable.

An advantage of a game-informed approach to L2 teaching and learning is that games or any other technology are not required. However, the game-based learning principles identified by Gee and others may not readily align with typical L2 classroom practices. The popularity of Gee’s work on games and learning has obscured his main argument: that well-designed games reflect principles of learning that are associated with a particular perspective on good teaching and learning in general. Games are not the origin or only examples of these principles, and L2 educators may find useful examples elsewhere. Lastly, gamification strategies alone can conflict with the application or intent of these learning principles. Awarding badges to motivate rote learning or using a game show format to make a lesson on grammatical rules more “fun” may not promote meaningful language use.

Empirical Generalizations and Controversies

The empirical literature on game-based learning and more specifically, on GML2 has grown considerably over the past several decades. As we mentioned above, the diversity in GML2 has posed a challenge to the development of a coherent body of knowledge in support of GML2 in general or

about particular GML2 approaches. Reviews of this literature have yielded predictably mixed findings.

In an early, widely cited review of literature on “serious games,” Young et al. (2012) found limited evidence of positive impact on student achievement. One issue was the quality of available studies; of 363 relevant articles that were analyzed for inclusion, only 39 met the final criteria for inclusion. Young et al. (2012) found differing results when they analyzed studies by subject area. They found particularly positive outcomes for the use of games to enhance language learning; however, the authors stress that “language learning gains were not uniform across individuals or topics but appear to result from a complex situated interaction of learner, game, and context” (p. 74). In other words, effective GML depends not simply on finding the “best” game, but on how learners engage with the game and how the learning context is designed to support and extend GML. Young et al. (2012) speculate that GML may be particularly helpful for language learning when gaming provides immersive experiences in which nonnative speakers use the target language to interact with more fluent peers or native speakers, such as in massively multiplayer online role-playing games. In addition, they cite research indicating that learners can improve their language skills simply by observing game play, without actually playing the game themselves (deHaan & Kono, 2010). Young et al.’s recommendation that educators and researchers give particular attention to game-player-context interactions, including social interactions within and around games, continues to be important. They stress that games should not be viewed as stand-alone educational tools, but rather that skilled teachers are necessary to prompt deeper, more meaningful learning that extends beyond the game itself.

More recent reviews have focused specifically on games and language learning (e.g., Acquah & Katz, 2020; Huang et al., 2018; Poole et al., 2020; Xu et al., 2020). In general, these reviews suggest that while the literature on GML2 is burgeoning, a relatively small proportion of publications consist of well-crafted empirical studies. Most studies involve educational games; research on game-informed L2 is rare (Gao & Gee, 2021). Much research has focused on student perspectives on GML2 and affective outcomes, such as anxiety reduction, improved motivation, or enjoyment, with generally positive findings. Studies of language learning outcomes primarily investigate vocabulary learning, again with generally positive outcomes, while data on other L2 outcomes is limited. One limitation of this research is that appropriate comparison groups are not commonly used, raising questions about whether positive outcomes might be due to a novelty effect rather than particular benefits of GML2.

Despite Young et al.’s recommendation, few subsequent studies have explored learners’ social or linguistic interactions in GML2. Researchers have documented extensive opportunities for language socialization and learning in the everyday gaming practices of youth and adults (Chik, 2014; Peterson, 2012; Ryu, 2013), but studies of such contextualized, interactive language learning in classroom settings are rare.

Applications in Adult Literacy Education

Studies of game-mediated learning with adult second language learners have primarily been conducted in college classrooms; documented examples of GML2 in community-based literacy programs or other informal educational contexts are hard to find. Some particular challenges to using GML in these settings can include adult

student and instructor perceptions that games are not legitimate learning activities, are not efficient ways to meet language learning goals, or require access to and fluency with unfamiliar digital tools (Reinhardt & Zander, 2011). More generally, much of the literature on GML2 focuses on student learning rather than on the teacher's role, despite the argument by scholars such as Young et al. (2012) that skilled teachers are crucial to the success of GML2. However, the small but growing literature on GML2 *teaching* offers a useful starting point for teachers interested in using GML2 in adult literacy settings.

The first questions to ask in any setting are: What is the rationale for using GML2? What student needs or pedagogical goals might GML2 address? In L2 learning, arguments for the potential value of GML2 have often cited broader literature that emphasizes the potential of games to enhance student motivation, engagement, and enjoyment of learning (Poole et al., 2020). As we noted above, however, GML2 can align well with language-specific aims. Reinhardt (2019) illustrates how GML2 can be informed by structural, cognitive, and sociocultural theories of second language acquisition, suggesting how educators can use GML2 to achieve varied language learning goals. Of particular interest to adult language educators may be his description of specific affordances of GML2, including opportunities for contextualized language learning, goal-oriented learning, space for sheltered practice, and learner autonomy.

