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Teaching Strategies for Low Literacy Adult Learners

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by

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CHAPTER ONE

Introduction

Low literacy is an issue impacting as many as 56 million adults in the United States (Copeland et al., 2016). Those low-literacy adults may end up in Adult Basic Education (ABE) programs, where they may struggle in class. In some cases, these learners may have learning disabilities, which are often not especially well supported in ABE; ABE programs do not have special education as K-12 does. Indeed, adults with learning disabilities in adult education programs are some of the lowest performers on measures of literacy (Hock, 2012). If learners are not making progress, they are not fulfilling the intended purpose of ABE, and their program may feel that pressure.

I became involved in Adult Basic Education eight years ago, and during my first years in ABE, my focus was primarily on English Language Learners (ELLs). Two years ago, however, with a shift to teaching primarily GED preparation classes, specifically reading for the science, social studies, and language arts tests, I have worked with several low-literacy students and have struggled with how best to support them. My desire to learn more about characteristics of these learners and the best interventions for them has led to my research question, *how does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*

This chapter outlines my journey to and experiences within the field of Adult Basic Education, how working with low-literacy adult learners has informed my experiences as a teacher and thus my research question and project, and how my project may benefit my colleagues and learners.

Researcher Background and Interest

My journey in Adult Basic Education began by accident. In 2015, I was working at a healthcare technology company, and I was not particularly satisfied. A colleague and

friend of mine, who was then a student in Hamline University's Master of Arts in English as a Second Language program, recommended that I get a certificate in Teaching English as a Foreign Language (TEFL) at Hamline, because then I could go abroad and teach English anywhere. While I did attend Hamline, through the process of obtaining my TEFL certificate, I discovered and became passionate about ABE.

As a way to get my foot in the door, I accepted a position at Literacy Minnesota, even though it was not a teaching position, which was my goal. I served in the role of hotline referral specialist at Literacy Minnesota for four years. The hotline in hotline referral specialist refers to the Adult Literacy Hotline, a hotline that prospective learners can call, text, or email to receive information about and referrals to ABE programs in their area. During my time as the hotline referral specialist, we received many calls from prospective learners, or their family members, who were looking for classes for students with low literacy skills. In our case, "low literacy" was typically a fourth-grade reading level or below. If native English-speaking students are reading at such a low level, it is very possible that they have an undiagnosed or undisclosed learning disability. In Minnesota ABE, we have Minnesota Adult Basic Education Physical And Nonapparent Disability Assistance (PANDA) to provide resources and support to staff working with learners with disabilities of all types. However, even PANDA often suggests programming specific to people with disabilities as an alternative to ABE, which is sometimes met with resistance from these learners.

The reason for referring these learners to alternative programming is that not many ABE programs can work with low-literacy, native English-speaking adults. The reason many ABE programs cannot work with learners at this level is because they lack the resources, and because those learners may not be who ABE is intended for, in terms of how the funding works. ABE is not intended for students who cannot demonstrate gains in their learning. If a learner, for reasons related to disability or otherwise, cannot

make gains, they are not fulfilling the purpose of ABE. ABE is not like the K-12 system in this sense. ABE is not obligated to serve every prospective student, and there is no special education in ABE. Therefore, low-level native English-speaking learners are often turned away, as ESL classes are not appropriate for them since they have fluent speaking skills, and GED classes are at a much higher level.

During my time on the Adult Literacy Hotline at Literacy Minnesota, we had many internal meetings, as well as meetings with staff at PANDA, trying to figure out how to best serve low-literacy learners. We contacted all ABE programs in the state and asked if they had a minimum reading level for admittance into their program. We kept a list of programs willing to work with people reading at less than a fourth-grade level. We used a script that PANDA wrote for us to ask additional questions of callers who said they "can't read" that might tell us if the caller may have been diagnosed with a learning disability, and, if they had a diagnosis, to tactfully suggest that ABE might not be the best fit.

However, these options did not, and still do not, feel adequate to those of us who work on the Adult Literacy Hotline, as we felt that these were exactly the sort of learners ABE should be helping. It is not always so simple to make an intention and a desire a reality, of course. ABE programs lack adequate staff time and resources to support those learners. I am no longer the hotline referral specialist at Literacy Minnesota, but I do still work at Literacy Minnesota, and I know that the conversations continue about how we can connect these learners to programs who can work with them at their level. These conversations and questions motivated me to pursue my initial dream of moving into the classroom to work with students directly.

After receiving my Master of Arts in English as a Second Language from Hamline in 2017, I primarily worked in the ESL space within ABE. ESL remains a great love of mine, but two years ago I started a new job at a small GED program housed within a larger nonprofit in an urban Midwestern city, as the reading instructor for GED and

ABE—meaning non-GED seeking, non-ESL—students. I had only had limited volunteer experience working with native English speakers prior to this job, and I was suddenly experiencing first-hand many of the issues that ABE staff and volunteers face when working with this population. At my school, we will accept most learners, no matter what their test scores are, unlike many ABE programs.

Before I worked at this program, I volunteered for several years at another learning center, which is in the same neighborhood as my school. This learning center operated out of a library, part of the county library system. As part of county services, it had a different funding model. It did not receive ABE funding and thus did not have to achieve the same outcomes expected of an ABE program, meaning a learner with low literacy skills and/or a learning disability could be in the program for years without making progress on standardized tests, and this learning center would not face the same consequences as ABE programs. Unfortunately, this learning center was impacted by the pandemic and subsequent changes made by the county, and it is no longer in operation. This means that many learners who may have been served by that learning center in the past now have nowhere to go, or they end up at a program like mine, a program that is not necessarily set up to best serve them.

The programs that do accept lower-level learners, such as mine, are often faced with challenges in integrating these learners into the classroom. My program is primarily a GED preparation program, although we do have some learners who are trying to raise their Test of Adult Basic Education (TABE) scores for other reasons, such as to be eligible to take trainings in construction, health and human services, information technology, and office skills in one of my nonprofit's other programs. As a one-room schoolhouse, we also have the challenge of having all learners in one class, regardless of their level. While I do sometimes have them work individually or in groupings by approximate reading level, common challenges in ABE, such as not knowing how many

students I will have on any given day, mean that I often end up working with them as one big group. (I do not often have more than 10 students, and sometimes it is as few as two or three.) When we work together, there are advantages, such as the lower-level learners working collaboratively on a text with higher-level learners, which gives them the opportunity to read something that they would not be able to on their own. However, there are also disadvantages, particularly in lower-level students feeling discouraged when they see the gap between themselves and more advanced students or frustrated that the text is so challenging for them.

As an example of how these obstacles impact learners, one learner immediately comes to mind. This learner is such a hard worker. He has perfect attendance, coming literally every single day, which is almost unheard of in ABE. Starting in our program a year ago, he was reading at a first-grade level. In that year, he has made only a little progress and is now reading at a second-grade level. He is frustrated by his lack of movement, and it is a problem on the program's end, too, since we need him to be making demonstrable progress to meet our goals. This learner has several factors that may be contributing to his low reading skills. Although he grew up in the United States and went through the K-12 school system here, his parents are refugees who did not read to him in English nor in their home language, which is primarily an oral language. He has had several incidents of head trauma for which he did not see a doctor and is an example of a student who may have an undiagnosed learning disability, but of course it is hard to say for sure. We have talked to him about the possibility of getting assessed, as, if he does have a learning disability, having a diagnosis may allow for more effective learning interventions, not to mention accommodations on the GED tests. However, regardless of whether he wants to be assessed or not, he does not have health insurance, and assessments for learning disabilities cost thousands of dollars.

It is because of learners like this that my project explores characteristics of and best practices for working with low-literacy learners. These learners deserve curricula that address their needs. While some exist, much of it is aimed at English language learners, or the content is childish. Research shows that if learners lack foundational skills such as basic literacy, they may struggle with additional skill development (Aker et al., 2023a). Furthermore, low literacy may result in lack of employment opportunities and restricted access to many aspects of life, in direct opposition to the goals of ABE (Copeland et al., 2016). While low literacy in adults is a well-established problem, there are relatively few known successful interventions (Windisch, 2016). This aligns with what I have heard colleagues discuss, which is that it is challenging to find appropriate content for these learners. It would therefore be a welcome addition to our resources to have more materials aimed specifically at this demographic of students. These learners are adults, and it should be our duty as ABE professionals to give them the tools to reach their potential. It is unfortunate that low-literacy learners, especially if they are labeled as a student with a learning disability, can face lowered expectations (Banks & Hughes, 2013). Lower expectations do not address the problem, nor do they prepare students for the rigors of college, career, and civic engagement.

My own experience with education and reading has been an easy one. I grew up in an upper-middle class household where books were plentiful. We visited the library often, and my father read to my siblings and me all the time. Reading was pleasurable, and, when old enough to read on my own, I read constantly. I am also White and went to a school where most of my teachers and classmates looked like me. Feeling out of place at school because of my race or class was not an experience of mine, nor did I have any disabilities that made school or reading more challenging. My entire life I have loved being a student, but I would not say that I take any particular pride in my academic “accomplishments.” I do not view them as accomplishments. They are merely a matter of

course; they are inevitable. It is because of these social identities and their impact on my educational experience that I can never truly know what many of my students have experienced. I do not know what it is like to struggle with reading. I do not know what it is like to feel like I have “failed” at school. My perspective on the topic of low literacy has thus been shaped by the pleasure and ease that literacy has brought to my life. However, I recognize how different my experience is from most learners in ABE programs, and I hope that all learners have the opportunity to go through life without their literacy level creating barriers, and I would like to see Adult Basic Education serve the learners who are most in need of support in this area.

