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Research Article

Mediating Work and Culture through Dewey's Integrative Vision of Vocational Education

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Abstract

John Dewey's educational philosophy provides a compelling resource for empowering adult vocational education through a cultural vision, ultimately rooted in a view of social democracy as the creative task of lifelong learning before us. This is supported by Dewey's interpretation of knowledge construction in its varied cognitive, ethical, and aesthetic forms, which provides the basis for transforming the perceived opposition between academic studies and vocational education in contemporary schooling, which I appropriate to the adult basic education field. To flesh this out, the essay homes in on the certified nursing assistant field through descriptive narratives, a nursing assistant training manual, and a corresponding lifelong curriculum framework. The challenges of implementing any aspirational vision are noted. Yet given its substantial grounding in experiential and transformative learning, progressive education, humanistic psychology, and a view of human resource management based on these influences, Dewey's cultural philosophy of vocational education opens up pathways that can move in this direction, and is, therefore, worthy of much deliberate consideration.

Keywords: pragmatism, Dewey, vocational education, democracy, certified nursing assistant

I have studied the pragmatic philosophy of John Dewey for almost thirty years. His imaginative insights have played a substantial role in shaping both my "middle ground" practice and theoretical insights of adult literacy education (Demetrion, 2002). Through his comprehensive view of culture rooted in the exigencies of "lived experience," which, for Dewey, provides "the proper starting point of any philosophical investigation" (Pappas, 2014, p. 202), he offers an integrated model of knowledge acquisition in bringing theory and practice into close proximity. By culture, Dewey refers to the wide range of practices, customs, and ideas that give shape to the prevailing ethos of an era, which includes scope for pluralistic perspectives as well as those sharply critical of the established order (Stuhr, 2016). He also uses the term in a narrower sense to contrast traditional views of vocational education that emphasize the merely practical realm to the academic subjects, commonly identified with culture, a dualism which he seeks to fundamentally reconstruct. I draw on both meanings throughout this essay.

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According to Dewey (1922/2008), many experiences throughout our lives are rooted in taken for granted, habitual modes of behavior or attitude formation, which typically do not garner much focused attention. It is only when a disruption or question, of some compelling sort, occurs that a need for resolution emerges, provoking a quest for the transformation of a problematic situation to one that leads to its progressive closure. It is the stimulation triggered by the quest to transform a problematic situation of whatever scope, whether through logical inquiry (Levi, 2010), aesthetic attunement (Alexander, 1998; Eldridge, 2010), ethical probing (Pappas, 2008), or community engagement, ultimately rooted in a vision of cultural democracy (Bernstein, 2010; Pappas, 2008; Stuhr, 2003, 2016), that underlies the role of experience in Dewey's philosophy. It is such a search that gives force to Dewey's theory of knowledge construction that envisages problem solving in dynamically transactional terms between person(s) and the socio-cultural environment that envelops the quest for the type of knowledge that brings progressive resolution to the particular difficulty at hand. Dewey's cultural interpretation of vocational education draws on all these dimensions of philosophical reflection.

The polarity between vocational and cultural-based education that Dewey critiques in *Democracy and Education*, has been, to some extent, mitigated in contemporary discourse on the relationship between adult basic education studies, as a broad field, and the more particularized focus of workforce education. Topics such as "emotional intelligence," communication skills, problem solving, attunement to organizational culture, "lifelong learning" through metacognitive processing, and "informational technology" help to create a bridge between an industrial-based functional approach to occupational "skill" development and a more extensive, post-industrial orientation, epitomized by the metaphor of the learning organization (Cavaleri & Fearon, 1996; Senge, 1990). This shift to a post-industrial worldview offers much to work with in coordination with humanistic and socio-cultural approaches to human resources management (Hatcher Group, 2019; Knowles et al., 1998). This reorientation gives shape to a good deal of practice in current models of workforce education.

This expansiveness of focus is noted, for which Dewey's philosophy of education has much to offer. In short, Dewey's philosophical interpretation of vocational education opens up a wide-ranging interpenetration of the relationship between vocational identity, in its multiplicity of dimensions, and themes and topics related to civic and global awareness, economic and financial literacy, understanding and mediating social systems of various types, and acute attentiveness to critical and creative self-awareness (Stein, 2000). Except in rare cases, the contextual range of such connections is mostly attenuated in current adult vocational education discourse. Assuming a dynamic relationship of some significant sort between the political, pedagogical, and the personal, the underlying limitation is that the various twenty-first century visions of adult education remain largely rooted in neo-liberal political, social, and economic discourse (Abendroth, 2014; Fleming, 2010; Smith, 2014) in preparing students for the post-industrial socio-economic order rather than one grounded in any robust political culture rooted in democracy. By contrast, Dewey's (1939/1998) vision of creative democracy, which "is forever that of creation of a freer, more humane experience in which all share and all contribute" (p. 343), provides a broader, and, arguably, more humane, context to situate current discourse on adult vocational education, one congruent with the field's own progressive dynamics.

A critical discussion in Dewey scholarship is the extent to which his interpretation of democracy is sufficiently robust to counter some of the more pernicious effects of a post-industrial ideology on this nation's body politic to provide sufficient scope for the expansiveness of democracy through education that he envisions. Dewey acknowledges this dilemma, although he does not sufficiently grapple with the significance its problematic underscores for any sustainable democratic vision to underlie educational theory and practice in the United States, especially one focused on workforce education (Kliebard,1999, 2006). Against this critique, Dewey posits ideas as hypothetical constructs that serve a practical function in guiding the direction of a problem-solving inquiry of any sort through which to enact positive change, however ultimately gradually attained. It is in this respect that Dewey views democracy as an ongoing task—a "living option" (James, 1896/2012, Location Number 200) at the core of this nation's political imaginary—with potent practical intent, one that resonates with the highest aspirations of the U.S political culture (Demetrion, 2005; Dewey, 1939/1989). In laying out his nearer-term task on the relationship between vocational education and culture, Dewey (1916/1944) contends that:

> an education which acknowledges the full intellectual and social meaning of a vocation would include instruction in the historic background of present conditions; training in science to give intelligence and initiative in dealing with material and agencies of production; and study of economics, civics, and politics, to bring the ...worker into touch with the problems of the day and the various methods proposed for its improvement (p. 318).

An implementation of such a vision linking adult education with vocational education along these lines would require a substantive change in current practice. It is one that needs to be rooted in the politics as well as pedagogy of adult education, one, ideally, grounded in the more progressive precepts of the field (Brookfield & Holst, 2011), one, as argued here, that has its origins in the U.S. social democratic vision of the 1930s and 1940s (Elias & Merriam, 2005). On Dewey's view, it is precisely the freer, fuller cultural environment which the democratic vision of education opens up, in which, for him, "education, democratic life, and human flourishing are one" (Hansen, 2006, p. viii). It is one rooted in the most formative telos of this nation's political ideals, which provides the ultimate cultural matrix for vocational education to thrive. It is through the dynamic potency of this political vision that I situate the Deweyan impetus for shaping the field of adult vocational education.

The Centrality of "Lived Experience" in Dewey's Pragmatic Philosophy

Dewey's pragmatic worldview is premised on the assumption that regardless of theoretical complexity, genuine philosophical problems are rooted in the exigencies of "everyday lived experienced," which, according to Pappas (2008) is the "most important philosophical inheritance we have received from" (p. 20) him. This "empirical naturalism" (Dewey, 1929/1958, p. 1a) is grounded in a "radical contextualism, by which...each situation constitutes a unique context" (Pappas, 2008, p. 41) through which intellectual construction, ethical behavior, aesthetic sensibility, and political culture emerge. Thus, "[w]e begin where we are, in a situation as participants, rather than as inhabitants of a culture, cultural scheme, or our society's norms" (Pappas, 2008, p. 42), except as these are selectively appropriated.

It is within this experiential sensibility that Dewey (1916/1944) transforms the traditional concept of mind (a singular noun) to a continuously operating verb—that of actively thinking—originating from the very perception of a problem to its proximate resolution in the attainment of an

aim that "consists in the progressive completion of a process" (p. 102). This includes working through potential roadblocks, discerning the viability of alternative pathways, and, particularly in the cognitive mode, with scientific inquiry as the operative model, setting up a framework of effectively testing and evaluating the most promising ways forward in resolving specific problems. In its application to a broad array of situations, such active intelligence is best viewed as an overarching sensibility to the intricacies of a problem, in which direct, cognitive capacity is one of its manifestations. Through such activity, individuals infer, evaluate, imagine, and hypothesize, as needed, in working through the various stages of a given problem, however variedly called for by the different types of problems under review, whether of a formally logical, ethical, or aesthetic nature.

It is through such a naturalistic philosophy that Dewey (1958, 1988) seeks to resolve some of the deepest-rooted dualisms grounded in the epistemological split between thought and action—which for him are simply different phases of an integrated problem-solving process—that has dominated Western philosophy since the time of Plato. It is in his rejection of such commonly accepted polarities of "labor and leisure, theory and practice, body and mind, [and] mental states and the world," that Dewey (1916/1944) makes the case in his pivotal chapter, "Vocational Aspects of Education," in *Democracy and Education*, that "the antithesis of vocational and cultural education" (p. 306), as commonly perceived, is similarly, and thereby falsely, based.

Transcending the Dualism between Work and Culture

On Dewey's (1916/1944) interpretation, "vocation," rightly understood, makes the "direction of life's activities... [more] perceptibly significant to a person" (p. 307) than other areas of engagement. This is so because the multiple challenges embedded in the vocational context evoke the rigor of intelligence required in "the projection of new possibilities [that] lead to search for new means of execution" (p. 224) in helping to create more flourishing work environments. In short, a vocational calling, identified as "one's true business in life" (p. 308), which may or may not be expressed in a sharply demarcated occupational role, is propelled by the active exertion of "intellectual and moral growth" (p. 310). This, in turn, brings about such conditions that have the potential of drawing out of a person a highly developed set of competencies and aptitudes in meeting the challenges and opportunities opened by the intensity and subtlety of its varied pursuits.

In this, Dewey (1916/1944) called for a view of vocational education, in which intelligence, in its varied theoretical and practical dimensions, is built into the range of aptitudes required for the fulfillment of one's calling—considerably more than simply technical mastery of the skills needed to perform specific occupational tasks. Dewey was far from disparaging "technical proficiency" (p. 317), which he viewed as essential to ensure maximum efficacy in the workplace and for the sense of intrinsic satisfaction attained by accomplishing superior work. His key point is that such mastery is only one facet in stimulating what I will call the vocational imaginary—essentially, an ideal construct attainable within the plausibility structure of a given culture—which draws out a wide range of life's capacities in the creation, ultimately, of the good society, in whatever spheres an individual has influence, through one's work.

In drawing on the imaginative insights of 19th century philosopher, Ralph Waldo Emerson

(1981), Dewey, like his predecessor, insisted that individual do not have one, but several callings related to their broader humanity. In exemplifying this, Emerson referred to "the planter… sent out to the field to gather food…. He sees his bushel and his cart and sinks into the [role of the] farmer." Emerson contrasts this to "the Man on the farm" (p. 52) who situates the immediate work at hand through the more comprehensive context of his life and culture.

Similarly, for Dewey (1916/1944), any quest for a comprehensive view of vocation is marred in a too limited focus on the prescribed identity of an occupational role that defines it in a manner too "narrowly practical, if not merely pecuniary." The contrast is that of an authentic sense of vocation that flourishes by the person embracing something of the more extensive contours of one's identity through a calling, which makes any immediate work "activities" at hand "perceptibly significant…. because of the [many foreseen and unforeseen] consequences they accomplish, and [their] useful[ness] to his associates" (p. 307). One immersed in a calling draws on the various dimensions of one's life in realizing some of the more far-reaching aspirations embedded in any specific task or role. While there are specialized aspects in meeting the challenges of any vocation, the person's competence, "in the humane sense" (p. 308), is determined by its association with a broad range of proficiencies and sensibilities individuals bring from other facets of their lives, through all of what they have learned and valued throughout the course of living.