A second question, given the diversity in GML2 approaches is: What form should GML2 take in order to best meet these needs or accomplish these goals? (deHaan, 2019). As GML2 scholars and

educators suggest, this requires attention not only to language use embedded in the game (if a game is used at all) but also to how language might be used in activities before, during and after game play. GML2 can include activities that do not require game play itself; learners can visit game fan sites, watch game play videos (Twitch), and discuss game-related topics, such as how gaming might affect family relationships (Siyahhan & Gee, 2018). York (2020) provides a detailed rationale and examples of these kinds of activities using the popular (and free) social game *Among Us*, and many of his examples could be adapted for use with other COTS games. deHaan (2020a) describes a more general list of pre-, during, and post-game language learning activities that can be used to achieve a variety of language learning goals with tabletop as well as digital games. Reinhardt (2019) along with Sykes and Reinhardt (2013) are useful, book-length discussions of both theory and practical applications of GML2.

Lastly, deHaan (2019) offers a useful caution for educators interested in the use of digital games, or any innovative technology. He questions the value of using games simply to generate student talk, if their use of language is not ultimately tied to a meaningful purpose beyond the game. This caution seems particularly apt for adult L2 learners, who typically have immediate goals and needs for improved communication abilities and are also seeking to improve their life situations. How to “scaffold students from playing to participation in various spheres of life” (deHaan, 2019, p. 3) remains an open question, and perhaps one of the more important directions for further scholarship and practice in GML2.

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Technology Solutions for Adult Basic Skills Challenges

Refurbished Computers for Adult Learners at Home or in Class

David J. Rosen, Newsome Associates

Each Technology Solutions for Adult Basic Skills Challenges column begins with a common challenge facing adult basic skills practitioners. Solutions offered for these challenges, at least in part through the use of technology, include hardware, software applications such as websites, course management systems, learning management systems, and apps for mobile devices. Each article begins with a description of the challenge, and then examines solutions that involve the use of technology.

Description of the Challenge

Many adult foundational (basic) skills learners have smartphone access to the internet, and they may have benefited from remote learning, especially during the COVID-19 pandemic. Others who have this access have been frustrated in using asynchronous instruction websites, especially when they need to write. With health care now increasingly being provided remotely through telehealth, many health care providers and patients have been frustrated by the limitations of two-way communication that is limited by telephone and even smartphone telehealth. Adult learners increasingly say they need access from a home larger-screen digital device such as a desktop or laptop computer or possibly a Chromebook or electronic tablet. However, they may believe that they may not be able to afford one.

Solution

One solution for an adult learner may be to purchase a low-cost refurbished computer, or for an adult basic skills program to seek grants to purchase these for their students who have been, and may yet be, learning entirely remotely or in a hybrid model that involves some in-person and some online learning from home.

In this Technology Solutions column, we are looking at computer refurbishing options and some typical questions that adult basic skills program administrators, instructors and adult learners may have about refurbished computers. Although this column's intended audience is usually adult basic education practitioners, in this case the information here is also intended for adult learners who are fairly good readers in English or whose teachers help them to get this information.

What Does "Refurbished" Mean?

In all cases a refurbished computer should include a factory reset, cleaning, and testing of the machine, but it could also include repairs or replacement of faulty components. Computer refurbishers want their products to be "good as new," so their customers are satisfied. That's why most offer a warranty and return policy and, if a problem is discovered, will replace the computer

or repair it. Some computers are refurbished by their manufacturer. There are for-profit and not-for-profit refurbishers. The not-for-profit ones generally are in business to locally close the digital divide, as are some of the for-profit refurbishers.



Team Children, in greater Philadelphia, has distributed over 21,000 low-cost, high quality refurbished desktops and laptops www.teamchildren.org

Are All Refurbished Computers Good?

As you might expect, this can depend on who is refurbishing them and what their refurbishment procedures and quality assurance policies are. *Refurbished* does not mean low-quality; it means more affordable, although refurbished computers generally are not the latest models. To assure this quality some refurbishers test the hardware in the units more extensively than some new computers are tested. Throughout the country, and particularly in urban metropolitan areas, there are not-for-profit and for-profit computer refurbishing organizations and businesses. Some have excellent reputations, and most will offer a warranty of at least a year. Many are in business as part of a social mission, to reduce the digital divide and address digital equity by providing affordable or free home

computers to low-income families. Regardless, you may want to find out what a particular seller's refurbishment process entails.

Where Do Refurbished Computers Come From?

They may be returns or canceled orders which cannot be resold as new, defective returns that have been fixed and retested, or computers with small defects like scratches or minor dents that make them impossible to sell as new. If they are sold by a community-based, not-for-profit organization, they may have been donated, often not by individuals but by large companies, universities, or hospitals; these computers may just be too old to meet the donor organization's standards, and the company or organization may donate a large number of the same model that was bought for a large number of employees at the same time. For adult foundational skills programs that need to purchase a large number of computers, for example for a computer lab, it is very helpful to have the same model.

What Do Refurbished Computers Typically Cost?

That varies, but in sampling a few for this article I found that they ranged in price from \$100 to \$500, but most were under \$300. Most refurbished Chromebooks, for example at Walmart, were under \$100. I have read that refurbished computers generally cost about 30 to 50 percent less than the retail price of a new computer.

How Do I Find a Local Computer Refurbishing Organization?