Conclusion

In order to answer my research question—*how does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*—it is necessary to examine characteristics of low-literacy adult learners and how low-literacy impacts their experience in the classroom and in the community. Interventions must be identified and synthesized into a curriculum that addresses the specific needs of these learners, while providing learning content that is relevant to the adult learner. This paper raises awareness of the need for an additional body of resources for ABE staff who work with low-literacy learners.

Chapter Summary and Overview of Remaining Chapters

In Chapter One, I introduced my topic of the impact of low literacy on adult learners in and outside of the classroom. How working with this population can be challenging in the ABE system was explained: these learners do not get the support they need, and teachers do not always feel adequately trained and supported to work with these learners. My professional journey was outlined, showing how I began working with many low-literacy adult GED and ABE students, and how this shaped my desire to

increase engagement with these learners and improve their outcomes, academically and otherwise.

Chapter Two provides an overview of low literacy in Adult Basic Education programs, with particular focus on the United States. I look at what is meant by low literacy, common characteristics of low literacy learners in the classroom, and limitations of current research on low literacy. Because low-literacy learners often overlap with learners who have disabilities, I also examine educational experiences of learners with disabilities, how disability intersects with factors including race and poverty, and which instructional practices may be most beneficial to these learners. ABE has a high attrition rate, and thus learner persistence is of great interest to ABE stakeholders, but it is under researched (Greenberg et al., 2013). Many factors contribute to whether a learner persists or not, including literacy level. I therefore investigate the factors that impact adult learner persistence, what motivates low-literacy learners to persist, and how success is defined in ABE. Some of these factors of persistence intersect with students' identities and how those identities have been affected by inequitable access to education. I look at the factors impacting learning outcomes for adult students, as well as how academic outcomes intersect with outcomes outside of the classroom, including emotional wellbeing, social functioning, and economic outcomes. Finally, I explore interventions for low-literacy adult learners and how to best implement them in the Adult Basic Education classroom.

Chapter Three describes my project, a unit of curriculum specifically aimed at low-literacy native English-speaking adult learners, and how this project may be of use to ABE professionals and students, as well as suggestions for future research in this area.

Chapter Four contains my reflections on the creation of my project, along with an assessment of the limitations of the project, and, finally, suggestions for additional research or projects in the future.

CHAPTER TWO

Literature Review

As many as 90 million adults have low literacy skills, and, though fewer than three million of them end up in Adult Basic Education programs, these programs must do a better job of serving them (Binder et al., 2013; Greenberg et al., 2013). Low literacy has wide-ranging consequences, but low literacy, and successful interventions for it, are relatively under researched (Perry et al., 2017; Windisch, 2016). This chapter therefore explores the impacts of low literacy and suggested teaching interventions, in order to address the research question, *how does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*

Chapter Two provides an overview of low literacy in Adult Basic Education programs, with particular focus on the United States. It looks at what is meant by low literacy, common characteristics of low-literacy learners in the classroom, and limitations of current research on low literacy. It also looks at the impacts of low literacy on people's lives and on broader society. Because low-literacy learners often overlap with learners who have disabilities, Chapter Two also looks at educational experiences of learners with disabilities, how disability intersects with factors including race and poverty, and which instructional practices may be most beneficial to these learners. ABE has a high attrition rate, and thus learner persistence is of great interest to ABE stakeholders, but it is under researched (Greenberg et al., 2013). Many factors contribute to whether a learner persists or not, including literacy level. Chapter Two therefore investigates the factors that impact adult learner persistence, what motivates low-literacy learners to persist, and how success is defined in ABE. Some of these factors of persistence intersect with students' identities and how those identities have been affected by inequitable access to education. Chapter Two looks at the factors impacting learning

outcomes for adult students, as well as how academic outcomes intersect with outcomes outside of the classroom, including emotional wellbeing, social functioning, and economic outcomes. Finally, Chapter Two explores interventions for low-literacy adult learners in the Adult Basic Education classroom.

Low Literacy

Low literacy is an issue impacting as many as 90 million adults in the United States, a staggering number (Binder et al., 2013). Low literacy impacts how adult learners function in the classroom as well as how they function at home, at work, and in the community (Copeland et al., 2016). In the classroom, adult learners may struggle with skill development when they lack foundational skills to build upon (Aker et al., 2023a). Outside of the classroom, low literacy may result in lack of employment opportunities and restricted access to many aspects of life, negatively impacting not only the learners themselves, but also their families and society as a whole (Copeland et al., 2016). Despite the societal importance of addressing low literacy, low-literacy adults are relatively understudied, researchers make deficit assumptions, and there are relatively few known successful interventions, resulting in low-literacy adults being undervalued, oftentimes misunderstood, and not given the consideration they deserve (Perry et al., 2017; Windisch, 2016). This section explores what is meant by low literacy, why it matters, common characteristics of low-literacy learners inside and outside of the classroom, and suggestions and limitations of current research.

What Is Low Literacy?

"Literacy" is a term with many different meanings. Its definitions often include the reading and writing of text, understanding and making use of printed information, and that it is a key component of being able to function in communities (Perry et al., 2017). Literacy is both making meaning out of symbols (decoding) as well as using that meaning to do something (Copeland et al., 2016). These common views of literacy may

be more focused on the individual, perhaps due to cultural values and attitudes. On the other hand, sociocultural theories of literacy tend to focus on how people use literacy and in which contexts, including the values, attitudes, and social relationships they associate with this usage (Perry et al., 2017). In this view, literacy cannot be separated from things such as social relationships, culture, politics, values, and attitudes (Perry et al., 2017). It is important to understand the sociocultural context of literacy when labeling a learner as a "low-literacy learner." In what contexts do they have low-literacy skills, and who is labeling them as such and what are their motivations or methodologies for doing so?

Just as "literacy" itself has ever-expanding definitions and implications, "low literacy" can be defined in a variety of ways. About one in five U.S. adults has difficulty understanding text (Talwar et al., 2020). About 90 million U.S. adults have basic or below-basic skills, meaning that they can only read simple words and phrases in familiar contexts (Binder et al., 2013; Copeland et al., 2016; Tighe et al., 2013). Of those 90 million adults, about 30 million have below basic prose literacy, about 27 million have below basic document literacy, and about 46 million have below basic quantitative literacy; other adults scored in the basic level for those literacies, while five percent were found to be "entirely nonliterate" (Perry et al., 2017). Those three domains were chosen because they are common in everyday life, but it is important to note that other key literacies are excluded, such as digital literacy (Perry et al., 2017). As technology, education, and cultural contexts continue to evolve, so will the definitions and applications of literacy. Educational programs such as ABE must therefore also continue to evolve to meet the changing needs of their learners in a changing world.

If one considers the skills needed to go beyond searching, comprehending, and using information from continuous texts, 43 percent of U.S. adults are lacking. Of this population of adults, more than 60 million are between the ages of 16 and 64, a critical

implication for the literacy abilities of the workforce (Mellard & Fall, 2012). As a primary purpose of ABE is to assist adults with entering or advancing in the workforce, ABE programs must be cognizant of the literacy demands made of workers and the areas in which millions of adults need improvement. Additionally, beyond employment implications, literacy skills impact an adult's functioning in home and community life. About 30 million U.S. adults have difficulty with everyday literacy activities such as reading a newspaper or completing a job application, but only around two and a half million adults attend federally-funded ABE programs annually (Greenberg et al., 2013).

Low literacy is especially prevalent among racial and ethnic minorities, adults with low educational attainment, English learners and immigrants, adults with disabilities, older adults, and those from lower socioeconomic status (Perry et al., 2017). Higher percentages of adults from racial and ethnic minorities, namely Blacks and Hispanics, perform at the basic or below basic levels compared to Whites (Macarthur et al., 2012). As U.S. society continues to grapple with various inequalities and how to minimize them, it is important to consider how disparities in literacy skills disproportionately affect certain demographics and the impact that has on equity goals, not to mention the quality of life for those individuals.

One problem with the conversation around low-literacy adult learners, which is also present in this capstone, is the assumptions made about the deficits of these learners (Perry et al., 2017). Current research often does not include learner voices, nor do current literature reviews, such as this one, include adult learner writing (Perry et al., 2017). Research shows that people tend to view their own literacy levels more favorably than their test scores suggest, which could imply that readers are ignorant of where their abilities lie. Conversely, if people feel that their skills meet their needs, researchers should perhaps not assume that they know better than the people themselves (Perry et al., 2017; Windisch, 2016). One way to perhaps counteract these deficit assumptions is

to frame adults with low literacy as people who are able to navigate a literate environment using other skills, some of whom do have good jobs and salaries and full lives (Perry et al., 2017). The implication for more equitable ABE programs is that programs must work with learners to meet their stated goals, not the goals defined by others such as state and federal government agencies. However, this is easier said than done, when one considers that these agencies often determine a large portion of an ABE program's budget, with funding based on the program meeting those required goals. The issue of sometimes differing definitions of success by different stakeholders in ABE is discussed in greater detail in a later section.

Writing is often an afterthought in discussions of literacy, which implies that writing is not as important as reading, which carries the implication that adults, especially adults with low literacy, should consume texts and not produce them (Perry et al., 2017). This furthers the problem of a deficit mindset concerning low-literacy adult learners; writing may be seen as "extra" or "beyond" low-literacy adult learners, limiting their exercise of agency. The lack of attention on writing instruction is problematic since writing is as much a part of literacy as reading; it allows for additional communication, employment, social, recreational, and academic opportunities (Copeland et al., 2016). Lack of writing instruction prevents adult learners from engaging in things such as social media, key elements of participation and communication in today's society (Copeland et al., 2016). Writing is therefore a key component of literacy instruction, not merely something that is "nice" to do "if there is time," and it should thus be included in any literacy curriculum, including those targeted at low-literacy learners.