Practical Application

Let us consider the role of certified nursing assistants (CNAs) in drawing on some of their deepest values while caring for the elderly and infirm. While preparing this essay, I reviewed, *With Our Loving Hands*, a collection of writings of adult students in the 1199 Training and Upgrading Fund in Hartford, CT, where I teach ABE classes. In that text, I came across a narrative of an immigrant from Jamaica, let us call him Robert, who was a cabinet maker back home, but took what some may consider a more "menial" position after migrating to the United States.

In reflecting upon his position as a CNA, Robert tells us of the "inspiration" he experiences as a "caregiver." In getting at its essence, he stresses "find[ing] what they want and tak[ing] the time to understand our residents' needs as they do struggle to find confidence in us." In pushing further on the emotional risks in providing needed care, the real challenge for someone who views this work as a most intimate calling is "to understand their [resident's] likes and dislikes, their fears, their embarrassments—[in fact] all their needs [which] are for us to try and understand." In realizing that many of the residents had little choice in coming to the nursing home, Robert recognizes "their privacy is exposed" and is committed to protecting their vulnerability. Through such attentiveness, Robert has come to view "nursing assistance… a spiritual calling, even if it is only to listen to their last words and to comfort them so that they find peace in their lives" (Sheard, 2014, p. 57). In this sensibility, he offers poignant insight on Nodding's (2010) description into "what care theorists take to be ontologically basic—the dyadic relation" (p. 265) between the care giver and the cared for.

Let us assume Robert possesses solid mastery of the technical skills required to perform his tasks at top proficiency; in seeking to sensitively tap into his residents' most delicate emotional needs, he draws on core aspects of his own identity as a means of serving his residents. The result is that

he has achieved a level of fulfillment through which he has attained a sense of purpose and meaning in his work, which Dewey (1916/1944) identifies as an aesthetic perceptiveness , one also with a strong sense of spiritual devotion, in which for him, the two are inseparably merged.

Contrast this to the intensive care unit (ICU) technician who encountered a 67-year-old woman while making her rounds. When the patient put out her hand, desiring human touch, the technician pulled back, not willing to risk the vulnerable moment, or simply not viewing such contact as part of her job. It seemed that the technician, in that moment, enacted behavior that did not extend beyond her specialized role. In remaining focused on "technical method at the expense of meaning" (Dewey, 1916/1944, p. 308), she may have missed an opportunity to meet the humanity of the patient during the last two weeks of her life. Let us assume here, too, the ICU technician was thoroughly competent in the specialized aspects of her work. Yet, in failing to extend herself beyond the immediacy of her defined role, perhaps there was something of a missing imaginative capacity in the self-understanding of her vocational identity that a more expansive appreciation might have brought out.

Whatever idealizations embed my embrace of Robert's narrative and however much I may be over reading the technician's response to my mother's emotional need, my juxtaposition of them here highlights what Dewey means by vocation and how it contrasts with the more constricted view he and Emerson critique as failure to extend oneself beyond the requirements of a specific set of defined occupational tasks. In Dewey's (1916/1944) view, "it is not the business of vocational education to foster this [restricted] tendency" (p. 308). Rather, its purpose is to create a climate of holistic learning, one that allows a person to integrate one's own particular vocation in "its association with other callings," which, in turn, establishes the social climate that enables "other members of a community" to get "the best service the person can render" (p. 308).

Whether one takes literally Dewey's (1916/1944) claim that "education *through* [italics in original] occupations...combines within itself more of the factors conducive to learning than any other method" (p. 309) may depend, in part, on grasping what he means by occupations as well as by the word, "through." To take the last matter first, which leads into the first, what is central here is not the ultimate result of a task or a series of tasks—though that remains important. It is, rather, the intelligence, discernment, skill, communicative competence, self-awareness, and moral sensibility exercised throughout the process of working, which through one's calling draws out and expands on these capacities. That is, when well-coordinated and highly developed, these process-focused competencies are strengthened in their very exercise and extended through additional learning opportunities which build on interests as well as needs aroused through the vocational calling. Viewed in this respect, "an occupation is a continuous activity having a purpose." It is "an organizing principle for information and ideas; for knowledge and intellectual growth." An occupation serves as "an axis which runs through an immense diversity of detail; it causes different experiences, facts, items of information to fall into order with one another" (p. 309). It is an integrating frame of reference for organizing growing experiences and learning, ideally, through a wide range of sensibilities, competencies, and situations that draw upon some of the deepest capacities that give shape to personal and social identity.

To make this more concrete, consider the 469-

page *American Red Cross Nursing Assistant Training Textbook* (American Red Cross, 2013), which covers a wide range of topics, from providing detailed information of the many technical aspects of health care and patient safety to communicating effectively with patients and their family members. The text also provides comprehensive background on the health care system, including legal and ethical issues in providing care to nursing home residents, the skills and knowledge needed to serve as a critical member of the health care team, and career development. It also focuses on the emotional dimensions of providing care in addressing such matters as sexuality and intimacy, cultural differences, spirituality, dementia, and end-of-life care (American Red Cross, 2013, pp. xi-xvii). As a symbolic representation, the textbook exemplifies the broad range of capabilities a CNA would need to master the many challenges of the position. It mirrors something of the scope and depth of humane intelligence and service that Dewey views essential to his notion of an "enlarged and enriched" (Dewey, 1939/1998, p. 343) learning environment in drawing out, in this context, the extensive range of capacities a CNA, seeking a fulfilling vocation in this field, can expect to exercise throughout the course of a career.

Space constrains prevent an extensive discussion of the areas covered in this text, but the following passage highlights the critical area of emotional support CNA's can provide, as we saw with Robert, as will be evident with Frances, below:

> Many people learn the skills of caregiving, but not everyone can perform those skills with kindness, empathy and compassion. Empathy is the quality of seeking to understand another person's situation, point of view or feelings. Compassion is the quality of recognizing another person's hardship, accompanied by a desire to help relieve that hardship. Providing skillful care in a thoughtful way is an art. As you prepare for your job, you will learn the difference between just getting your job done and providing quality care that goes above and beyond basic expectations. Getting to know each person as an individual and seeking to meet her emotional, social and spiritual needs, in addition to her physical needs, is the key to providing the highest quality care possible (American Red Cross, 2013), p. 7-8).

As an adult literacy program manager and ABE teacher, who has worked with scores of CNAs, I have become aware of the sensitive care so many seek to provide their patients, often within extremely difficult situations, sometimes under much duress. Such work, particularly in the emotional realm, as evidence in *Loving Hands* (Sheard, 2014), draws out a great deal within a person which includes, but extends well beyond what can be described, even in an in-depth training textbook. In seeking to provide aid in meeting the emotional needs of those under their care, I can only conclude that more than a few CNAs draw on some of their profoundest emotional and intellectual resources, which, at times, they only come to realize within the very act of reaching out to what may be viewed as beyond their accustomed roles, sometimes at the very edge of their perceived capacities.

Let us return to another CNA, (we will call Frances) who, due to a traffic jam was late to work. This resulted in "another tardiness" added to her record. While on her shift, she sought to serve Mrs. H. who was "hurting all over." Frances told Mrs. H. she would inform the nurse. The nurse told Frances she gave the patient her medications. Nothing more could be done. Frances conveyed this to Mrs. H. She wanted to help rather than simply pass on what would be perceived as negative information but was at a loss as to what she could do. She was caught in a "perplexing situation" (Dewey, 1916/1944, p. 157). In seeking some viable way to respond, this called out a need, in Dewey's terms, for "projection, invention, [and] ingenuity" (p. 158). Frances asked Mrs. H. how she could help. Mrs. H. invited her to "sit down beside me." A sympathetic impulse emerged amidst her

willingness to be present, as Frances stroked "the back of her hand" (Sheard, 2014, p. 121). Further moved, Frances began to sing an inspiring hymn.

> There is no secret at what God can do. With His arms wide open He will comfort you. There is no secret what God can do (Sheard, 2014, pp. 121-122).

Frances discerned how that heart-felt hymn, drawn from the reservoirs of her own spiritual depths, connected with that of Mrs. H's. As they sang together, Frances witnessed Mrs. H. "transformed right before my eyes. The crying stopped [as] she sat up in bed" (Sheard, 2014, p. 122). Mrs. H. asked Frances to turn on the lights in her room. However ultimately ineffable, Dewey (1934/1989) refers to such an epiphany as a "consummatory experience" (p. 379), by which he means "a fulfillment that reaches to the depth of our being—one that is an adjustment of our whole being with the conditions of our existence" (p. 23). As Alexander (1998) explains, in such an aesthetics "we find the moment in which human alienation is [temporarily] overcome and the need for the experience of meaning and value satisfied" (p. 4). Frances returned to the floor, smiling, transformed, herself. Her change of mood surprised her co-workers who had noticed her angry disposition stemming from her tardiness, that morning. "At that moment," Frances realized "it was not I who helped Mrs. H., but it was she who helped me" (Sheard, 2014, p. 122).

The events that unfolded between Frances and Mrs. H. were part of a stream of action linked to Frances' willingness to undergo with Mrs. H. something of the emotional struggle that accompanied her pain. The shared hymn was an aesthetic epiphany that symbolically transformed the struggle, but the experience that enveloped the situation extended to Frances's reflection upon her experience that came to fruition in processing her colleagues' reactions to her altered mood. This, in turn, expanded her understanding of what transpired. In this, Frances' moral sensibilities in her desire to provide care, her quest for knowledge in searching how to help and in coming to understand the personal significance of that experience, and her aesthetic and spiritual impulses, imperceptibly merged. It is beyond my capacity to grasp what exactly transpired in that room. Yet, Frances' secondary depiction in a written text is at least suggestive of something distinctively significant. Namely, the impact of her focused attentiveness to the subtle intricacies of how best to provide care in this difficult setting in delicate coordination with Mrs. H.'s responsiveness to Frances' desire to emotionally support her.

Both Frances and Robert draw on their skills and sensibilities to provide support to those under their care in responding to the vulnerability and pain of their residents. They do so through their attentiveness to the humanity of those they serve, an understanding of what is and is not within the range of their capabilities and responsibilities, and what they can uniquely draw upon within themselves in meeting the challenges of the moment. Their formal training helps—a great deal, one presumes—in developing the many hard and soft skills needed to assume their responsibilities at a high-level of competence such work demands. Such professionalism, as highlighted in the Red Cross training textbook, includes the capacity to tap into the many intangible factors required to step up to the many foreseen and unforeseen challenges CNAs face in the hard work of transforming a job into a calling. What is called for includes but extends beyond what can be gleaned from formal training, and occasionally even beyond the specialized skills and knowledge gained through the course of a career.

The almost imperceptible additional step

is responsiveness to the unique needs and opportunities illuminated by perceptive attention to them within any given situation. In Noddings' (2010) terms, such attentiveness requires "receptivity, vulnerability to the suffering of others, acceptance of the obligation to respond as carer to the expressed [and unexpressed or implicit] needs of the cared-for" (p. 284). Noddings further notes that in any given context, this "may involve meeting those needs, diverting them, or sensitively rejecting them" (p. 284). In Dewey's term, such sensibility requires the discerning attunement of active intelligence, in its varied cognitive and intuitive dimensions, to discern what is uniquely called for in the immediacy of the situation in which participants are called upon to act.

A Working Model for a Lifelong CNA Curriculum Framework

In discussing the relationship between learning and action, Dewey (1916/1944) brings his vision of vocational education to full circle. In the effort to deconstruct the dualism which has historically polarized "vocational and cultural education" (p. 306), with the placement of the former in the inferior position, Dewey turns this around in making the case that culture, in its wide-ranging significance, is thoroughly infused within everything that a genuine calling opens up. In his vision, the role of vocational education "is not that of making the schools an adjunct to manufacture and commerce" (p. 316). Rather, it is that of "creat[ing] a disposition of mind which can discover the culturing elements in useful activity, and [thereby] increase a sense of social responsibility" (p. 320) in the process. Expressed in clearer language, vocational education in the Deweyan vein, provides the context where the resources of culture, in their varied dimensions, can be thoroughly worked out, regardless of whether more so than in any other arena, as he contends.