[Digitunity's Alliance for Technology Refurbishing and Repair \(AFTRR\)](#) is one possibility. They host a map locator listing over 100 locations of

nonprofit computer refurbishers at <https://www.aftrr.org/map-locator/>. You could also try doing a Google search using “computer refurbisher” or “refurbished computer” along with your zip code. You may get computer repair businesses from such a search as well as computer refurbishers. If you are looking to purchase refurbished computers online, just search for “refurbished computer.”

One of the organizations on the AFTRR map is Human-I-T <https://www.human-i-t.org/>. It’s a national organization that provides refurbished computers to individuals and to not-for-profit organizations across the United States. Human-I-T sells computers online too. They offer refurbished desktop and laptop computers, low-cost mobile internet, and affordable computer repair

What Do I Need to Think About Before I Contact a Computer Refurbishing Program?

If you are purchasing computers for your adult foundational skills program, you may first want to figure out how many computers you need, what your budget can afford, if you need all the computers to be the same make, model, and year (or not), whether you want desktop or laptop models, or Chromebooks; whether you also need tech support and computer maintenance and repair; and decide how soon you need the computers. If you are dealing with a local computer refurbisher they may ask you to pick up the computers and, depending on what type—desktop or laptop—and how many you may need, a van or a truck or other large vehicle may be needed. If you are purchasing refurbished computers to loan, or give to students to use at home, you will first need to figure out their device needs. This is often done through a written or oral survey or through a program intake conversation interview. In the interview, you will want to

zero in on how the computer will be used and for what purposes so that you can get a sense of what storage capacity (photos, images, heavy coding load?) is needed. You will want to know what students can afford if they are paying for all or part of the computer. You will also want to know about whether they need a desktop or a laptop, what their battery needs may be, what screen size they need and if they need Wi-Fi access. You may want to ask what accessories—printer, headphones, and other peripherals—they may need. Some of these questions are also relevant when you are figuring out what you need for computers that students will use in your program. If you want to outfit a computer lab, you may want the same kind of computers you are buying for students to use at home.

You may also want to think about what software you need to have loaded on the computers: an Operating System is standard, but you may also want office software; some refurbishes will load free open source office programs (word processing, spreadsheets, slides, etc.) You should ask if security software, including anti-virus software and perhaps others, is offered in the standard price. Also, some AFTRR members solely serve people with disabilities and will configure a student’s refurbished computer to their needs.

Do Computer Refurbishers Offer Digital Literacy Skills Training?

Some, especially the not-for-profit ones, do. If your program offers digital literacy skills training for your community, you may want to let the refurbisher know about that and provide them with some of your business cards or flyers. Perhaps they would be interested in referring their clients to you as digital literacy learners

Can Our Adult Foundational Skills Program Seek Funding for Purchasing Refurbished Computers?

Sometimes yes. Since the beginning of the pandemic many charitable foundations and government grants allow programs to purchase computers for students to use at a school or an education program or at home for education purposes for children and adults. For example, Digitunity (digitunity.org) allows eligible organizations (such as nonprofit organizations, government agencies, or schools who serve people who are at risk or marginalized or economically disadvantaged) to register to receive technology donations from individuals and businesses. See <https://digitunity.org/get-involved/receive-equipment/>

If Our Program Purchases Refurbished Computers, How Do They Get to Us?

It depends. If you buy them online, for example online from a nonprofit refurbisher such as Human-I-T or InterConnection, or a for-profit organization such as Amazon or Walmart, or directly from a manufacturer, they will be shipped to you. If you buy from a local refurbisher, you may need to pick them up.

Are There Other Advantages to Purchasing a Refurbished Computer?

Yes. Refurbished and recycled computers, because they are used for more years, have less environmental impact.

Many thanks to my adult family literacy, library and digital inclusion colleague Karisa Tashjian at Digitunity.org whom I interviewed before writing this article.

Additional Articles

<https://www.newegg.com/insider/tips-before-buying-refurbished-pcs/>

<https://generocity.org/philly/2018/05/24/teamchildren-low-cost-refurbished-computer-audubon-nonprofit/>



From ESL Job Exchange, “Cheap Laptops For Online ESL Teachers” <https://www.esljobexchange.com/cheap-laptops-online-esl-teachers/>

Resource Guides

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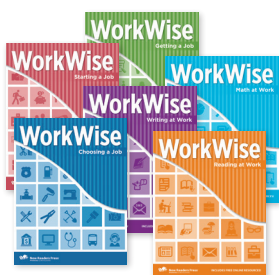
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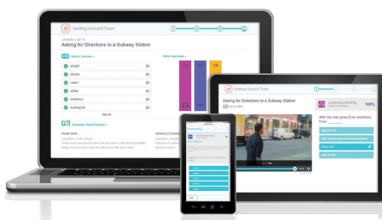


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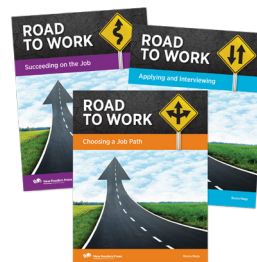


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