Finally, literacy is not a simple literate/illiterate binary, but rather a range of practices that may be utilized in different contexts depending on the needs of the individual (Perry et al., 2017). Just as some adults whom researchers may label as having low-literacy skills may not view themselves that way, some students with invisible

disabilities such as learning disabilities may choose to use another term other than learning disability, for instance labeling it a cognitive difference (Banks & Hughes, 2013). It is important for educators to realize that how a researcher labels a student may not be how that student thinks of themself, and it is part of an educator's role to challenge any assumptions they or others may have about a student's abilities based on any categories to which they may have been assigned. Furthermore, ABE practitioners must consider the wide range of contexts in which adult learners are using their skills. A learner's skills may be perfectly sufficient for certain aspects of their life while insufficient in others. It is part of the educator's role to listen to a learner's goals and what they say their strengths and weaknesses are and use that information to inform their teaching.

The Impact of Low Literacy

Low literacy has significant impacts, such as unemployment or underemployment, lower salaries, less engagement with literacy activities including reading to children, and difficulty in following prescription and medical directions, which results in healthcare costs for adults with low literacy that are four times as high as the general population (Perry et al., 2017). Beyond providing educational, employment, and economic opportunities, literacy can allow adults to be active in the democratic process (Copeland et al., 2016). Education is important for participating in democracy; voter turnout increases dramatically with higher education (McMillan & O'Neil, 2012). Literacy also allows adults to access recreation and leisure activities, and to increase their social interaction, which can contribute to a greater sense of belonging (Copeland et al., 2016). In addition to the strong possibility of poor mental and physical health, low-literacy adults are less likely to own their own home and live in an overcrowded home (Alkema, 2019). Therefore, low literacy has tremendous impacts on the individual, as well as their family, and furthermore extends to broader society, affecting a nation's economy and democratic health.

Low literacy can also contribute to lowered self-confidence and expectations for oneself. These low expectations and lack of preparation from teachers during their childhoods may have caused adult learners to have missed out on appropriate literacy instruction, leading to their need to develop foundational skills as adult learners (Copeland et al., 2016). Unfortunately, because literacy is one of the core skills in foundational learning, it is difficult for adult learners to develop other skills without first developing strong foundational skills (Aker et al., 2023a). Adults are absolutely capable of acquiring foundational literacy skills, and they tend to do best when instruction is aligned with their desire for problem-centered learning (Aker et al., 2023a; Copeland et al., 2016). Developing literacy skills can improve adults' self-confidence and lead to benefits beyond those related to education or employment (Copeland et al., 2016). ABE practitioners must therefore create learning environments in which adult learners are encouraged and supported, assisting them in developing literacy skills alongside confidence.

Common Characteristics of Low Literacy Learners in the Classroom

How does low literacy manifest itself in the classroom? According to Binder et al. (2013), studies have found that prosody, or the use of expression when reading aloud, is an indicator of comprehension, and low-literacy learners tend to rely heavily on punctuation to help guide their prosody, which leads to inappropriate prosody. Binder et al. also note that low-literacy learners tend to pause longer than skilled readers, they pause at more punctuation marks, and they may also read questions without changing pitch. Their pausing is due to their less developed decoding and word recognition skills, and these pauses can help them to understand the text by using the pauses to do things like reread and allow more time for cognitive processing (Binder et al., 2013). Especially for native English speakers, if their word recognition skills are lacking, they may substitute words they know for unrecognized words (Mellard & Fall, 2012). All of these

characteristics of low-literacy readers may indicate lower reading comprehension, since reading requires readers to do multiple tasks at once. The more a reader struggles with things like letter-sound and word recognition, the less brain power they will have for comprehension, and the more they may rely on contextual knowledge (Binder et al., 2013; Mellard & Fall, 2012). Reading fluency—or reading with speed, accuracy, and expression (prosody)—is therefore crucial to comprehension (Binder et al., 2013). What this means for the ABE classroom is that educators have a variety of fluency skills that must be taught in order to support a learner's literacy development.

Struggling readers tend to rely first on word skills and then on memory, whereas mid-level readers use these skills along with language comprehension skills, and more advanced readers balance all of these skills; therefore, instructors should be mindful of the stage their students are at, as their reading behaviors may vary significantly depending on their reading skill level (Mellard & Fall, 2012). For instance, an ABE instructor working with low-literacy learners may want to include activities that strengthen memory skills along with the development of literacy skills such as vocabulary and fluency.

Suggestions and Limitations of Current Research

What does the literature suggest about how to work with students with low literacy skills? There is relatively little research on adult learners (Windisch, 2016). Oftentimes, the research that does exist focuses on learners who are already proficient readers (Park, 2012). Although some of the research on children may apply to adults as well, according to Aker et al. (2023a), children's brains, which have more plasticity, can often learn foundational skills such as reading more easily than adults'. This difference matters for instruction, but it does not mean that adults are incapable of learning foundational skills; it simply means that adults may have to work harder to acquire literacy (Aker et al., 2023a).

As explained by Aker et al. (2023a), the three stages of reading are decoding, automaticity (also called fluency), and comprehension. Decoding is especially difficult for the adult brain, requiring more time and practice to achieve fluency than children; the implication for the ABE classroom is that adult learners may need extended practice with the decoding aspect of reading, including instruction in phonics and phonemic awareness (Aker et al., 2023a; Macarthur et al., 2012; Sabatini et al., 2010). According to Aker et al. and Benavot (2015), the teacher should utilize different aids to assist learners with decoding and automaticity, and they should emphasize practical applications learners can apply their new skills to immediately.

Aker et al. further say that to assist adult learners in improving their reading comprehension skills, teachers should provide instruction in metacognitive monitoring, meaning that readers are self-aware of when they do not understand what they are reading. ABE instructors may therefore want to be explicit about their own use of metacognitive monitoring, modeling for learners how proficient readers troubleshoot barriers to comprehension (Hock, 2012). Adult learners should also participate in group discussions to facilitate comprehension (Aker et al., 2023a; Tighe et al., 2013). This is beneficial not only to help all understand the text better, but it also helps students to take on leadership roles and to rely on one another rather than always looking to the teacher.

Aker et al. (2023a) explain that adult literacy programs will have the most success with content taught in the proper sequence, when learners have more practice, and when the reading material is relevant to their lives. Programs cannot teach all learners in the same way; instruction must be tailored to learners' specific needs, and adults also need to be able to articulate their own educational needs (Aker et al., 2023a; Tighe et al., 2013). It is therefore critical to listen to learners' goals, their own assessments of their strengths and weaknesses, and to provide them with the language needed to describe what they need. Since students, especially low-literacy students,

need extensive practice, it is also advisable for programs to spend more time on fewer topics; depth is more important than breadth.

Major limitations of the current research includes a dearth of studies focusing specifically on adults, and, within the research that does focus on adults, much of the research has been done on and the interventions targeted towards already proficient readers (Park, 2012). More research is therefore needed on adult learners specifically, and within the category of adult learners, with a particular focus on those with low-literacy skills. Furthermore, there is a greater need for learners' voices and collaboration; much of the current research does not take into account what learners themselves have to say about their current skills and what their needs are for additional skill development.

This section addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?* It does so by looking at the impact of low literacy in the classroom, by looking at characteristics of low-literacy learners that may manifest during instruction, as well as the impacts of low literacy on individuals, their families, and broader society. The next section will look at how disability compounds these impacts, adding challenges for learners and for programs to address learner needs—but addressing these needs is critical for social equity.

Learning Disabilities

In looking at the impact of low literacy on adult learners, it is important to consider the role of learning disabilities. According to Hock (2012), adults with learning disabilities in adult education programs, including Adult Basic Education and community colleges, are some of the lowest performers on literacy measures. For adults with low literacy, a reading disability could mean a reading score two grade levels lower than those without (Hock, 2012). Furthermore, being labeled as a student with a learning disability can lead

to academic stereotyping and lower expectations (Banks & Hughes, 2013). It is important that educators use various strategies, which may include explicit instruction, instructional technology, and intensive tutoring, that have demonstrated efficacy with adult learners with learning disabilities (Hock, 2012). This section looks at educational experiences of learners with disabilities, how disability intersects with factors including race and poverty, and which instructional practices may be most beneficial to these learners.

Educational Experiences of Learners with Disabilities

Being labeled with a disability often leads to lower academic expectations and negative academic stereotypes (Banks & Hughes, 2013). An adult learner may have been diagnosed with their disability as a child, but adult learners who were diagnosed in childhood will certainly continue to be impacted by it in adulthood (Kortteinen et al., 2021). A childhood reading disability, for example, can unfortunately often correlate with low educational attainment, which in turn correlates with unemployment and underemployment (Kortteinen et al., 2021). Adult Basic Education learners with learning disabilities are some of the learners with the lowest literacy levels (Hock, 2012). For example, while ABE learners without a learning disability read on average at the fifth-grade level, students identified as having a learning disability read at the third-grade level (Hock, 2012). While learning disabilities do not simply disappear once a student leaves the K-12 system, accommodations at work and school, discussed below, can help adults to manage them (Koo, 2015). It is important for ABE practitioners to accommodate learners with reading disabilities or other disabilities while also maintaining high expectations for their academic achievement.