The Red Cross training textbook is sufficiently broad in scope to provide a basic framework to support CNAs in their ongoing professional technical development. In creating lifelong educational programs that expands on this baseline, a comprehensive adult education program infused by Dewey's cultural view of vocational education, could also include units in the following topic areas:

- A substantial overview of human biology and psychology linked to the health care needs of nursing home and hospital residents needing long-term care.
- An exploration of career ladders in the health care industry and viable ways for CNA's to access the necessary vocational and educational resources to tap into them.
- A study of organizational culture and its application to the nursing home and hospital environments, with a special emphasis on the workplace as a potentially empowering learning organization (Cavaleri & Fearon, 1996; Senge, 1990).
- A technical, economic, and political overview of the health care system in the United States and comparison with other comparable countries.
- An in-depth overview of the service sector unions, such as the Service Employees International Union that support the program where I teach, including an understanding of its purposes, history, and current challenges, with special application to the health care field.
- A supportive unit on the broader labor union movement in the United States in its struggles for legitimacy and efforts to secure worker rights benefits in the private and public sectors.
- Given the predominance of women,

immigrants, and U.S. born minority groups who serve as CNAs, attentiveness to the social history and current issues central to the struggles and empowerment of these groups would also be germane.

These selected topics are designed to illuminate something of the scope of an idealized, though realizable, lifelong learning curriculum with and for CNAs. This curriculum framework starts from a more extensive scientifically grounded expansion of the Red Cross training manual, then moves to units on CNA career development and attentiveness to the organizational dynamics operative in the workplace contexts where CNAs are employed. The curriculum then expands into the broader socio-political arena in a unit on the healthcare system in the United States in its multidimensional components and implications. Moving more extensively into the social arena, this leads to the relevance of the service sector movement of the union of which participants are members or are eligible to join. As a logical extension, a unit on the history and contemporary study of the labor movement in its social and political dimensions is suggested. Given the adaptation of Dewey's cultural vision of vocational education in current adult education settings, a unit on the social history of the predominant groups serving in CNA positions in the United States, accenting current issues relevant to those groups, would represent an important component of such a comprehensive curriculum.

Implications

What I present here is only suggestive. Its fleshing out would require a great deal of work, ideally through a collaborative relationship involving the adult education, health care, and union sectors, including CNAs. In addition to the enhanced insights such collaboration opens up, it provides the added benefit of building support for the sort of program orientation suggested here, since those engaged in creating it would be the most heavily invested in carrying it out. This would include scope for different constellations of constituents to tailor any proposed framework to their own unique contexts, with, as argued here, the Deweyan orientation on the relationship between vocation and culture serving as an overarching frame of reference.

Viewed through such a prism, vocational education would be suffused with broadly relevant social, political, economic, social, and scientific knowledge and would thereby be more deeply rooted in culture than commonly viewed when contrasted to the rarified fields of traditional academic learning radically separated from active engagement in daily living or from vocational models with, at most, limited cultural explication. In short, Dewey seeks to identify vocational education with the many dimensions of culture in the relationship between one's personal calling and the social environment in which one is engaged. In this, Dewey (1916/1944) answers his own question on "whether intelligence is best exercised *apart from* or *within* [italics added] activity which puts nature to human use" (p. 320) in lived experience.

A persistent challenge is the need for a sufficiently robust social imagination to envision such a view of vocational education that integrates culture, broadly defined, into its orbit. While there are resources within the adult education literature that operate in this sphere, perhaps there is need for a rearticulation of the field's more progressive influences to push back against prevailing tendencies that largely situate the field's legitimacy within a neoliberal social order. While the capacity to restructure U.S. political discourse along such progressive lines is well beyond the

purview of what the relatively marginal field of adult education can realistically attain, it can have influence in more localized spheres that involve networks of programs linked to health care unions and nursing homes through which such learning, as sketched out here, could be carried out. This, alone, would be challenging work, but one that has the potential of establishing some durable frameworks that could attain greater traction to the extent to which such programming is well developed and gains visibility through more extensive networks and communication venues that lend it greater legitimacy.

Conclusion

In Dewey's vision of cultural reconstruction, a vocational identity is synonymous with that for which an individual is most genuinely called, which, in whatever forms it takes, brings about among the best contributions that person can make for the enhancement of society as well as for the self. Understood in this manner, vocational education is designed to "produce in schools a projection of the type of society we would like to realize, and by forming minds in accord with it gradually modify the larger and more recalcitrant features of ... [our given] society" (Dewey, 1916/1944, p. 317). Clearly, this is an ideal that has not found much viability in traditional school-based vocational education (Kliebard, 1999). In light of the early 20th-century social progressive vision of adult education (Elias & Merriam, 2005), the impetus on self-actualization (Knowles et al., 1998), the potential power of transformative learning (Cranton, 2016), the emphasis on democratic politics highlighted in the critical reform vision of Brookfield and Holst (2011), and the importance placed on worker empowerment in certain studies in the workforce development literature (Hatcher Group, 2019), it has fared better in the field of U.S. adult educational theory and practice during the past century.

These more progressive strains within adult education have continually operated in tension with a view of adult vocational education at the policy level linked to satisfying the human resource needs of the economic sector in fitting people to the world of work (Demetrion, 2005). There are few obvious ways of reconciling these tensions, in which the very struggle to work through them may be a challenging enough task. However ultimately piecemeal, moving *toward* Dewey's (1916/1944) vision of vocational education calls for "a change in the quality of mental disposition" (p. 316) needed for redefining the purpose of schooling as the enhancement of self, society, and culture in the continuous task of constructing a fuller, freer democracy in which all flourish.

Notwithstanding the seemingly intractable nature of the dominant view of vocational education as occupational training in the narrow sense shaped through the root metaphor of "efficiency" (Kliebard, 1995, p. 77), Dewey's powerful vision, embodied in the aspirational energies of the American democratic ideal, contains a source of visionary power, which, when imaginatively embraced (Pappas, 2008), has the capacity to unleash energies that creatively interact against the many forces that push against it. This, Dewey (1939/1998) characterizes as "faith in the capacity of the intelligence of the common man to respond with commonsense to the free play of facts and ideas which are secured by effective guarantees of free inquiry, free assembly and free communication" (p. 342), whether the immediate focus is the workplace, the ABE classroom, the community organization, or the neighborhood gathering.

This freely exercised intelligence represents a source of educational energy that needs to be pressed against the seemingly obdurate reality, whether in Dewey's day or ours, of a model of schooling that reinforces economic stratification through cultural reproduction forces that intensify tendencies toward social role stabilization. It is the subtle spaces operating between the aspiration and the current reality that may be more porous than what may be initially obvious that provides opportunities for the creative work of moving toward Dewey's integrative cultural vision of vocational education that he views as vital to the vibrancy of democracy "as a way of life" (p. 341). In Kliebard's (1999) words, "[t]he benefits of integrating vocational and general education extend, then, not simply to the revitalization of academic education by connecting knowledge with action, but to the infusion of vocational education of an intellectual substance that it has traditionally lacked" (p. 234). However modest such endeavors may ultimately prove to be—which can only even begin to be determined through the mettle of a great deal of testing—it is the prospect of this vocational imaginary as a way of living that may open up some intriguing pathways in the adult basic education sphere worthy of the most vigorous pursuit.

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Research Article

Basic Correctional Education and Recidivism: Findings from PIAAC and NRS

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Abstract

Potential relationships of incarcerated adult participation in basic correctional education with recidivism seldom receive analysis in largescale datasets. Though 95% of incarcerated adults reenter communities when released, recidivism is higher for adults with low skills. This paper presents new Programme for the International Assessment of Adult Competencies findings on characteristics and skills of U.S. incarcerated adults participating in basic correctional education. The paper also examines adults' learning outcomes and available state recidivism rates from the National Reporting System. Recidivism is lower for adults participating in basic correctional education than for incarcerated adults overall, a finding worth further investigation. Implications for practice and policy are discussed.

Keywords: recidivism, basic correctional education, adult learning outcomes, PIAAC, National Reporting System, disabilities

Approximately 1.4 million adults are incarcerated in U.S. state and federal prisons, an incarceration rate of 555 per 100,000 adults 18 years and older (Carson, 2020). Nearly half of incarcerated adults (46.9%) are 25 to 39 years old, a time when many young adults in the community enter peak years for applying skills to boost earnings and support their families. Virtually all (93%) are men. Additionally, 81,000 adults are incarcerated in local jails (Carson, 2020).

Nearly all (95%) incarcerated adults are eventually released, reenter communities, and seek employment and to rebuild their lives (Delaney & Smith, 2018; Muhlhausen & Hurwitz, 2019). However, they do so with essentially the same skills as when they were first incarcerated (Klein & Tolbert, 2007). Basic correctional education programs, defined as programs offering basic skills or high school equivalence instruction to incarcerated adults, provide opportunities for incarcerated adults to gain skills. Although most prisons offer basic correctional education opportunities, participation is low. Limited research on incarcerated adult participation shows support for basic correctional education's role in preparing reentering adults for employment and reducing recidivism (Cai et al., 2019). Adding to the knowledge base on connections between basic correctional education and recidivism is important because about half of reentering adults return to prison within 5 years (Delaney & Smith, 2018; Durose et al., 2014), and recidivism is higher for adults with less than high school education (Lockwood et al., 2012).

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Identifying a relationship between adults learning basic skills while incarcerated and recidivism matters to long-term success for reentering adults. Furthermore, how recidivism relates to education outcomes is unclear and debated. Reed (2015) called for examining incarcerated adults' education outcomes, such as gains in learning and completion of high school equivalency (HSE) credentials. She also noted a need to more fully understand conditions in which incarcerated adults make academic progress. The purpose of this paper is to add to the knowledge base on incarcerated adult participation in basic correctional education and correlations of that participation with learning outcomes and recidivism. To achieve this purpose, three data sources are employed, including two largescale datasets. First, Programme for the International Assessment of Adult Competencies (PIAAC) findings are presented on background characteristics and assessed skills of U.S. incarcerated adults participating in basic skills or HSE instruction. The paper reports statewide National Reporting System (NRS) learning outcomes of incarcerated adults participating in basic correctional education. Next, available state recidivism rates for adults in basic correctional education are compared with learning outcomes.

Literature Review

Need vs. Participation

Previous research points to a contrast between need for basic correctional education and incarcerated adults' actual participation. Under the First Step Act, U.S. Bureau of Justice Statistics reports annually on need in federal prisons – in 2019, three in ten incarcerated adults in federal prisons, or 51,416, lacked a high school diploma or HSE (Carson, 2021). To meet the need, basic correctional education offers incarcerated adults an opportunity to gain skills (Cai et al., 2019), and evidence points to it being more cost effective than reincarceration (Davis et al., 2014; Duwe, 2018).

Extent of participation in U.S. basic correctional education is only partially known and the literature is sparse (Cai et al., 2019; Reed, 2015). The Workforce Innovation Opportunity Act (WIOA), Title II, requires U.S. states to provide basic correctional education (U.S. Department of Education, 2015). In 2018-19, approximately 130,000 incarcerated adults participated in Title II funded basic correctional education (Office of Career, Technical, and Adult Education [OCTAE], 2021). Although the U.S. Bureau of Justice Statistics surveys samples of adults in state prisons periodically, such as the Survey of Prison Inmates (U.S. Bureau of Justice Statistics, 2016), state departments of corrections operating with state funds are not required to report on need or participation to national agencies.

Even though U.S. basic correctional education programs are widely available, many incarcerated adults do not participate for diverse reasons (Tighe et al., 2019; Travis et al., 2014), such as preferring to work, not having permission to participate, or needing to participate in counseling or treatment programs. In federal prisons, of more than 51,000 eligible adults, 3,791 earned an HSE (Carson, 2021). One HSE program, GED® Testing Service (2018), reported that 57,776 incarcerated adults, in all correctional facility types, took GED® tests in 2017, with a pass rate of 78%. Two other HSE programs, HiSET® and TASC®, did not publish figures on corrections testing.