According to Kortteinen et al. (2021), since a childhood reading disability is a lifelong condition, it can impact employment, social functioning, emotional wellbeing, and life satisfaction. Kortteinen et al. further explain that in adulthood, reading disabilities

often manifest in a lack of reading fluency. Adult education should assist learners in the acquisition of reading fluency, but also comprehension and verbal skills, along with non-literacy skills including social and emotional skills (Kortteinen et al., 2021). Instructors of adult learners with disabilities should also make sure to teach skills around generalization, as learners with disabilities or other support needs tend to have trouble transferring knowledge from one context to another (Copeland et al., 2016). ABE instructors therefore have the responsibility of not only teaching specific literacy skills, but also a broader collection of skills that facilitate success in areas of life beyond the classroom.

Intersection of Disability with Other Factors

According to Banks and Hughes (2013), being labeled as having a disability can lead to lower academic expectations as well as negative academic stereotypes, which often work in tandem with racial stereotypes. Banks and Hughes identify the example that Black students are more likely to be misidentified as having a disability; Black students are 17.13 percent of the public school population but make up more than 26 percent of students in special education. Banks and Hughes also say that Black students are less likely than White students to be exited from special education, and they have lower academic gains while in special education. Male students are also overrepresented in special education, with nearly twice as many boys in special education than girls (Banks & Hughes, 2013).

Disability also intersects with incarceration status. Many ABE programs operate within correctional facilities, and since education has been found to reduce recidivism, the quality of education within correctional facilities thus impacts recidivism rates (Koo, 2015). Given that as many as 75 percent of inmates may have extremely low literacy skills and about 30 to 50 percent of the prison population is estimated to have a learning disability. As a result, ABE programs in correctional facilities must be able to

accommodate learners with disabilities, which is often not currently the case (Koo, 2015; Robinson, 2018). According to Koo (2015), since learning disabilities impact adults in navigating employment, their families, and their communities, it also impacts their experience with the criminal justice system should they come in contact with it. Because many inmates have backgrounds where their educational opportunities were limited, they tend to be less educated than the general public. For example, as Koo notes, compared to only 19 percent of the general population, 36 percent of incarcerated individuals have less than a high school education. Lack of education may have contributed to their criminal behavior, such as resulting in poorer decision-making skills. Therefore, if reducing recidivism is a goal, correctional facilities should make every effort to release inmates with better literacy skills than when they entered the facility (Koo, 2015).

Koo (2015) explains that for all of the reasons mentioned above, it is important for adults to receive a learning disability diagnosis if they were not previously aware of it, as having a diagnosis may allow them to receive necessary accommodations that allow for greater success in education and employment. This knowledge may also help them identify areas of strength and weakness, and thus be able to utilize their strengths; Koo's research shows that adults with learning disabilities have employment success when they leverage their strengths. If adults do not have self-awareness about their strengths and weaknesses, they may struggle on the job if they do not understand how their learning disability impacts their performance (Koo, 2015).

There is also a relationship between disability and poverty. According to Groce et al. (2011), social barriers and exclusion are often faced by those with disabilities, which may lead to isolation and lack of economic opportunities. Lack of access to quality education during childhood impacts a person for the rest of their life; if a child with a disability does not have access to quality education, their likelihood of low literacy

increases, increasing the likelihood of poverty, and increases the likelihood that their own children will be raised in poverty (Groce et al., 2011). Because of how disability intersects with factors including race, sex, incarceration status, and poverty, and because of how disability can contribute to some of these factors, such as incarceration status and poverty, it is essential to address disability in educational settings and to reduce the disparities that result, both in the classroom and beyond.

Instructional Best Practices

According to Copeland et al. (2016), adults with disabilities tend to learn best with systematic, integrated instruction, and teachers need to have high expectations for their students, as well as tailoring instruction to individual learners and their goals. Copeland et al. note that adult learners should have the opportunity to set their own goals, which instructors should then draw on in shaping instruction. Copeland et al. further explain that it is also important to use material based on adults' interests, as such material will both encourage engagement as well as make it easier for learners to make connections and ultimately meaning from the text. Using pictures may help improve comprehension, and graphic organizers may help with memory (Copeland et al., 2016). Incorporating these practices in the classroom helps all learners achieve success, not just learners with disabilities or low-literacy learners.

According to Hock (2012), for adult learners with learning disabilities, the use of authentic contexts, explicit instruction, instructional technology, and intensive tutoring may help with skill development. Hock notes that most adults with learning disabilities will need intensive basic skills instruction, such as in foundational literacy skills. Hock explains that intensive basic skills instruction means one-to-one or in a small group over a long period of time; intensive instruction, combined with explicit instruction, is most successful in achieving literacy gains. Adults with learning disabilities will also benefit from explicit instruction, meaning that teachers are clear with explanations and modeling,

that students engage in guided and independent practice, and that teachers provide corrective feedback and post-test learners, according to Hock. They also benefit from learning cognitive and metacognitive strategies (Hock, 2012). These suggestions overlap quite nicely with suggestions for low-literacy learners. An ABE practitioner can implement these strategies and find success with all learners. Unfortunately, one-to-one instruction can be challenging due to the staffing and financial realities of ABE programs. Volunteers can sometimes be a solution to this, allowing for more learners to receive the one-to-one instruction that is sorely needed.

According to Collins and Ferri (2016), disability Studies in Education (DSE) can help frame student struggles, including those that are related to disability, not as a medical issue or a problem to be solved, but rather as a social construct resulting in learner who does not “fit” a particular context, such as certain classroom practices. It is this social construct that turns differences among students into “disabilities,” according to Collins and Ferri. Collins and Ferri explain that in viewing disabled students as a marginalized group, DSE seeks to counter deficit thinking by shifting the “problem” from the students to inaccessible educational environments and practices. Additionally, say Collins and Ferri, instructors should be mindful to not only remove barriers to participation, but to teach materials that include authentic disability narratives; disability should be seen as a valued identity like other identities. In order to accomplish this, Collins and Ferri notes, DSE reframes low literacy from a disability problem to an academic problem. Rather than hoping to pass students off to a “more appropriate” special education professional, framing low literacy as an academic problem puts the responsibility on teachers to use their expertise in literacy to help their struggling students, explain Collins and Ferri. According to Collins and Ferri, teachers must commit to their students as they are; there is no such thing as a “typical” student. If teachers give up on their students, those students will give up on themselves as well (Collins & Ferri,

2016). ABE instructors must therefore resist the urge to say that students with disabilities would be better served in other programs or by other teachers. It is the responsibility of all teachers to learn how to best teach literacy skills to their students.

This section addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, by explaining how disability impacts low-literacy learners in the classroom and in broader social contexts, and how educators can utilize instructional best practices to more effectively work with these and other learners. The next section will look at how instructional best practices can also encourage learner persistence, a topic much discussed but without an agreed upon definition or clear solution. However, there are some strategies that can be employed to encourage learner persistence, which are discussed below, along with how persistence fits into the conversation around low literacy.

Persistence

High attrition is common in Adult Basic Education, and current research of student persistence is lacking (Greenberg et al., 2013). However, literacy level may be a factor in academic persistence, as well as things such as personal competencies and social/community inclusion (Greenberg et al., 2013; Liebenberg et al., 2018). Having a social network increases literacy outcomes, but literacy is also needed for many methods of communication (Benavot, 2015). This section focuses on the factors that impact adult learner persistence, what motivates low-literacy learners to persist, and how success is defined in Adult Basic Education— to what end does persistence serve?

What Impacts Learner Persistence?

What is persistence? What is resilience? Motivation? These terms are often used in interconnected ways, and their definitions are often fluid. For purposes of this capstone, persistence can be understood as continued attendance and engagement in

classes, and motivation as what drives learners to attend and engage. According to Aker et al. (2023b), adult learners have many demands on their time, including work and family, which may mean that they do not view education as valuable if they do not see immediate and concrete benefits. Therefore, explain Aker et al., understanding adult learner motivation is critical to keeping adult learners engaged. Aker et al.'s research has shown that simply providing feedback can trigger a powerful brain-level response to keep adults motivated. Adult learners also have many stressors, which may affect their ability to learn; cognitive performance is negatively impacted by too much stress (Aker et al., 2023b). ABE programs may be able to increase learner persistence by assisting with the other demands they have in their lives, such as providing assistance with things like childcare, transportation, and employment (Windisch, 2016). ABE programs are not, of course, always capable of relieving learners' stressors, but ideally they would be able to provide some support. This support may be as simple as connecting learners with other agencies or resources that can help with housing, employment, childcare, and so on.

According to Liebenberg and Moore (2018), resilience requires individuals to have certain characteristics and skills, but it also depends upon the resources those individuals have access to. Like persistence, explain Liebenberg and Moore, resilience has no one single agreed upon definition, although most understandings of resilience include things like adaptive coping and positive outcomes through adversity. Many studies on resilience focus on the individual aspects, neglecting the need for individuals to have adequate resources to support their resilience, according to Liebenberg and Moore. Individual characteristics and resources, say Liebenberg and Moore, as well as what they have access to in their environment, contribute to their ability to adapt in the face of adversity, stress, or trauma. Resilience is not static; individuals' capacity for resilience will fluctuate over the course of their lives depending on various factors such as their environment and the resources they have access to (Liebenberg & Moore,

2018). Therefore, even the same individual student's resilience and persistence in the face of adversity may fluctuate during their time in an educational program. If, for example, their housing situation becomes unstable and they do not have access to adequate resources to address the situation, they may have a period of being less able to adapt, impacting their engagement in their education.

Strong relationships and a sense of social belonging, such as with family or the community, can make a positive impact on a person's resilience (Liebenberg & Moore, 2018). As an individual's literacy skills increase, they may also feel an increased sense of belonging, as they are able to connect to their communities using their skills (Copeland et al., 2016). An individual's sense of agency and accomplishment can also help, and they reflect intrinsic motivations, self-efficacy, and self-regulation, such as feeling like they know their own strengths and goals and know how to solve problems in a healthy manner (Liebenberg & Moore, 2018; Tighe et al., 2013). A resilient learner is more likely to persist, as they are less likely to give up in the face of adversity. ABE programs can encourage learner resilience and persistence by creating learning environments where learners feel like they belong, have strong relationships with staff and classmates, have agency, and know how to solve problems.