Characteristics of Incarcerated Participants

Another critical gap in the knowledge base occurs in that little is known about characteristics of participants and nonparticipants in basic

correctional education (Travis et al., 2014). To begin to fill that gap, the U.S. PIAAC Prison Survey (National Center for Education Statistics [NCES], 2014; Rampey et al., 2016) provides data that allow comparisons of their characteristics and assessment results. Cai and colleagues (2019) analyzed educational attainment and proficiency but did not look at other demographic or background characteristics, such as age or employment status. They found that incarcerated adults in HSE programs perform significantly higher in PIAAC literacy and numeracy assessments than nonparticipants without high school credentials.

Other important characteristics needed in the knowledge base associate with health and disabilities. Incarcerated adults experience noticeable rates of illnesses such as infectious diseases and mental illness (Travis et al., 2014). Travis and colleagues observed that disability-related needs of incarcerated adults may be overlooked, which creates strong impediments to well-being (2014). In some cases, negative behaviors associated with disability may result in incarceration. Incarcerated adults with learning disabilities are not often provided with accommodations or with access to special education (Koster, 2019). They may also lack access to advocates who can help them get accommodations and support services (Edelson, 2017).

Health can also be a barrier to learning. Incarcerated adults' rates of fair or poor health in 2014 were substantially higher than 15% found 10 years earlier (Greenberg et al., 2007). Nearly doubled rates of vision or hearing difficulties and quadrupled rates of learning disability (37.1%) among incarcerated adults with less than high school attainment, compared with the general population (Patterson & Paulson, 2016; Rampey et al., 2016), point to adults with critical health concerns and challenges from disabilities. More investigation of connections of health factors with learning in correctional settings is needed.

Preparing for Successful Reentry, Not Recidivism

Following incarceration, nearly all incarcerated adults are released to reenter the community (Travis et al., 2014). One measure of successful reentry is reduced recidivism – that is, reentering adults do not return to prison. Reentering adults with low skills – in literacy, numeracy, and/or technology – tend to struggle to adjust and find work, putting them at elevated risk for recidivism (Cai et al., 2019; Klein et al., 2004; Tyler & Kling, 2006). If they gain basic skills while incarcerated, hypothetically this risk decreases. Recent studies link correctional education programs overall with recidivism as indicators of program effectiveness (Bozick et al., 2018; Davis et al., 2013; Davis et al., 2014; Delaney & Smith, 2018; Duwe, 2018; Lockwood et al., 2015; Newton et al., 2018; Pompoco et al., 2017; Tighe et al., 2019; Travis et al., 2014). Building basic skills of incarcerated adults is associated with increases in skill use (Reder, 2019) and with interest in pursuing further education, which could further support reentering adults to remain in the community (Delaney & Smith, 2018). These studies indicate that having gained basic skills while incarcerated can benefit reentering adults in gaining employment, which in turn, among other supports, can reduce risk of recidivism.

PIAAC and the National Reporting System

Measuring skills and learning outcomes of incarcerated adults and their connection with recidivism of reentering adults from existing largescale data is not a straightforward task. These data are not collected in a single dataset.

Largescale data are available separately to examine potential connections at aggregated levels: the U.S. PIAAC Prison Survey (NCES, 2014) and NRS (OCTAE, 2021).

PIAAC is a large-scale study developed in collaboration with the Organization for Economic Cooperation and Development (OECD). PIAAC initially surveyed adults in 24 participating countries in 2012, nine more countries in 2014, and five additional countries in 2017. PIAAC assessed and compared basic skills and competencies of adults; PIAAC assessments focused on cognitive and workplace skills needed for successful participation in 21st-century society (NCES, n.d.). In 2014, the U.S. PIAAC Prison Study was conducted with a sample of 1,319 incarcerated adults (ages 18–74) in federal and state prisons. Incarcerated adults took the same literacy, numeracy, and digital literacy assessments as did U.S. PIAAC household participants, but the prison background questionnaire was adapted to address experiences and needs of incarcerated adults.

An advantage of the PIAAC Prison Survey is that it measures skills in three domains – literacy, numeracy, and digital literacy – and whether an adult has computer experience (Rampey et al., 2016), which represent important needed community skills. Measuring skills directly allows incarcerated adults to demonstrate how they use skills in practice (Cai et al., 2019). PIAAC also asks about participation in education during incarceration, reasons for doing so, and background characteristics of incarcerated adults.

In a second largescale dataset, NRS data are reported from the overall adult education's accountability system under WIOA. States submit an annual performance report, including information on levels of performance achieved and qualitative summary data, to the NRS website (OCTAE, 2021). NRS data measure basic correctional education participation and learning outcomes – including completed learning gains, HSE credentials, and postsecondary participation. A qualitative summary reports on state leadership efforts and includes responses to a single question on state calculation of recidivism rates for basic correctional education programs. In qualitative summaries, a variety of measures of recidivism are reported, but states report 3-year recidivism rates most frequently.

Research Questions

Understanding how gains in basic skills, incarcerated adult characteristics and skill levels, and recidivism may relate to each other requires having data available to examine these relationships for a common population. The research questions that follow investigate these connections through new descriptive analyses. It is important to note that hypothesized relationships are not causal. Research questions (RQ) focus on characteristics and assessed skill levels of U.S. incarcerated adults who participate in basic skills or HSE, aggregate NRS outcomes of incarcerated adult participation at basic or secondary levels, and 3-year recidivism rates.

1. What are background characteristics and assessed skill levels of incarcerated adults in basic skills or HSE instruction from PIAAC Prison Survey of 2014?
2. What are NRS learning outcomes of incarcerated adults who participated in basic correctional education, by state, from 2015-16?
3. How do reported state 3-year recidivism rates, from 2018-19, of incarcerated adults who participated in basic correctional education compare with overall recidivism rates?
4. At the state level, how do learning outcomes relate to 3-year recidivism?

Methods

Sample

Data for this paper came from three sources: (for RQ1) 2014 PIAAC Prison Survey dataset released by NCES in 2017; (for RQ2 and 4) NRS incarcerated adult learning gain outcomes, as reported in the 2015-16 annual report by state; and (for RQ3 and 4) NRS annual qualitative summaries from state adult education directors in 2018-19. New analyses of data from all three sources were conducted for this paper.

PIAAC's 2014 prison dataset contains information on 1,319 adults incarcerated in federal and state prisons. Of these 1,319 incarcerated adults, 461 participated in basic skills programs or in GED or other HSE preparation. Analyses in this paper employed PIAAC data on the 461 incarcerated adults participating in at least one of these three types.

States report performance and qualitative data to NRS annually (AEFLA Adult Education and Literacy, n.d.). Statistical data, including number of adults in basic correctional education programs (Table 6) and outcomes (Table 10), along with qualitative narrative summaries are made available publicly. The year 2015-16 was selected to investigate statistical data and learning outcomes of participating incarcerated adults in basic correctional education. If participating incarcerated adults were released that year, their outcomes would presumably factor into 3-year recidivism rates that state directors reported in 2018-19 qualitative summaries.

PIAAC Variables

Fifteen PIAAC variables, along with sets of sample and replicate weights and plausible values for assessed literacy and numeracy scores, were employed in descriptive analyses, as presented in Table 1. Three variables on participation (i.e., basic skills, GED or HSE preparation) permitted limiting data to those in basic correctional education (*n* 461). Education attainment during incarceration indicated learning occurring in prison. Descriptive demographic variables included overall educational attainment, gender, age group, health status, and learning disability status. An experience with computer variable differentiated which adults operated computers previously in everyday life. Four variables on work experience indicated: whether the adult was working, job type, whether the job was challenging, and reason for leaving last job before prison. Final sample and replicate weights were applied in PIAAC analyses to ensure accurate representation of the sample in population (Hogan et al., 2016).

Assessment scores were estimated using 10 plausible values per content domain; plausible values were estimated for literacy and numeracy scores (Hogan et al., 2016). Score ranges for these domains were from 0 to 500 and scores were classified into one of five levels. According to NCES (n.d.), literacy and numeracy levels were below Level 1 (0-175), Level 1 (176-225), Level 2 (226-275), Level 3 (276-325), and Levels 4 / 5 (326-500). PSTRE scores were not examined for this paper because only 61% of adults could even attempt this computer-based assessment (Rampey et al., 2016).

TABLE 1: PIAAC Variables

	Variable	Label	Levels
a.	**Participation in basic skills**	B_Q27AUSP	1=yes, 2=no
b.	**Participation in GED or HSE preparation**	B_Q27BUSP	1=yes, 2=no
c.	**Participation in other HSE preparation**	B_Q27CUSP	1=yes, 2=no
d.	**Reason for participating in basic correctional education**	P_Q40	1=I was required to participate, 2=To increase my knowledge or skills, 3= To obtain a certificate, 5=To increase my possibilities of getting a job when released, 6=To increase possibilities of getting a job assignment, 8=Family-related reasons, 9=Other
e.	**Education attainment**	EDLEVEL3	1=less than high school, 2=high school, 3 = postsecondary
f.	**Educational attainment during current incarceration**	P_Q120_ISCED11	1=ISCED1, 2=ISCED2, 3=ISCED3, 4=ISCED4, 5=ISCED5, 6=no further education completed
g.	**Gender**	GENDER_R	1=male, 2=female
h.	**Age group**	AGEG10LFSEXT	1=18-24 years, 2=25-34 years, 3=35-44 years, 4=45-54 years, 5=55-65 years, 6=66 years and older
i.	**Health status**	I_Q08	1=excellent, 2=very good, 3=good, 4=fair, 5=poor
j.	**Learning disability status**	I_Q08BUSX3	1=yes, 2=no
k.	**Experience with computer in everyday life**	H_Q04BUSP	1=yes, 2=no
l.	**Work status before prison**	C_Q07USP	1=Full-time employed (self-employed), 2=Part-time employed (self-employed), 3=Unemployed, 4=Student, 5=Apprenticeship/internship, 6=Retirement, 7=Permanently disabled, 8=Military, 9=Domestic tasks or looking after family, 10=Other
m.	**Last job type before prison**	E_Q04USP	1=employee, 2=self-employed
n.	**Not challenged enough in last job before prison**	F_Q07AUSP	1=yes, 2=no
o.	**Reason for end of last job before prison**	E_Q10USP	1=Dismissed, 2=Job eliminated, 3=Temporary job ended, 4=Resigned, 5=Gave up for health reasons, 6 Early retirement, 7=Retired, 8=Gave up for family responsibilities, 9=Gave up to study, 10=Other, 11=Arrested, 12=Incarcerated
p.	**Assessed literacy skills (plausible values)**	PVLIT1 to PVLIT10	Continuous, sample range 0-400
q.	**Assessed numeracy skills (plausible values)**	PVNUM1 to PVNUM10	Continuous, sample range 0-400
r.	**Sample weight**	SPFWT0	
s.	**Replicate weights**	SPFWT1 to SPFWT80	

NRS Variables

Statistical variables on adults in basic correctional education programs, and their learning outcomes, came from NRS tables 6 and 10, respectively, for all 50 states and the District of Columbia. The number in correctional facilities consisted of the count of incarcerated adults participating in basic correctional education programs with WIOA, Title II, funding. Although reentering adults (number in community correctional programs) are included in counts for educational functioning level (EFL) completion and both groups are designated as "participating adults", they are distinct from the

incarcerated count. Education-related outcomes that adults in basic correctional programs made as of 2015-16 include: moving from one EFL to a higher EFL; gaining a secondary credential or equivalent, such as a high school diploma or HSE credential; and entering postsecondary programs, whether entering in 2015-16 or reported in 2015-16 from 2014-15. Table 2 presents variables from these tables that were employed in analyses.