According to Greenberg et al. (2013), persistence is a major area of interest in ABE, as ABE programs see high attrition rates, which impacts programs' funding. Persistence can be impacted by a diverse set of factors including English language status, age, gender, existing reading skills, previous experience in adult education, information access, and whether receipt of benefits is dependent upon class attendance, say Greenberg et al. Students who avoid reading may be less likely to persist in classes; this group may need more support in order to increase their attendance, because they may leave the program when they feel that the material is too challenging (Greenberg et al., 2013). They may also face barriers including embarrassment of their low skill levels

or a lack of awareness of it; these factors may hinder motivation (Windisch, 2016). By being aware of these concerns, teachers can seek to remove them by creating supportive environments where students feel empowered to tackle challenging material, while at the same time the teacher adjusts to an appropriate level as needed. The teacher can also work to develop a classroom culture that is collaborative and supportive which helps to reduce feelings of embarrassment and isolation.

What Motivates Persistence?

According to Benavot (2015), literacy is essential for many methods of communication, in particular communicating over time and across distance. Without literacy skills, says Benavot, adults may be limited in their communication with individuals, communities, and institutions, and thus they may be limited in their development of social relationships. Literacy education, therefore, must expand learners' ability to engage in communication and social interaction (Benavot, 2015).

According to Benavot (2015), one view of literacy is as a continuum and a lifelong process. One's view of what it means to be "literate" can change as it is influenced by academic research, cultural values, and more, says Benavot. Whereas academics once focused primarily on individual literacy, literacy is now often seen as something embedded within a particular social context, and it is therefore not a universal set of skills but rather practices that are shaped by the spaces in which they are used (Benavot, 2015).

In order for literacy instruction to be effective, says Benavot (2015), it must be able to expand learners' social nexus, meaning their social connections with individuals, families, communities, and institutions. For instance, literacy strategies will be most successful if they align with existing community priorities, and if they can link a student's public and private lives, such as by increasing the student's engagement in areas like religious institution and communities centers as well as private spaces such as reading

the newspaper or using their literacy skills to treat family illnesses (Benavot, 2015). If literacy is embedded in multiple areas of a learner's life, they may be more likely to see the benefits, be motivated, and persist. ABE practitioners must be able to connect literacy skills with the important aspects of learners' lives, and learners must be able to immediately see how literacy facilitates daily activities such as staying in touch with family or engaging with the community.

According to Windisch (2016), in order to address learner persistence, teachers must adapt instruction to meet individual needs, and basic skills must be placed in context, so that learners can see their value in work and home settings. Programs may have success with combining basic literacy skills instruction with vocational training or family literacy, says Windisch. Teachers must also use formative assessments to inform their instruction, and using e-learning to complement what is done in the classroom may see better results as well, Windisch notes. Windisch further explains that if adult learners are not able to use their newly acquired skills, such as through advancement at work, they may lose this skill set due to lack of use; literacy interventions will thus have more long-term success if they are combined with other programs that provide employment support. Because changing technology will result in changing job requirements, the most desirable skills are those that can be adapted to a variety of roles, and these sorts of skills are closely related to literacy skills (Windisch, 2016). ABE programs often include, or are affiliated with, career training or family literacy classes. Co-enrolling students in basic skills classes, and/or including these skills in career training and family literacy classes, may increase student achievement and thus motivation and persistence.

How Is Success Defined in Adult Basic Education?

While different ABE stakeholders view success in different ways, research has shown that some generalizations can be made. ABE programming is viewed as successful when instructors utilize multiple approaches, when students and teachers

have positive interactions and engage in collaboration, and when students actively set goals and are motivated by things like their family and personal fulfillment (Tighe et al., 2013).

In contrast to the previously mentioned views of success, the government tends to view ABE success through the lens of standardized test scores and earning diplomas, according to Tighe et al. (2013). Tighe et al. explain that ABE teachers also sometimes define success as aligned with the state's definition, but they tend to have a broader view that also considers things such as life skills, goals beyond a diploma, and role within the community. Tighe et al. state that learners' definitions of success also sometimes align with government goals such as earning a diploma, but many have additional goals through which they understand success, such as being able to support their children's learning. Motivated learners are able to articulate these goals and have positive attitudes toward their ability to achieve them (Tighe et al., 2013). According to Alkema (2019), many ABE learners have career success as one of their primary goals, and many workplace issues are caused by low literacy, such as when workers do not report health or safety issues. Alkema explains that employees with stronger literacy skills are more likely to speak up in meetings, be proactive about solving problems, and use digital tools, as well as transfer these skills to their lives outside of work. For adult literacy programs to be successful, key elements include making content relevant to learners' lives, being explicit about how skills can transfer to other areas such as their family or community life, assessing students and having conversations about their progress, and celebrating success (Alkema, 2019).

According to Tighe et al. (2013), ABE classrooms that see the most success offer students different instructional options, such as being able to work as a whole class, in small groups, one-to-one with a teacher or peer, or independently. Materials also need to be diverse, and should include textbooks and workbooks as well as authentic texts,

along with teacher-created materials and digital resources, Tighe et al. explain. Tighe et al. further state that successful classrooms also have effective teachers who are supportive and accessible, and who collaborate with students on their learning; teachers with these qualities can also make a positive impact on learner motivation. Successful classrooms also have a strong community, with frequent teacher-student and student-student interactions, and with students bringing their own goals, experiences, and knowledge to share with teachers and peers, according to Tighe et al. Tighe et al. note that it may be effective to strategically pair learners, so that, for example, a less-motivated student works with a more-motivated student who has clearly defined goals. Students' contributions to classroom culture and community should be positivity enforced and acknowledged (Tighe et al., 2013).

This section addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, by looking at how persistence intersects with low literacy, what impact that has on learners, and how instructors can promote engagement with these learners. The next section will look at how social equity appears in the conversation about low literacy, including the disproportionate effects of low literacy in certain communities.

Social Equity

Although the discussion of literacy's benefits for society has often focused on economic contribution, literacy has benefits beyond this, including contribution to social welfare and transformation (Post, 2016). Low literacy intersects with various social identities and thus has implications for social equity. An analysis of Anglophone countries showed that in the United States particularly, adults' skills are unequal on a wide range of measures (Green et al., 2015). For instance, older Black and Hispanic adults are more likely to be cognitively impaired than older White adults, which may be

caused in part by disadvantages in educational achievement (Garcia et al., 2018). Older adults, men, and learners with self-reported learning disabilities are overrepresented among low-performing learners (Macarthur et al., 2012). This section looks at these and other factors impacting learning outcomes for adult students, as well as how academic outcomes intersect with outcomes outside of the classroom, including emotional wellbeing, social functioning, and economic outcomes.

Factors Impacting Learning Outcomes for Adult Learners

Struggling adult readers can be difficult to research, as the areas of reading with which they struggle as well as their demographic characteristics, such as age, language background and educational attainment, can differ significantly (Talwar et al., 2020). However, low literacy seems to particularly impact low-income families, older adults, racial and ethnic minorities, and immigrant populations (McMillan & O'Neil, 2012). Because low-literacy adults tend to be less likely to read to their children or have access to educational resources, these children often start school with lower literacy skills, perpetuating the cycle of low literacy (Tighe et al., 2013). Younger adults (16-24 years old) also tend to have higher literacy skills than older adults (55-65 years old), which may be due in part to age-related changes in cognitive functions such as working memory (Talwar et al., 2020). Adults identified as having learning disabilities are overrepresented in learners with the lowest literacy performance (Macarthur et al., 2012). Also overrepresented in this group were men and older adults (Macarthur et al., 2012).

Intersection of Academic Outcomes with Social, Emotional, and Economic Outcomes

According to Garcia et al. (2018), literacy levels have an impact on health, including the fact that higher educational attainment typically correlates to higher cognitive functioning and a lower risk of dementia. Because racial and ethnic disparities in educational opportunities have resulted in lower educational attainment for Blacks and

Hispanics in comparison to Whites, there follows a racial and ethnic disparity in cognitive functioning and health outcomes, say Garcia et al. In situations where Blacks and Hispanics are compared to Whites of similar socioeconomic status, education attainment, and literacy level, the risk of dementia is no longer higher, showing that this racial disparity is due to factors of education and literacy level (Garcia et al., 2018).

McMillan & O'Neil (2012) also found that having low health literacy is more likely to impact one's health than age, income or race, and people with low literacy skills are less likely to report health hazards at work and to have preventative care. Low-literacy adults often seek treatment too late, and they have trouble understanding medical and prescription directions, which contributes to the healthcare crisis in the United States (McMillan & O'Neil, 2012).

According to Green et al. (2015), since a lack of literacy skills has an effect on income level, it contributes to income inequality, and social inequalities contribute to decreasing social trust. Adults who already have higher levels of educational attainment tend to persist in education and training programs, which perpetuates the problem of low-literacy learners remaining in lower-skilled jobs since they are less likely to persist, say Green et al. In societies with social inequalities, learners bring societal expectations with them when they make educational choices, resulting in educational outcomes that perpetuate existing class, race, and gender disparities (Green et al., 2015).

Literacy also affects larger power dynamics (Post, 2016). In this context, literacy is not merely an economic concern; it is a human right (Post, 2016). According to McMillan and O'Neil (2012), lack of literacy skills contributes to social inequities by forcing low-literacy individuals to depend on others to interpret things like contracts and wills. McMillan and O'Neil explain that these individuals may not be aware of their legal rights and may be more susceptible to scams. This allows them to be more easily

exploited and marginalized, and this disproportionally affects people in poverty, racial and ethnic minorities, and people with disabilities (McMillan & O'Neil, 2012).