TABLE 2: NRS Variables

Variable	Source (NRS Table)
Number in correctional facilities	6
Number in community correctional programs	6
Completed an educational functioning level	10
Obtained a secondary school credential or its equivalent	10
Entered postsecondary educational training (current year)	10
Entered postsecondary educational training (prior year)	10

Additionally, qualitative narrative summaries that state adult education directors wrote are available publicly (AEFLA Adult Education and Literacy, n.d.). The narrative question was: What was the relative rate of recidivism for criminal offenders served? Please describe the methods and factors used in calculating the rate for this reporting period. The 2018-19 summary provided the state recidivism rate, if known, for incarcerated adults participating in basic correctional education programs. In state qualitative summaries, 3-year recidivism rates are most frequently reported; states reporting this rate were selected for consistency. Only 12 states included 3-year recidivism rates in their narrative – Alabama, Arkansas, Florida, Georgia, Indiana, Kansas, Louisiana, Missouri, Mississippi, North Dakota, New Mexico, and South Carolina. Therefore, only data from these 12 states were included in recidivism analyses (RQ3 and 4), to correspond as closely as possible to outcomes data from 2015-16 (see Appendix).

Analyses

Assessment scores were estimated using 10 plausible values per content domain; plausible values were estimated for literacy and numeracy scores (Hogan et al., 2016). Analyses for RQ1 and RQ2 were descriptive, with percentages reported for categorical data and group differences evaluated with chi square statistics. Means and standard errors were reported for PIAAC assessed skill levels, and mean scores were compared with Cohen's *d* as an effect size for magnitude of difference. For NRS outcomes data, median outcomes and ranges of percentages were reported because of skew in state data. Wilcoxon Signed Rank Test assesses median differences in recidivism rates for RQ3 and was selected because samples were related, and number of available states was small. Effect size for Z was $r = Z / SQRT(n)$ (Patil, 2021). Spearman correlation coefficients (r_s) were calculated to determine associations among recidivism and outcome variables. Reported relationships were descriptive and not causal.

Findings

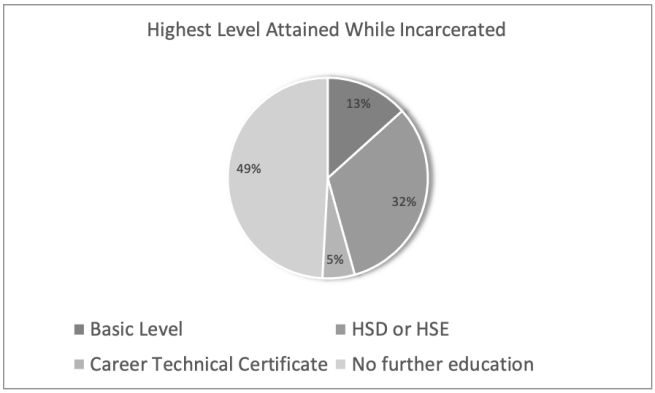
Background Characteristics and Assessed Skills

PIAAC data were examined to address RQ1 on background characteristics of participants in basic skills or HSE instruction. Incarcerated adults were asked about education attainment and learning that occurred in prison. Weighting the sample of 461 adults indicated nearly 433,000 U.S. incarcerated adults in basic correctional education. Participating adults were evenly

divided between less than high school (52.9%) and high school (47.1%) educational attainment levels. They most often entered basic skills or HSE instruction to increase chances of getting a post-release job (29.8%), to increase skills (29.0%), for credentialing (14.0%), or because they were required to participate (16.1%). Additional reasons included getting a prison job (4.9%), for their family's sake (2.4%), and other reasons (3.3%).

While incarcerated, adults participating in basic skills or HSE instruction were evenly divided in whether their education level increased, with approximately half indicating no educational level change, as shown in Figure 1. Of incarcerated adults in basic skills or HSE instruction, nearly a third reported completing a high school diploma or HSE and a small proportion finishing basic level instruction (see Figure 1).

FIGURE 1: Education Attainment of Incarcerated Adults Participating in Basic Skills or HSE Instruction

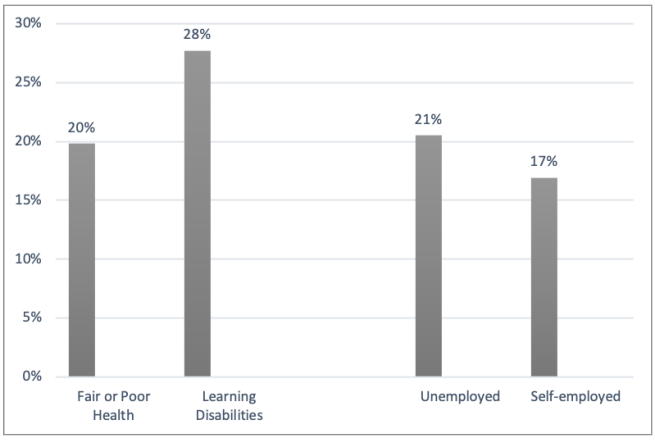


Note: Data source was PIAAC Prison Survey, NCES, 2014.

Incarcerated adults making no further change in basic correctional education level differed significantly from those attaining HSD or HSE in prison by previous education attainment – 70.9% of those making no further change had less-than-high-school education before prison, and 12.9% of those attaining HSD or HSE in prison had less-than-high-school education before prison ($p < .001$). Also, those making no further change in basic correctional education level ("no-further-change" group) were significantly more likely ($p < .01$) to be female (8.2%) than those attaining HSD or HSE in prison (3.8%). The no-further-change and HSD-HSE groups did not differ significantly by age, reason for participating, health, learning disability diagnosis, computer experience, or previous employment status.

Other key characteristics were demographic. Most incarcerated adults in basic skills or HSE instruction were young; the three largest age groups were ages 24 years or less (16.8%), 25 to 34 years (36.8%), and 35 to 44 years (26.1%). Another 12.7% were 45 to 54 years, and 7.6% were 55 years or more. Unsurprisingly given the sample, 93.5% were male. Although most incarcerated adults (78.5%) indicated having good, very good, or excellent health, one-fifth reported fair or poor health, as shown in Figure 2. A high proportion of adults in basic skills or HSE instruction (27.7%) reported learning disabilities. Most incarcerated adults in basic skills or HSE instruction (69.7%) had no everyday-life experience with computers.

FIGURE 2: Background Characteristics of Incarcerated Adults in Basic Correctional Education



Note: Data source was PIAAC Prison Survey, NCES, 2014.

Adults also reported on pre-incarceration work experience. Results indicate high unemployment and underemployment, low entrepreneurship, and adults not challenged at work. Nearly two-thirds (62.9%) were employed before incarceration, either full time (45.6%) or part time (17.3%). However, unemployment was high (see Figure 2). Of those reporting a last job before incarceration, one in six were self-employed. Most who were employed left work because they were arrested (37.2%), incarcerated (21%), dismissed (7%), or laid off from temporary work (6.9%). Of those indicating skill use in last job before prison, 88.1% reported not being challenged enough at work.

Incarcerated adults were also assessed for literacy and numeracy skills. Mean scores and levels are presented in Table 3. Mean scores of adults in basic skills or HSE instruction were significantly lower than those of incarcerated adults overall.

For reference, at level 2, literacy tasks required respondents to make matches between text and information and may require paraphrasing or making low-level inferences, with some competing pieces of information present. At this level, adults can integrate two or more pieces of information based on criteria and can compare or reason about information and make low-level inferences. They can navigate within digital texts to access and identify information (OECD, 2013). Level 1 numeracy tasks required simple one-step or two-step processes involving, for example, performing basic arithmetic operations, understanding simple percentages, or identifying and using elements of simple graphs. An example item at level 1 displayed a photo of a box containing candles in rows and layers. Instructions informed test-takers about 105 candles in a box and asked them to calculate how many layers of candles were in the box. (OECD, 2013).

TABLE 3: Assessed Skills of Incarcerated Adults

Skill Domain	Incarcerated Adults in Basic Correctional Education		All Incarcerated Adults	
	Mean Score (Standard Error)	Skill Level	Mean Score	Skill Level[a]
Literacy	237.7 (2.1)	2	249	2
Numeracy	206.3 (3.0)	1	220	1

Note: Data source for incarcerated adults in basic skills or HSE instruction was PIAAC Prison Survey, NCES, 2014. Mean scores relied on sample weights and 10 plausible values per domain. Assessment unweighted *n* 461.[a] Mean score (without standard errors) and skill levels for comparison group of all incarcerated adults were reported in Rampey et al. (2016).

Literacy and numeracy scores of adults in basic skills or HSE instruction were further examined at three levels of educational change that had sufficient sample for analysis – no further change, basic level, and HSD or HSE, as displayed in Table 4. In literacy, incarcerated adults completing HSD or HSE had significantly higher mean scores than those making no further change or at basic levels, with medium effect sizes (*d* .60 for no further change and *d* .57 for basic level). Literacy scores did not differ significantly for those making no further change and those at basic level (see Table 4). In numeracy, a small difference occurred in mean scores for no-further-change and basic-level groups (*d* .21), a small difference for basic-level and HSD-HSE groups (*d* .44), and a medium difference for no-further-change and HSD-HSE

groups (*d* .60). While all three groups were at level 2 for literacy and at level 1 for numeracy, the no-further-change group had lowest scores in both domains.

TABLE 4: Assessed Skills of Incarcerated Adults by Change in Basic Correctional Education

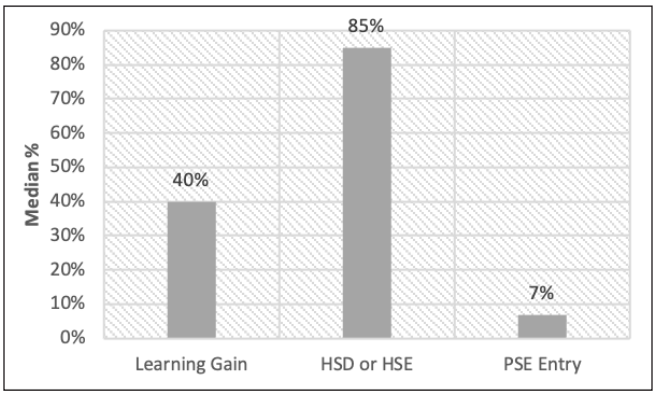
Skill Domain	No Further Change in Education Level		Basic Level		HSD or HSE	
	Mean Score (Standard Error)	Skill Level	Mean Score (Standard Error)	Skill Level	Mean Score (Standard Error)	Skill Level
Literacy	227.6 (3.1)	2	230.5 (5.5)	2	251.5 (3.2)	2
Numeracy	193.3 (3.8)	1	202.8 (6.4)	1	222.4 (4.1)	1

Note: Data source for incarcerated adults in basic skills or HSE instruction was PIAAC Prison Survey, NCES, 2014. Mean scores relied on sample weights and 10 plausible values per domain. Unweighted *n* for no-further-change group was 233, for basic level *n* 57, and for HSD-HSE *n* 141.

Learning Outcomes

In 2015-16, WIOA Title II programs served a total of 154,904 incarcerated adults in 50 states and DC (NRS, Table 6, 2016). Participating adult outcomes comprised learning outcomes from 169,598 adults, including outcomes from an additional 14,694 reentering adults; thus 87% of participating adults were incarcerated. A median two-fifths (state range from 0 to 86%) of participating adults made a learning gain of at least one EFL (NRS, Table 10, 2016), as displayed in Figure 3. Most participating adults with the goal to do so earned a secondary diploma or HSE (state range from 0 to 100%); 14,238 secondary credentials were awarded (see Figure 3). Postsecondary participation was minimal; a median 7% entered PSE in 2015-16 (see Figure 3) compared with 8% in the prior year (NRS, Table 10, 2016).