According to McMillan and O'Neil (2012), given that definitions of literacy change over time and with new technology, it seems reasonable to assume that today's standards of literacy will seem inadequate to future generations. Access to information, especially in a democratic society, is seen as a human right and a sign of a healthy society, but access alone is worthless if readers cannot truly comprehend the information they are consuming, say McMillan and O'Neil. As McMillan and O'Neil explain, an ignorant population is in turn dangerous, as it can be more easily manipulated and controlled, while an educated public will be more equipped with skills needed to question propaganda. When citizens are denied an education, the resulting ignorance is therefore a means of control, say McMillan and O'Neil. Learners must therefore develop critical literacy skills, which help students develop critical thinking skills, realize that language is not neutral, look for biases in what they read, and, ultimately, fight for social justice (McMillan & O'Neil, 2012). Literacy skills are therefore not simply of concern to individuals, but have massive implications for the equality and health of democracy and society.

This section addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, by looking at issues of social justice in relation to low literacy. Social justice concerns, such as poverty, correlate to low literacy, and thus conversations around low literacy must address the disproportionate impact low literacy has on marginalized groups. The next section will look at what educators can do to address low literacy in their classrooms by implementing interventions specifically aimed at low-literacy learners, particularly in the areas of word

recognition, morphology, fluency, language comprehension, critical literacy, and reading for pleasure.

Interventions

While low literacy in adults is a well-established problem, there are relatively few known successful interventions. Because adults may have different strengths and weaknesses depending on various factors, it is necessary for instructors to assess their component reading skills in order to successfully adjust interventions to best align to individual learners (Macarthur et al., 2012; Sabatini et al., 2010; Windisch, 2016). Factors including access to books, free choice of reading material, and time to read during instruction hours may impact a student's motivation to read and, subsequently, their reading behavior (Rodrigo et al., 2014). This section explores interventions for low-literacy adult learners, involving word recognition, morphological complexity, fluency, language comprehension, critical literacy, and reading for pleasure, and how to implement them in the Adult Basic Education classroom.

Word Recognition

Low-literacy adults often struggle with decoding skills. One way this may appear in the classroom is that they may compensate for poor decoding by substituting sight vocabulary, as low-literacy adult learners tend to rely more on context and orthography. This is in contrast to children, who tend to rely more on phonology (Macarthur et al., 2012; Sabatini et al., 2010). In order to be successful in teaching word knowledge to students, teachers must provide a variety of language experiences, teach individual words, teach strategies for learning words, and help students develop word consciousness (Robinson, 2018). Additionally, literacy instruction needs to include the sound structure of the language, spelling sounds, and orthography (Robinson, 2018). This focus on the word level will provide low-literacy students with the foundation to be able to decode more fluently.

Morphology

In order to read at the word level, and for broader comprehension, Tighe and Binder (2015) explain that morphological awareness, or how words can be broken down into smaller parts, may play a large role. Tighe and Binder identify a study that found that low-literacy students struggled with morphologically complex words. According to Tighe and Binder, there are two types of morphologically complex words, inflected and derived. Tighe and Binder explain that an inflected word stays in the same word class, for example *pull* to *pulled*, while a derived word can change the meaning of the original root word and may also change the word's class, for example *help* to *helpless*. Low-literacy adults often omit inflectional endings, or make guesses at derived words that are not semantically related, Tighe and Binder explain. Thus, adult literacy programs should incorporate morphological awareness into instruction in order to improve comprehension, according to Tighe and Binder. In particular, say Tighe and Binder, learners must be taught inflectional endings so that they are able to parse complex words, leading to stronger vocabulary knowledge and comprehension. As a result of these findings, instruction integrating morphological, phonological, and orthographic knowledge may be beneficial to low-literacy learners (Tighe & Binder, 2015).

Fluency

According to Binder et al. (2013), low-literacy learners often read less fluently, with significant pausing and inappropriate intonation. Binder et al. explain that these learners may benefit from hearing material read aloud by a more skilled reader, with the appropriate prosody, while they read along silently. Another intervention that may be successful is having learners read the same text repeatedly, which may improve prosody, rate, word recognition, and, ultimately, comprehension (Binder et al., 2013).

Language Comprehension

Adult literacy programs often emphasize students' ability to read at the word level, but in addition to fluency, language comprehension and memory also account for reader difficulties; low literacy skills can signal low oral language and vocabulary skills (Mellard & Fall, 2012; Sabatini et al., 2010). When adult learners become stuck at the word-reading stage, they may struggle to get beyond a fourth-grade reading level (Mellard & Fall, 2012). Adults are most likely to have strong oral reading fluency when they are able to read fluently at the word level, but to move beyond fluency into true comprehension, learners also need strong language comprehension skills such as vocabulary, listening, and working memory (Mellard & Fall, 2012; Mellard et al., 2012). Therefore, interventions should also include the development of these skills, including cognitive skills and memory strategies, to assist learners in making connections and using their prior knowledge to improve their reading comprehension (Mellard & Fall, 2012).

Critical Literacy

According to Park (2012), reading strategies tend to be based on research done on already proficient readers, and critical literacy education, in which readers engage deeply with the text and question the world around them, is often reserved for only more advanced readers. Learners of all abilities, however, should be taught critical literacy skills from the beginning, says Park, as even struggling readers are capable of bringing their knowledge and perspectives to what they are reading. Furthermore, learners may be more motivated if they learn to explore and challenge texts, according to Park. Park explains that reading should go beyond interpreting the meaning of the text to prompt readers to question themselves and the world around them, leading to deeper or new understandings; even low-literacy learners are capable of engaging in such work, though it may be difficult to do alone. Teachers must therefore facilitate dialogue during and after

reading, because without communication with others, true education is not possible (Park, 2012).

Reading for Pleasure

Students must read daily, and it may take years to master all the skills necessary to read well (Robinson, 2018). With adult learners of all ability levels, how frequently they read correlates to their reading achievement (Shore et al., 2013). How readers perceive their own abilities may affect their reading practices, along with negative school experiences that may leave them to avoid reading regardless of their skills (Shore et al., 2013). ABE programs can promote increased reading among learners by using authentic materials in class to promote engagement and interest in reading (Shore et al., 2013). According to Rodrigo et al. (2014), adult learners may be more successful when they are in control of their learning, and when they read for pleasure; the more practice they get, the better their skills and vocabulary. The amount of time a learner spends reading is also related to their level of motivation, says Rodrigo et al.; even one positive experience with a single book is enough for learners to feel a positive attitude about reading. Therefore, say Rodrigo et al., ABE programs should encourage their learners to read and make sure they have easy access to reading materials that correlate with their lives and interests. Learners need to be able to choose their own reading material and have an anxiety-free environment for reading (Rodrigo et al., 2014). One study found that adults who started reading on their phones reported liking reading more; this demonstrates the intersection of digital literacy with other forms of literacy, and how exposure to new ways of reading text can provide learners with new avenues to be successful (Post, 2016).

This section addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, by looking at suggested

teaching strategies offered by researchers in the area of low-literacy adult learners. Key components of instruction are identified, and some suggestions for classroom interventions are offered.

The research in this chapter illustrates the deep impacts of low literacy, and how those impacts are disproportionately felt by certain communities, such as racial and ethnic minorities, people with disabilities, people who are incarcerated, and people living in poverty. This chapter illustrates the depth of the problem, while offering some concrete steps educators can take in their classrooms. Researchers have proposed interventions, but many instructors may not be using them. Furthermore, as the research is lacking, more educators are needed to try these strategies so that the field can add to its knowledge base about what works for which learners. This chapter and the next provide educators with a starting point for offering more targeted interventions for low-literacy learners in their classrooms, with the hope that the field can continue to expand its understanding of how to address the needs of low-literacy adults.

Chapter Summary and Preview of Chapter Three

Chapter Two addresses the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, by providing an overview of low literacy, particularly in the context of ABE programs in the United States. The chapter looks at how low literacy is defined, common characteristics of low-literacy learners, and the current state of the research on low literacy. Since low-literacy learners are often also learners with disabilities, Chapter Two also looks at educational experiences of learners with disabilities, how disability intersects with other identities, and which instructional practices may be most beneficial to these learners. Learner persistence and motivation are examined, including the factors that impact adult learner persistence, what motivates low-literacy learners to persist, and how this persistence relates to how success is

defined in ABE. Persistence also intersects with students' identities and issues of social justice; the chapter looks at the social factors that impact students' educational attainment and emotional wellbeing, social functioning, and economic outcomes. Finally, Chapter Two explores several interventions for low-literacy adult learners.

Chapter Three describes the author's project, a unit of curriculum specifically aimed at low-literacy native English-speaking adult learners, and how this project may be of use to ABE professionals and students, as well as suggestions for future research in this area. This project draws on the research of Chapter Two, in particular the interventions proposed by researchers to best address the needs of low-literacy learners.

CHAPTER THREE

Project Description

Chapter Two works to answer the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?* The chapter identifies various impacts of low literacy, including how low literacy manifests in adult learners and the impact to their lives and the larger society. Chapter Two also outlines strategies identified by researchers as being particularly effective with low-literacy learners.

Chapter Three outlines this capstone's project, which is a professional development presentation containing some of the key findings of my research, with particular emphasis on the best interventions for these learners, as identified in Chapter Two. Chapter Three includes information about the project's intended audience, model, data and research, format and content, timeline, implementation, and evaluation, as well as a preview of Chapter Four.

Project Audience

I have written a professional development presentation for use at Adult Basic Education conferences, particularly for use with instructors who teach native English-speaking learners with literacy skills around a fourth-grade level and below. This presentation is based on the best practices for reading interventions for adult learners with low-literacy skills. Because most of the research conducted on teaching literacy skills to adults has been based on already proficient readers, many teachers may be relying on curriculum that does not truly align to the needs of their low-literacy students (Park, 2012). This presentation aims to provide a space for educators to get new ideas for how to best reach these learners, as well as share their existing activities and best practices, aligning with the adult learning principle of engagement (Knowles, 1992).

Project Model

My presentation is designed around the adult learning principle identified by Knowles (1992) that adults learn best when they are engaged in the presentation as active participants. While I will present my key findings, there is room for discussion, which draws on my participants' background knowledge and their own needs and concerns for their teaching and students, another adult learning strategy (Knowles, 1992).

I designed the project with a certain degree of flexibility in terms of length. Depending on the conference, session times vary. This presentation has certain areas, such as the definitions and discussions around them, that could be shortened to fit into, say, a 45-minute session. Including all aspects of the presentation means it could fit nicely into a 90-minute or even two-hour session.

Data and Research

The presentation draws on the research from Chapter Two, including key findings about low literacy and its impacts, as well as interventions for word recognition, morphological complexity, fluency, language comprehension, and critical literacy. The beginning of the presentation is heavier on presenting information, though it does allow for audience engagement, such as by inviting discussion around how terms like "literacy" and "low literacy" are defined, an important part of any presentation for adults (Knowles, 1992).

The final portion of the presentation, though still presenting findings from the research, is more open to input from the participants, drawing on their backgrounds and experiences, an important engagement strategy (Knowles, 1992). This will also allow the presentation to continue to grow and be refined, as ideas from participants will be incorporated into future versions of the presentation.

Format and Content

The presentation will be presented as a slidedeck, which will be shared with participants virtually, and it will be printed as a hardcopy handout as well, which the participants will receive at the beginning of the session for purposes of note taking. If presenting in a context where scratch paper is available, it may not be necessary to print exit tickets, but I have also included a simple exit ticket template, in the case that there is no scratch paper for participants to use.

The content of the presentation includes background information about the issue, starting by defining literacy and low literacy and seeking input from the audience. Impacts to low literacy will also be discussed. The presentation will then shift to discussing how low literacy manifests in the classroom, including common characteristics of low-literacy learners, as well as typical learning outcomes for these students. A significant portion of the presentation will be devoted to interventions, including word recognition, morphology, fluency, language comprehension, critical literacy, and reading for pleasure. Finally, a list of references will be provided that the audience can use as suggestions for further reading if they would like to go deeper into the topic.

Timeline, Implementation, and Evaluation

The presentation was developed during the fall of 2023, and it will be implemented in 2024, ideally in winter at the annual Language & Literacy Institute, put on by ATLAS (ABE Teaching & Learning Advancement System), housed in the Hamline University School of Education and Leadership. As this conference is focused on literacy, it seems like the best match for this topic. However, if this is not possible, there are several other major conferences in Minnesota ABE, such as the regional conferences and the statewide Summer Institute.

The presentation will be evaluated by participants through an exit ticket. This exit ticket will allow me to make adjustments to the presentation based on which questions participants continue to have after the presentation. I will also adjust the content to include activity ideas generated during the group discussions. This will be a benefit to the field in allowing educators to be actively involved in creating a pool of resources to work with this demographic of learners—a demographic often making do with resources not created with them in mind.

Chapter Summary and Preview of Chapter Four

Chapter Three describes my project, a professional development presentation aimed at educators working with low-literacy, native English-speaking adult learners, and how this project may be of use to ABE professionals and their students.

Chapter Four contains my reflections on the creation of my project, along with an assessment of the limitations of the project, and, finally, suggestions for additional research or projects in the future.

CHAPTER FOUR

Conclusion

My capstone sought to answer the research question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?* In creating this project, I departed from my original intention idea of designing a unit of curriculum, instead developing a professional development session that could be presented at a conference such as the annual Language & Literacy Institute put on by ATLAS each January or Summer Institute put on by the Literacy Action Network (LAN) each August.

Chapter Four discusses my principal takeaways from the process of creating my project, how my project helped me to revisit my literature review and understand it in different ways, the implications of my project, the limitations of my project, how my project will eventually be implemented, and my concluding thoughts.

Principal Takeaways

One of my takeaways from this project is the importance of collaboration and the pooling of knowledge. In my original project proposal, I planned to create a unit of curriculum, drawing on existing resources but consolidating and expanding upon them through the lens of my research into best practices for working with low-literacy learners. This project would have been greatly indebted to materials and lesson plans that came before.

In the project I ended up doing, a professional development presentation, it occurred to me early on that I should incorporate participants' ideas into the session, not only to make it more interactive, but to draw on the years of experience and vast knowledge that the participants have. When I myself attend conferences or professional development sessions, it often strikes me that what I learn is often not wholly new to me, but rather builds off of something I already know in new or unexpected ways. I also find

that the best professional development gives concrete examples of how to implement the ideas in the classroom, to which I have given space in my project.

Throughout Chapter Two, I answered my question, *How does low literacy impact adult learners in the classroom and beyond, and which teaching strategies and materials can increase engagement and access with these learners?*, and my project shared these answers with my colleagues via a professional development presentation. Based on my experience with this research and resulting project, I would recommend that others continue the research into what unique needs our learners with low-literacy skills have and how we can implement those strategies in the classroom.

In particular, I see a need for more curriculum and materials aimed at the demographic of low-literacy, native English-speaking students, so that they can have access to materials about topics relevant to their lives. Currently, it can be difficult to find materials not aimed at children or English language learners. These materials are not necessarily about topics native English-speaking adults find relevant or interesting, or may be an insult to their knowledge and experience.

Personally, I plan to draw on the strategies identified in order to better align my teaching materials and activities with the needs of my students. When choosing a reading for class, I will think about incorporating word recognition, morphological complexity, fluency, language comprehension, and critical literacy within the lesson, as well as providing time for reading for pleasure. While often doing some of these things, I do not do them consistently enough nor have I prioritized some essential aspects of literacy instruction such as writing and pleasure reading.

In the next section, I discuss how my project connected to my literature review, some of which I expected and some of which was more unexpected.

Connections to Literature Review

My project drew most heavily on the research included in the Interventions section of Chapter Two, which I expected. This section provided information about various strategies to implement in the classroom to support low-literacy students, and, thus, all students. This was the primary information that I wanted to share with my colleagues, and thus I expected to draw much of my presentation from this section.

However, I also drew on the research of Perry et al. (2017) and Windisch (2016), which emphasizes the problems of much of the current literature. Specifically, that current literature often does not include learner voices (Perry et al., 2017). This is a problem that my own capstone perpetuates, and that we as a field often perpetuate in our conferences and professional development. Although I did not give a solution to this problem in my project, I wanted to remind my colleagues, and myself, of the fact that, as research shows that people tend to view their own literacy levels more favorably than their test scores suggest, perhaps researchers should not assume that they know better than the learners themselves, if people feel that their skills meet their needs (Perry et al., 2017; Windisch, 2016). We need to listen to what the learners themselves have to say, and respect their points of view.

In the next section, I discuss implications for my project, both at the individual teacher and program level as well at the larger policy level.

Project Implications

One implication of this project, explained in the previous section, is the need for more serious consideration and inclusion of student voices in this work. Furthermore, in their discussion of that issue, Perry et al. (2017) also expanded upon the issue of prioritizing reading instruction over writing instruction, with the implication being that adult learners, especially those with low-literacy skills, should be passive consumers of texts rather than those who produce them. This creates an equity issue, with certain

learners being deemed as “not ready” or even “not capable” of producing their own writing. We know that writing is essential for many things, including academic and employment opportunities, and, especially in today’s world of social media, can be critical for communication and staying engaged with society (Copeland et al., 2016).

Another implication of this project is that many ABE programs and teachers may not be doing enough to accommodate low-literacy learners, often at no fault of their own. Because the ABE funding formula rewards programs for students who are able to make quick progress in the way the government has determined, students who require more time and more one-on-one attention are often difficult for programs to serve given the realities of their budgets. Thus, a policy implication for this project is that the ABE funding formula would ideally be changed to provide programs with more support for working with learners who require more time and attention.

In the next section, I discuss the limitations of my project, including changes to my role within the field and how this project will be shared with the field.

Project Limitations

One limitation of my project is that I left my job working with low-literacy, native English-speaking students, and therefore was unable to try some of these strategies in my own classroom. I am currently still working with English learners, and certainly many of these strategies are appropriate for low-literacy English language learners as well, but the focus of my project was native speakers, since they are the demographic often underserved. As I have left my position working with these learners, I no longer have that immediate knowledge of this demographic of students.

Another limitation of my project is that I have yet to present it. I know that after presenting it, I will most likely make revisions to it, perhaps extensive revisions. It would have been nice to have presented it before completing my capstone and been able to incorporate that feedback into it, but the timeline simply did not work out.

In the next section, I discuss how my project will be implemented, including the proposed context for where and when it will be shared with my colleagues in the field.

Implementation of Results

As of this writing, I plan to implement my project either at the annual Language & Literacy Institute put on by ATLAS each January or at Summer Institute put on by LAN each August, ideally in this coming year. As noted in the Project Limitations section, I wish I had been able to present my project during the course of my time at Hamline and been able to incorporate new ideas and feedback I gained as part of that process, but the schedules did not align. I look forward to sharing my research with my colleagues, as I know they will have many ideas about things they are already doing in their classrooms that align with these strategies for low-literacy learners. I am confident that allowing staff a space to share their expertise will allow a great exchange of knowledge and bring more awareness to what we are already doing and what more we could be doing for our low-literacy, native English-speaking students.