FIGURE 3: Outcomes of Incarcerated Adults in Basic Correctional Education



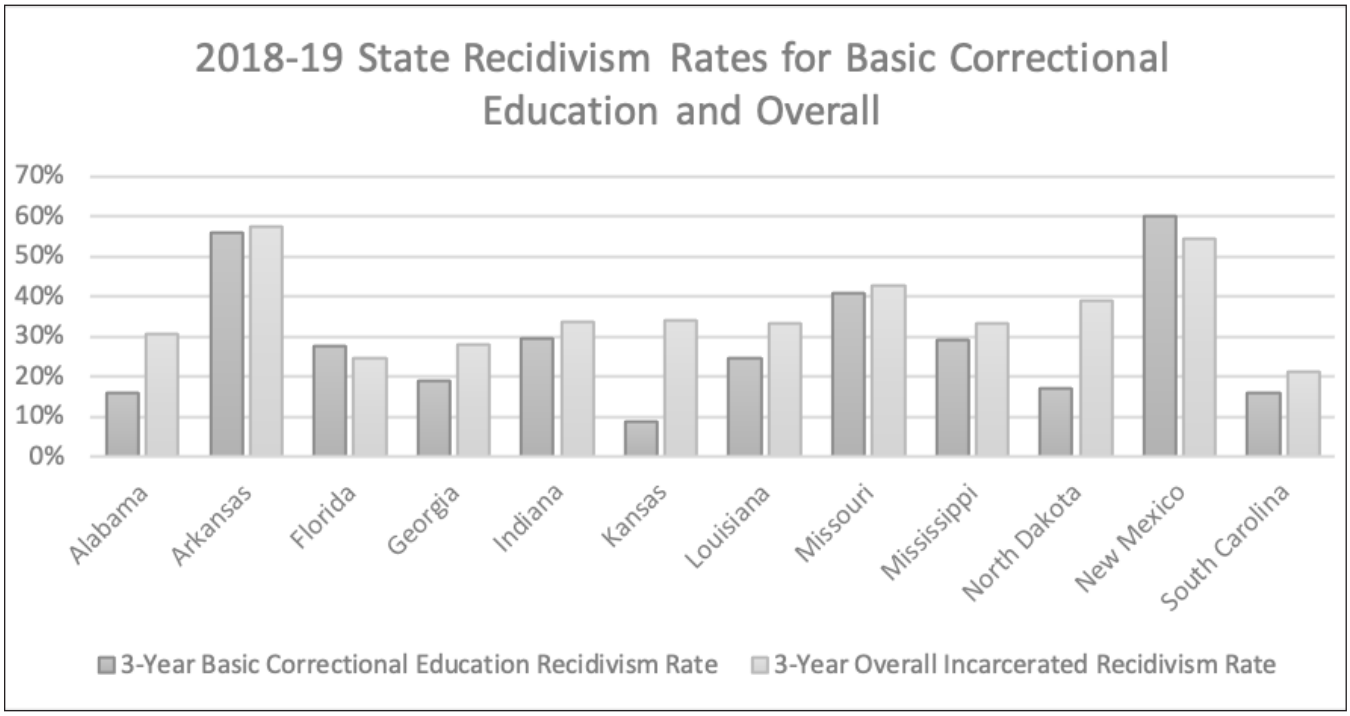
Note: Data source was NRS Table 10, 2015-16.

Recidivism Rates Following Basic Correctional Education

In 12 states reporting 3-year recidivism rates in 2018-19, recidivism for adults in basic correctional programs ranged from 9% to 60%, with a median of 26%. The median 3-year recidivism rate for incarcerated adults overall (i.e., without respect to involvement in basic correctional education) was higher, with a median of 34% (range from 21% to 57%). Median recidivism was significantly lower for adults in basic correctional programs (Z 2.3, *p* 0.02) than for incarcerated adults overall, and the effect was large (*r* 0.66). Recidivism rates by state are displayed in Figure 4, overall and in basic correctional education (also see Appendix). In 10 of 12 states, reported recidivism rates were lower for adults in basic correctional education. Reported differences were most dramatic in Alabama, Kansas, and North Dakota – their recidivism rates for adults in basic correctional education were at least half the overall rates.

Recidivism rates were not significantly correlated ($p > .10$) with types of learning outcomes at the state level, i.e., learning gain, high school credential, or postsecondary entry. Correlations of types of learning outcomes with recidivism were small and negative (r_s -0.26 for learning gain, r_s -0.22 for high school credential, and r_s -0.38 for postsecondary entry). As percentages of learning gains, high school credentials, or postsecondary entry increased, the recidivism rate for adults in basic correctional programs decreased.

FIGURE 4: Recidivism of Adults in Basic Correctional Education



Note: Data source was NRS 2018-19, State Qualitative Summaries. Overall recidivism rates for Kansas, Louisiana, and Missouri provided by Virginia Department of Corrections state recidivism comparison as of 2019.

Discussion

The paper's purpose was adding to the knowledge base on incarcerated adult participation in basic correctional education and connections of participation with recidivism. U.S. incarcerated adults most often entered basic correctional education to increase chances of getting post-release jobs or strengthen skills. Enhancing skills is important in prison, where 30% of adults have less-than-high-school education, compared with 14% in the general population (Rampey et al., 2016). Nearly a third of adults in prisons who participated in basic correctional education reported completing a high school diploma or HSE and a small proportion reported finishing basic-level instruction. Adults were predominantly young, male, and had little experience with computers. They reported high unemployment and underemployment, low entrepreneurship, and not being challenged in pre-incarceration work. Adding characteristics of participants in basic correctional education (Travis et al., 2014) to the knowledge base is important.

On average, literacy and numeracy scores of incarcerated adults in basic correctional

education were significantly lower than for incarcerated adults overall, and adults not making educational level change scored lowest in both domains. Literacy scores averaging at level 2 and numeracy scores at level 1 indicated struggles with basic reading and very basic math tasks; their scores compared unfavorably with national general population averages at the upper end of level 2 (Rampey et al., 2016). A major concern, representing a missed opportunity for many, was half of participating adults made no gains in education while incarcerated. Most adults not making further educational level change appeared to have entered incarceration with previously low education attainment, and a higher percentage were women than in the HSD-HSE group. Without higher literacy and numeracy skill levels and with little computer experience on release, chances increase of reentering adults again facing high unemployment prospects or unchallenging work (if they can find it).

A high proportion (28%) of adults in basic correctional education reported having learning disabilities, at a higher rate than in the general population (Patterson & Paulson, 2016). Twenty percent reported fair or poor health. Adults with potentially burdensome health concerns and challenges from disabilities may struggle with learning as well as reentry after release (Travis et al., 2014).

Despite barriers facing incarcerated adults, NRS learning outcomes from basic correctional education in WIOA-funded programs indicated solid rates of learning gains and high rates of secondary credentials, with minimal PSE participation. Three years later, in 10 of 12 states reporting them, recidivism rates were significantly lower for adults participating in basic correctional education than for incarcerated adults overall. This finding adds to research results on lowered recidivism of GED completers, from Pompoco and colleagues (2017), and Cai and colleagues (2019). It is also important given generally higher rates of recidivism for adults with less than high school education (Lockwood et al., 2012). As percentage of learning outcomes increased, the recidivism rate for adults in basic correctional programs decreased, although correlations with separate types of learning outcomes were small.

Implications for Basic Correctional Education Programs

Compared with national averages at upper end of Level 2 (Rampey et al., 2016), low skill levels point to substantial difficulties in reading and using information and in solving mathematical problems beyond very basic levels, which may limit further skill use (Reder, 2019). Educators have an opportunity to encourage incarcerated adults to use literacy and numeracy skills – and to continually expand them. As Cai and colleagues (2019) observe, learning and using skills should go beyond basic correctional education participation, to learning that continues in reentry.

Regrettably, though, half of adults participating in basic correctional education made no change in education level while incarcerated, reflecting Klein & Tolbert's (2007) finding about reentering communities with essentially no change in skills. Most adults not making educational level change appeared to have entered incarceration with low education attainment, which is an important condition for basic correctional educators to note (Reed, 2015) when planning instruction, particularly in programs serving women. How instruction is implemented in basic correctional education is key to enhancing gains in education. From awareness that incarcerated adults likely experienced little success in previous education and struggled with literacy and particularly numeracy skills, correctional educators can

prepare to meet incarcerated learners where they are and gather as much diagnostic information as possible to target instruction to needs. Data also indicate a need to offer additional basic skills instruction for incarcerated learners who are not ready for HSE preparation (Pompoco et al., 2017). As Patterson (2018) noted, incarcerated adults cited future jobs and gaining skills as reasons to participate in basic correctional education. Gaining general knowledge and specific skills in basic correctional education can also ease finding employment in reentry (Cai et al., 2019).

Learning disability rates were much higher than the household rate. Overlooking disability-related needs of incarcerated adults may reinforce impediments to well-being (Travis et al., 2014). Basic correctional education serving incarcerated or reentering adults must fully assess entering learners to determine current skill levels and screen for unmet needs that could interfere with learning. Acknowledging challenges, offering peer supports, and providing appropriate accommodations for learning can support adults in basic correctional education and facilitate learning.

Implications for Policymakers

Prison and reentry officials who make policy have an opportunity to review adult participation and assessment in basic correctional education and to identify ways more incarcerated and reentering adults can demonstrate educational level change. The 35% rate of participation noted in this paper could be even higher if policies supported enhancing adult participation, particularly those with low education attainment and learning disabilities. As Cai and colleagues (2019) stated, increasing amounts and intensity of basic correctional education programming is a must.

Though basic correctional education programs are widely available, many incarcerated adults did not participate in them (Tighe et al., 2019; Travis et al., 2014), for reasons such as preferring to work in prison or not having permission to participate. In PIAAC analyses, a much more prevalent reason than preferring to work (3%) was not qualifying to enroll, which 26% of incarcerated adults with less-than-high-school educational attainment cited. Reasons for not qualifying may include policies related to safety or length of sentence; still, policymakers should review and adjust facility policies to maximize participation in and benefits from basic correctional education.

Additionally, policymakers need to review instructional and support services available to incarcerated or reentering adults with learning disabilities, to ensure those services facilitate learning and accommodate disabilities. According to an Open Door Collective brief (2020), incarcerated adult learners with learning disabilities have statutory rights to access services under the Americans with Disabilities Act. With special education services, incarcerated adults have stronger chances of successful reentry and are less likely to recidivate (Koster, 2019).

Recent studies made a connection of correctional educational programs overall with recidivism in discussing program effectiveness (Bozick et al., 2018; Davis et al., 2013; Davis et al., 2014; Delaney & Smith, 2018; Duwe, 2018; Lockwood et al., 2015; Newton et al., 2018; Pompoco et al., 2017; Tighe et al., 2019; Travis et al., 2014). Although not causal, findings from this paper indicated that basic correctional education participation was related to lower recidivism in most of 12 states reporting. A critical question to ask is, how can policymakers in states *not* reporting on recidivism of incarcerated adult learners begin to report? Gathering this information requires not only common time definitions (i.e., recidivism within 3 years of release) but common definitions

of what constitutes recidivism. It also requires developing and instituting statewide policies – involving correctional, education, and labor agencies – to collect and release data for research purposes. Further evidence of reduced recidivism, where available in connection with program effectiveness, could then support advocacy for funding of basic correctional education and education-related reentry services. Increasing access to services can play a positive role in reentry efforts and contribute to the economy (Open Door Collective, 2020).

Limitations and Future Research

Several limitations need acknowledgement. Learning outcomes in NRS data included only adults participating in WIOA Title II programs; additional incarcerated adults participate in basic correctional programs funded directly by state or federal correctional departments, and it was beyond the paper's scope to identify and include them. Future researchers need to identify where and how these data might be collected from departments of correction for studies.

Another limitation was the cross-sectional nature of NRS data; 2015-16 was unique both as the final year in which data were collected on learning outcomes as defined in prior legislation and as mapping to 2018-19 qualitative narratives. Future studies could consider multiple years of NRS data under new outcome measures definitions, to cross-validate findings, providing definitions of outcomes are consistent across years.

With respect to recidivism, availability of recidivism data on basic correctional education from only 12 states is a major limitation to conducting national analyses. A lack of recidivism data from the other 45 states and territories means that conclusions about relationships of recidivism with participation in basic correctional education nationally cannot be made. The recidivism data that do exist represent 2018-19 state rates for WIOA, Title II, that met a three-year recidivism definition, typically described as through reincarceration. However, the state directors' qualitative summary guidance does not require states to follow a common recidivism definition, rather simply to report how they calculated it for adults participating in basic correctional education. Where state recidivism rates are unknown, determining why data are not collected might lead to a solution. In qualitative narratives, multiple state staff indicated they were working with correctional and other state agencies to gain access to recidivism rates. As more recidivism data come available, future analyses could investigate their relationship with learning outcomes.