In the next section, I provide my final thoughts about my project, including my key learnings from this process and my hopes for the future.

Chapter Summary and Conclusion

In this chapter, I discussed my principal takeaways from the process of creating my project, how my project helped me to revisit my literature review and understand it in different ways, the implications of my project, the limitations of my project, and how my project will eventually be implemented. I learned that there is still much work to be done to create appropriate materials for low-literacy, native English-speaking students, but that many of the strategies that most help these learners may be things teachers are already doing. We need to be aware of these practices, and we need to share our knowledge and experiences with one another.

I am continually impressed by the wonderful work my colleagues do, and I gain so much knowledge and many new ideas every time I attend a training session or conference with them. I hope that my project can spur discussion that allows us in the ABE field to share resources and ideas to help address the needs of some of our most underserved learners, and to spur us to think about what more we need to do at the individual level, the program level, and the policy level.

Works Cited

Aker, J. C., Berry, J., & Sawyer, M. (2023a). The adult brain and literacy learning. In *Making Sense of the Shapes: What Do We Know About Literacy Learning in Adulthood?* (pp. 2–6). Center for Global Development. http://www.jstor.org/stable/resrep49181.4

Aker, J. C., Berry, J., & Sawyer, M. (2023b). What else affects adult literacy learning?: Time, stressors, motivation and returns. In *Making Sense of the Shapes: What Do We Know About Literacy Learning in Adulthood?* (pp. 6–7). Center for Global Development. http://www.jstor.org/stable/resrep49181.5

Alkema, A. (2019). The workplace as a context for adult literacy and numeracy learning. *Journal of Adolescent & Adult Literacy*, *63*(1), 102–105. https://www.jstor.org/stable/48555659

Banks, J. & Hughes, M. S. (2013). Double consciousness: Postsecondary experiences of African American males with disabilities. *The Journal of Negro Education*, *82*(4), 368–381. https://doi.org/10.7709/jnegroeducation.82.4.0368

Benavot, A. (2015). Literacy in the 21st century: Towards a dynamic nexus of social relations. *International Review of Education / Internationale Zeitschrift Für Erziehungswissenschaft / Revue Internationale de l'Education*, *61*(3), 273–294. http://www.jstor.org/stable/24637265

Binder, K. S., Tighe, E., Jiang, Y., Kaftanski, K., Qi, C., & Ardoin, S. P. (2013). Reading expressively and understanding thoroughly: An examination of prosody in adults with low literacy skills. *Reading and Writing, 26*(5), 665-680. https://doi.org/10.1007/s11145-012-9382-7

Collins, K., & Ferri, B. (2016). Literacy education and disability studies: Reenvisioning

struggling students. *Journal of Adolescent & Adult Literacy*, *60*(1), 7–12. http://www.jstor.org/stable/44011343

Copeland, S. R., McCord, J. A., & Kruger, A. (2016). A review of literacy interventions for adults with extensive needs for supports. *Journal of Adolescent & Adult Literacy*, *60*(2), 173–184. http://www.jstor.org/stable/44011367

Garcia, M. A., Saenz, J., Downer, B., & Wong, R. (2018). The role of education in the association between race/ethnicity/nativity, cognitive impairment, and dementia among older adults in the United States. *Demographic Research*, *38*, 155–168. http://www.jstor.org/stable/26457040

Green, A., Green, F., & Pensiero, N. (2015). Cross-country variation in adult skills inequality: Why are skill levels and opportunities so unequal in Anglophone countries? *Comparative Education Review*, *59*(4), 595–618. https://doi.org/10.1086/683101

Greenberg, D., Wise, J. C., Frijters, J. C., Morris, R., Fredrick, L. D., Rodrigo, V., & Hall, R. (2013). Persisters and nonpersisters: Identifying the characteristics of who stays and who leaves from adult literacy interventions. *Reading and Writing, 26*(4), 495-514. https://doi.org/10.1007/s11145-012-9401-8

Groce, N., Kett, M., Lang, R., & Trani, J.-F. (2011). Disability and poverty: The need for a more nuanced understanding of implications for development policy and practice. *Third World Quarterly*, *32*(8), 1493–1513. http://www.jstor.org/stable/41300297

Hock, M. F. (2012). Effective literacy instruction for adults with specific learning disabilities: Implications for adult educators. *Journal of Learning Disabilities (Austin), 45*(1), 64-78. https://www.proquest.com/scholarly-journals/effective-literacy-instruction-adults-with/docview/993918866/se-2

Knowles, M. S. (1992). Applying principles of adult learning in conference

presentations. *Adult Learning*, 4(1), 11-14. https://doi.org/10.1177/104515959200400105

Koo, A. (2015). Correctional education can make a greater impact on recidivism by supporting adult inmates with learning disabilities. *The Journal of Criminal Law and Criminology (1973-)*, *105*(1), 233–269. http://www.jstor.org/stable/26402444

Kortteinen, H., Eklund, K., Anna‐Kaija Eloranta, & Aro, T. (2021). Cognitive and non‐cognitive factors in educational and occupational outcomes—Specific to reading disability? *Dyslexia, 27*(2), 204-223. https://doi.org/10.1002/dys.1673

Liebenberg, L., & Moore, J. C. (2018). A social ecological measure of resilience for adults: The RRC-ARM. *Social Indicators Research*, *136*(1), 1–19. https://www.jstor.org/stable/48715814

Macarthur, C. A., Konold, T. R., Glutting, J. J., & Alamprese, J. A. (2012). Subgroups of Adult Basic Education learners with different profiles of reading skills. *Reading and Writing, 25*(2), 587-609. https://doi.org/10.1007/s11145-010-9287-2

McMillan, L., & O'Neil, M. (2012). Literacy and social equity. *Counterpoints*, *406*, 30–44. http://www.jstor.org/stable/42981616

Mellard, D. F., Anthony, J. L., & Woods, K. L. (2012). Understanding oral reading fluency among adults with low literacy: Dominance analysis of contributing component skills. *Reading and Writing, 25*(6), 1345-1364. https://doi.org/10.1007/s11145-011-9322-y

Mellard, D. F., & Fall, E. (2012). Component model of reading comprehension for adult education participants. *Learning Disability Quarterly*, *35*(1), 10–23. http://www.jstor.org/stable/41702348

Park, J. Y. (2012). A different kind of reading instruction: Using visualizing to bridge reading comprehension and critical literacy. *Journal of Adolescent & Adult Literacy*, *55*(7), 629–640. http://www.jstor.org/stable/41827749

Perry, K. H., Shaw, D. M., Ivanyuk, L., & Tham, Y. S. S. (2017). Adult functional literacy: Prominent themes, glaring omissions, and future directions. *Journal of Language and Literacy Education, 13*(2), 1. https://www.proquest.com/scholarly-journals/adult-functional-literacy-prominent-themes/docview/2139098286/se-2

Post, D. (2016). Adult literacy benefits? New opportunities for research into sustainable development. *International Review of Education / Internationale Zeitschrift Für Erziehungswissenschaft / Revue Internationale de l'Education*, *62*(6), 751–770. http://www.jstor.org/stable/44980064

Robinson, S. A. (2018). A study designed to increase the literacy skills of incarcerated adults. *Journal of Correctional Education, 69*(1), 60-72. https://www.proquest.com/scholarly-journals/study-designed-increase-literacy-skills/docview/2226387806/se-2

Rodrigo, V., Greenberg, D., & Segal, D. (2014). Changes in reading habits by low literate adults through extensive reading. *Reading in a Foreign Language, 26*(1), 73-91. https://www.proquest.com/scholarly-journals/changes-reading-habits-low-literate-adults/docview/1705666485/se-2

Sabatini, J. P., Sawaki, Y., Shore, J. R., & Scarborough, H. S. (2010). Relationships among reading skills of adults with low literacy. *Journal of Learning Disabilities (Austin), 43*(2), 122-138. https://www.proquest.com/scholarly-journals/relationships-among-reading-skills-adults-with/docview/919961931/se-2

Shore, J. R., Sabatini, J. P., Lentini, J., & Holtzman, S. (2013). Changes in reading practices and perceptions in low-literacy-level adult learners. *Reading Psychology, 34*(6), 550-568.

https://www.proquest.com/scholarly-journals/changes-reading-practices-perceptions-low/docview/1496986552/se-2

Talwar, A., Greenberg, D., & Li, H. (2020). Identifying profiles of struggling adult readers: Relative strengths and weaknesses in lower-level and higher-level competencies. *Reading and Writing, 33*(9), 2155-2171. https://doi.org/10.1007/s11145-020-10038-0

Tighe, E. L., Barnes, A. E., Connor, C. M., & Steadman, S. C. (2013). Defining success in Adult Basic Education settings: Multiple stakeholders, multiple perspectives. *Reading Research Quarterly*, *48*(4), 415–435. http://www.jstor.org/stable/43497164

Tighe, E. L., & Binder, K. S. (2015). An investigation of morphological awareness and processing in adults with low literacy. *Applied Psycholinguistics, 36*(2), 245-273. https://www.proquest.com/scholarly-journals/investigation-morphological-awareness-processing/docview/1700662906/se-2

Windisch, H. C. (2016). How to motivate adults with low literacy and numeracy skills to engage and persist in learning: A literature review of policy interventions. *International Review of Education / Internationale Zeitschrift Für Erziehungswissenschaft / Revue Internationale de l'Education*, *62*(3), 279–297. http://www.jstor.org/stable/24756384