Additionally, recidivism can be defined in multiple ways – according to Davis and colleagues (2013), it can be measured through rearrest, reconviction, reincarceration, or through parole measures. One-year or three-year time periods are most common. Data on arrests and convictions could supplement return-to-prison data in describing relationships with outcomes more comprehensively (Pompoco et al., 2017).

Despite these limitations, this paper contributed new knowledge from largescale data on assessed skills of participating adults and their learning outcomes, as well as meaningful relationships with available recidivism information. This finding on basic correctional education, while limited, is worth further investigation, both across states and within facilities. Where basic correctional education correlates with lower recidivism, circumstances and reasons need to be evaluated locally and success celebrated. More needs to be known about how basic correctional education programs are implemented and their effectiveness. In 10 states with lower recidivism

rates for participating incarcerated learners, how are services offered? What differences in programming occur, for example, in Alabama, Kansas, or North Dakota, in contrast with Florida and New Mexico?

Though not measured in this paper, other potential explanations for lower recidivism include availability of supports to reentering adults, differences in local employment opportunities, and alternative programming in mental health or substance use. Correctional and adult education researchers need to design tighter studies with clear definitions of recidivism and program implementation, including intensity and dosage, to make a strong and clear case for the relationship of basic correctional education participation with recidivism and learner outcomes.

Future research should also look at economic outcomes of participating adults after reentry, such as current employment and earnings outcomes; under WIOA legislation these outcomes were deemed unreliable in 2015-16 so were not included here. Also excluded from outcomes were unknown counts of reentering adults who participated in WIOA, Title II, community adult education programs. Future study of reentering adult learning outcomes would also be informative to practice and policy.

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Appendix

NRS Table 10 Outcomes by State

State	Year(s)*	3-Year AE Recidivism Rate* (%)	3-Year Recidivism Overall Incarcerated Comparison Rate* (%)	2015-16 EFL Completion Rate (%)	2015-16 HS Credential Completion Rate (%)	2015-16 Entering PSE Current Year Rate (%)
Alabama	FY2017 to FY2019	16	31	41	85	12
Arkansas	2015	56	57	41	56	1
Florida	2016, 2017, 2018	28	25	36	51	3
Georgia	FY2015-16	19	28	49	86	17
Indiana	2016, 2017, 2018	30	34	73	83	26
Kansas	PY2016	9	34 ǂ	64	90	10
Louisiana	PY2015	25	33 ǂ	58	90	18
Missouri	2015-16	41	43 ǂ	58	86	2
Mississippi	FY 2015	29	33	Not reported	98	Not reported
North Dakota	3 years	17	39	41	99	69
New Mexico	2015-16	60	54	35	87	8
South Carolina	2016	16	21	43	86	6

Note: *Reported in 2018-19 state qualitative narrative; ǂ Designates missing 2019 data supplied from Virginia recidivism comparison (2/2020).

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Viewpoint

Declining Enrollment in Federally-Funded Adult Education: Critical Questions for the Field

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Abstract

This essay describes the decline in the number of participants enrolled in federally-funded adult basic education (ABE), adult secondary education (ASE), and adult English Language (EL) programs. Enrollment data since 1965 indicate a steep and consistent downward trend in the number of adults enrolling in these programs since the 1990s. Importantly, since program year 2000-2001, the first year reflecting standardized reporting, there has been a 65.8% reduction in the number of ABE/ASE students enrolling in federally-funded programs and a 49.2% reduction in the number of EL students. The purpose of this article is to highlight the long-term nature of these trends, ask critical questions, and promote further engagement with the topic.

Keywords: adult basic education, adult secondary education, adult English Language, adult education, enrollment

This essay describes the contours and implications of an important issue for the field: the consistent decline in the number of participants enrolled in federally-funded adult basic education (ABE), adult secondary education (ASE), and English Language (EL) programs. For the purposes of this essay, these programs will be referred to as *federally-funded adult education (AE) programs.*

Program enrollment data is considered in two chunks: 1965-2000, the years during which enrollment and reporting procedures across programs and states were likely less consistent; and 2001-2020, the years which reflect more standardized enrollment and reporting procedures. Both sets of data show a similar downward trend in the number of adults enrolling in federally-funded AE programs. Importantly, since program year 2000-2001, the first year reflecting standardized reporting procedures, there has been a 65.8% reduction in the number of ABE/ASE students enrolled in federally-funded programs and a 49.2% reduction in the number of EL students. These trends have important implications for the field in terms of funding, instruction, and national policy priorities. The purpose of this article is to highlight the long-term nature of these trends, ask critical questions, and promote further engagement with the topic.

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Data Sources and Limitations

The enrollment data in this essay come from two sources: the 2013 U.S. Department of Education (ED) publication, *Federal Adult Education, A Legislative History 1964-2013,* and reports from the National Reporting System (NRS). Records of enrollment in federally-funded AE programs are available beginning in the program year 1965 (ED, 2013). However, many factors limit the analysis possible for the data from years 1965-2000, including changes in legislation and identification of instructional categories, as well as variation in state- and program-level enrollment and reporting procedures. For example, separate enrollment data for ASE was not available until 1972, and EL services were not consistently recorded as a separate instructional category until 1985 (ED, 2013). Additionally, before 1998, criteria for defining enrollment may not have been consistent across states, or even across programs within a single state. For example, a student attending an orientation session but never returning may have been counted as enrolled by some programs but not by others. Because of these limitations, reports of the numbers of learners enrolled in federally-funded AE programs from 1965 to 2000 may be inexact.

With the passage of the 1998 Workforce Investment Act (WIA) came new expectations for accountability and consistency across reporting procedures. With the advent of the NRS, the definition of enrollment became standardized to mean a student who participates in a minimum of twelve contact hours (National Reporting System Support Project, n.d.). Programs receiving federal funding were mandated to enter attendance information, along with evidence of performance outcomes, into the NRS, which is compiled into a public and searchable database (see https://nrs.ed.gov/). The earliest data available in this system is program year 2000-2001.

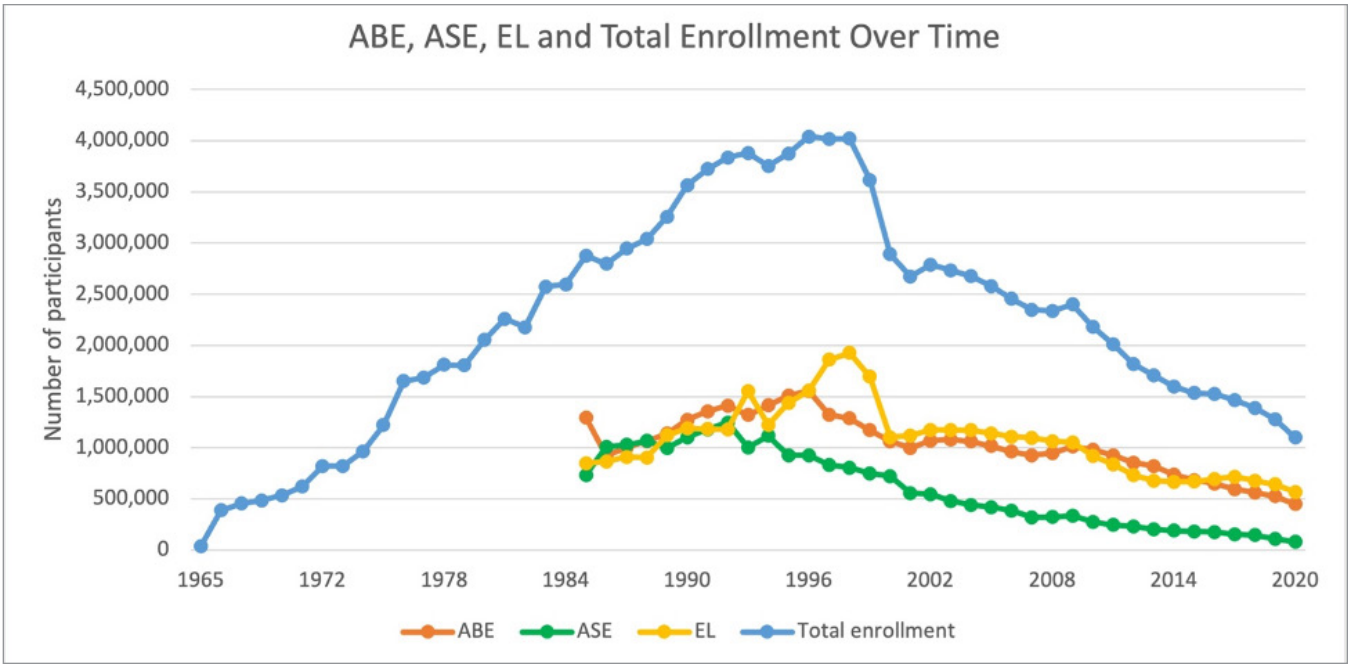
During the writing of this article, the NRS database reporting these numbers was offline for an extended period while the system was being upgraded. Therefore, the most current versions of national enrollment numbers for program years 2000-2001 to 2017-2018 were received via email from NRS personnel (Tucker, personal communication, 2020). However, while this article was in press, the NRS website was re-activated, and enrollment numbers for 2018-2020 were downloaded and included in the analysis..

A few times, the numbers present in the ED report conflicted with the numbers in NRS. When that happened, the numbers from NRS were used, with the assumption that these reports were more accurate. The discrepancies were few and small in scale: only four years showed a discrepancy, and the largest difference in the total number of ABE/ASE/EL students enrolled was 1,487 people.

Enrollment from 1965-2020

In 1965 there were 37,991 recorded participants in adult education programs funded by the Economic Opportunity Act of 1964 (ED, 2013). Two years later, when the Adult Education Act became part of the Elementary and Secondary Education Act, the number of recorded participants increased to 388,935. In general, federal records indicate that overall enrollment in programs gradually and consistently increased until the 1990s and then began to decline and continued to decline until 2020. The line graph below illustrates this trend.

Although a few years show small increases in the student population, an overall downward trend is apparent. Table 1 highlights a few key specifics from the line graph: the peak enrollment year for each category of instruction and the overall student population, as well as the enrollment numbers for



Note: 1985 is the first year for which separate information for ABE, ASE, and EL are consistently available.

2000-2001, the first year of available NRS data, and enrollment numbers for 2019-2020, the most recent year available at the time of writing.

TABLE 1: ABE/ASE/EL Enrollments Highlights

	ABE	ASE	EL	Overall
Peak year/ #participants	1996/ 1,555,709	1992/ 1,247,709	1998/ 1,927,210	1996/ 4,042,172
2000-2001 participants	998,474	556,008	1,119,946	2,674,428
2019-2020 participants	450,708	80,764	568,738	1,100,210

It is clear from the data that the general trend is a substantial reduction in the number of participants in every instructional category, as well as in overall enrollment. The scale of this decline is fairly extreme: overall enrollment in 2020 had not been so low since 1975.

Questions and Implications

Why are fewer people enrolling in federally-funded AE programs? This question likely has a number of complicated answers. Recent trends, such as the increase in gig-economy jobs that do not require a high school degree, may help explain current enrollment rates, but do not account for longer-term decline. Similarly, inconsistencies in reporting prior to NRS may have inflated the number of participants considered enrolled, but the decline in participation began before this change and has continued well past: since program year 2000-2001, the number of ABE/ASE students enrolling in federally-funded programs has declined by 65.8%, and the number of EL students has declined by 49.2%.[1]

1 Some practitioners have reported anecdotally that the number of ABE/ASE students in their programs has gone down because the number of EL students has gone up. However, the data show that both student populations have experienced a substantial decline.

Despite the reduction in the number of participants, national assessments of adult competencies suggest that the percent of the adult population without the skills to complete certain kinds of school- and test-related learning tasks has, if anything, increased slightly in the last 30 years (ED, n.d.-a; ED, n.d.-b). Why are these adults no longer coming to federally-funded AE programs?

After we recover from the COVID-19 crisis, the inclination may be to single out the pandemic as an explanatory factor in enrollment and participation trends. However, it is important to acknowledge the longer-term nature of the decline and to consider the complex forces influencing participation in federally-funded AE programs. Below, I will briefly address the roles of policy, funding, learner interest, and technology, with suggestions for possible directions for future research that could help shed light on this issue.

Policy

The major policy initiatives in federally-funded AE are the 1998 WIA and its update, the 2014 Workforce Innovations and Opportunities Act (WIOA). Roumell et al. (2019) report substantially increased policy activity pertaining to adult and workforce education since the 1990s, but the impact of these efforts on participation is unknown. However, participation in AE is influenced by other types of policy. The 2001 No Child Left Behind Act (NCLB) resulted in substantially increased K-12 graduation rates (Harris, 2020) and likely reduced the number of adults seeking ABE/ASE programs. Increasing restrictions in immigration policy that began in the mid-1990s (Cohn, 2015) may have limited the number of adults seeking EL services. Finally, while much research has articulated barriers to AE participation, these barriers are heavily influenced by social welfare policies that shape access to housing, healthcare, employment, food, and supplemental basic income. Shaw et al. (2006) demonstrate that the 1996 Personal Responsibility and Workforce Opportunity Reconciliation Act (PRWORA) negatively influenced the number of African-American and Latinx welfare recipients who enrolled in college. Although no such systematic analysis has been conducted regarding federally-funded AE participation, it is likely that this and many other policies have worked in concert to influence these rates. Understanding the broader policy landscape could help advocates shape future policies to better support program participation.

Funding and Access

Federal funding for AE programs has declined since 2001 and substantial additional cuts continue to be proposed (National Skills Coalition, 2018; ProLiteracy, 2020). Although historical information about the total number of federally-funded programs is not readily accessible, in some locations funding cuts after the 2008 financial crisis drastically reduced the number of these programs, creating barriers to access (Pickard, 2021). Furthermore, in recent years most states showed waitlists for federally-funded AE programs (National Council of State Directors of Adult Education, 2017). This suggests that although enrollment has declined, in many settings there are more students who wish to enroll than are capable of being served.

To what degree limits to program access account for the decline in federally-funded AE enrollment is unclear, but it is likely at least a partial factor. Understanding whether non-federally funded programs have experienced a similar decline in enrollment might help clarify whether the trend is specific to federally-funded AE.

Learner Interest

Given that graduation rates have gone up, it seems reasonable to suggest there may be a growing lack of interest in AE programs that are structured to lead to a high school equivalency degree. Although assessed skill levels have remained more or less the same, it is likely that the credential itself - rather than an interest in skills improvement - drove the participation of large numbers of learners. Simultaneously, there is some evidence that a top-down approach to adult education, such as the one created by the present federal accountability system, might discourage enrollment from a broader range of participants. International development literature and adult learning theory suggest that involvement from adults in the direction and nature of their learning is essential for engagement (Walters, 2014). It seems possible that the increasing narrowness of the field (Belzer, 2017) might serve as a disincentive for some adults interested in other things. Programming that allows for more variety and student input, such as adult diploma programs and online learning opportunities, may be more popular than "traditional" ABE/ASE programs (Gopalakrishnan, 2008), as might the increasingly available vocationally-focused programs. An exploration of participation rates in alternatives to traditional ABE/ASE programs could help shed light on whether other models of instruction might be more attractive to students.

Technology

Although many aspects of infrastructure, economics, and individual skill may constrain how adult learners use technology, many are likely using it in ways that support their engagement with learning. The level of independence facilitated by technology and the availability of online learning opportunities may contribute to the reduction of participants in traditional classrooms. Much more research is needed in this area to understand how adults are engaging with opportunities tailored to ABE, ASE, and EL learners in the digital world. Data from online program experiences during COVID could add much to our understanding.

Conclusion

So many factors potentially influence the decline in enrollment in federally-funded AE programs that pinpointing a single explanation is likely impossible. Nonetheless, taking clear stock of this decline and its potential causes is imperative. For many years, federally-funded AE programs have served large numbers of adults seeking literacy and English language support, academic skill development, high school equivalency credential attainment, and workforce preparation. For these adults, and for our collective communities, the continued decline of these programs is potentially devastating.

Without further information, it is impossible to know to what degree declining enrollment can be attributed to policy, funding, or other factors. In addition to the directions for further investigation suggested above, there remain many specifics of the trend itself that are not known, such as: Is the distribution of enrollment decline consistent across the country, or are there pockets of substantial concentration? Is the distribution of enrollment decline consistent across gender, race/ethnicity, age, and urban/rural populations? Research addressing these and other questions could add much to our understanding.

My hope is that this essay will encourage others in the field to consider this decline in enrollment, its causes, and its potential implications. Perhaps most importantly, I wish to ask: What steps - if any - should we, as practitioners, researchers, and advocates, take to reverse the trend?

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Introduction to the Forum

Co-Editors, Adult Literacy Education

The relationship between educational research and use in practice has long been viewed as problematic, with many researchers wringing their figurative hands over poor utilization of their work (Broekkamp & van Hout-Wolters, 2007). While angst over this topic has mostly pointed to practitioners' resistance to using research (Labaree, 2008), it does not inform policy making as much is might either. Meanwhile, many practitioners and policymakers decry a lack of research that can help them do their jobs better. In this issue's Forum, the editors invited authors to discuss the ways that programs and policy makers do or could use research, barriers to doing so, what types of research are most helpful, and potential approaches to building better intersections between research, practice, and policymaking. We sought diverse perspectives on this question by inviting Deborah Kennedy, an expert on policymaking; Carmine Stewart, a community activist and instructional leader; and Elizabeth Severson-Irby and Kate Rolander, professional development designers to weigh in.

Through this Forum, we aim to begin a discussion about why research as it is presently structured often fails to influence practice and policy by looking at how research is presently used in these three different areas. We hope that this Forum stimulates new thinking about types of research and supports needed to use it in a range of contexts as well as new questions that can meet the needs of diverse audiences.

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Forum: The Role of Research in Policy and Practice

(Part 1 of 3)

Research and Policy: A Three-Way Intersection

Deborah Kennedy, National Coalition for Literacy

Organizations advocating for federal, state, and local level support for adult education have long relied on the power of individual story to influence both public perception and public policy. Recognizing the effectiveness of adult learner and adult educator voices in advocacy, professional organizations such as VALUEUSA (2021), ProLiteracy (2021), Coalition on Adult Basic Education (n.d.), and TESOL International (n.d.) have developed training programs, provided advocacy toolkits, and organized visits with policy makers in order to promote and sustain awareness of the benefits of adult education for the lives of individuals and the fabric of the community as a whole.

At the same time, decision makers across the political spectrum have increasingly come to rely on research to inform the process known as evidence-based policymaking. According to the final report of the Commission on Evidence-Based Policymaking (CEP) within the U.S. Department of Health & Human Services' Office of Planning, Research & Evaluation (CEP, 2017), evidence-based policymaking is "the application of evidence to inform decisions in government" (p. 11). A fuller definition is provided by the Evidence-Based Policymaking Collaborative (2016):

> Evidence-based policymaking has two goals: ***to use what we already know*** from program evaluation to make policy decisions and ***to build more knowledge*** to better inform future decisions. This approach prioritizes rigorous research findings, data, analytics, and evaluation of new innovations above anecdotes, ideology, marketing, and inertia around the status quo. (p. 2)

How can the adult education field "prioritize rigorous research findings" that inform evidence-based policymaking, while also taking advantage of the persuasive power of the "anecdotes" that those affected by the policies can provide? This paper identifies two strategies that researchers can employ to reconcile the two and proposes three areas of current interest where those strategies might be used to good effect.

Current Strategies for Research

Policymaking is a complex and nuanced process. Evidence from research can inform it in important ways, but both researchers and policymakers must recognize that "a narrowly 'evidence-based' framing of policymaking is inherently unable to explore the complex, context-dependent, and value-laden way in which competing options are negotiated by individuals and interest groups" (Greenhalgh & Russell, 2009, p. 304). Two strategies that have emerged in recent years provide avenues for broadening the evidence-based policymaking process so that it reflects this complexity more fully.

The first is an increased emphasis on direct interaction between researchers and policymakers. "The process of using available

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evidence to make decisions relies on knowledge of what evidence exists … [communication between policymakers and researchers] helps to ensure the most relevant information is conveyed in a timely, reliable, and credible manner" (Bipartisan Policy Center, 2018, p. 5). A powerful example of this is provided by the Pew Charitable Trusts' Results First initiative, which works to establish partnerships that bring researchers together with state-level policymakers to identify, study, and address matters of public concern.

> Partnerships structure learning and collaboration between researchers and decision-makers, and can help connect relevant evidence and experts to the right policymakers at the right time. Perhaps most importantly, these interactions cultivate trust and encourage those involved to participate in other efforts that effectively use evidence to address public problems. … Leaders have found that building these collaborations can help sustain evidence initiatives over the long term, maintaining projects through policy cycles and leadership of staff changes. (Bednarek & Dube, 2021, para. 3-4, 6)

While creating such partnerships can be challenging in terms of funding, staff capacity, and expectation management, once established they can guide development of research questions whose answers inform policy and practice. As Matthew Soldner (2022), commissioner of the National Center for Education Evaluation and Regional Assistance at the Education Department's Institute of Education Sciences, observed in a speech, "Data can be powerful, but it also needs to be actionable. We need a plan for action before starting research." A policymaker-researcher partnership can strengthen both research and policy by identifying actionable, achievable outcomes.

The second emergent strategy entails intentional involvement of the groups and individuals who are most directly affected by policy decisions. This is Strategy One in FHI 360's Eight Strategies for Research to Practice: "Include key stakeholders in research to increase the likelihood of producing useful research findings" (Canoutas et al., 2012, p. 1). Recommendations for implementing this strategy include identifying and prioritizing stakeholders who "will be directly affected (positively or negatively) by the research results" and "identify[ing] opportunities to obtain stakeholder input at each stage of research," starting with the formation of research questions and extending through "dissemination and advocacy of findings" (Canoutas et al., 2012, p. 1).

A deeper collaboration with those who are ultimately affected by policy decisions is community-based participatory research (García, 2022; Urban Institute, n.d.). In this equity-based approach, all partners are involved in all aspects of a research project; in the case of adult education, this would mean participation by adult learners in outlining the purposes and goals of research and identification of the research questions, as well as data collection, data analysis, and development and presentation of conclusions. García notes that such collaborations can be challenging to maintain, given the transient nature of many adult learners' participation in educational programming. In addition, adoption of this approach requires mutual agreement on how authority, responsibility, and credit will be shared, as well as consideration of ethical issues such as informed consent, confidentiality, and ownership of intellectual property (Holkup et al., 2004). However, it is well worth the effort for the depth and nuance of understanding that can be achieved when adult learners are actively engaged in contributing their perspectives and knowledge to research design and data analysis, rather than serving merely as study subjects. As Goetz (2022) has noted, the community-based participatory research approach moves research beyond the "what" to the "why"—or more specifically, the "what works for whom, and why."

Opportunities for Research in Adult Education

Given the possibilities that these research strategies open, and the total transformation of the socioeconomic and sociopolitical landscape that has taken place over the past two-plus years, how can researchers examining adult literacy, numeracy, and digital skills take maximum advantage of the opportunity that evidence-based policymaking presents? Here are three research areas that could illuminate key aspects of shifts in the adult education landscape. Each area provides opportunities for traditional research methods to ask and answer important questions. In each case, though, the adoption of direct researcher-policymaker interaction and a community-based participatory research model could allow for development of both a richer set of research questions and a more nuanced body of evidence. Research plans that start with the three-way intersection of policymaker concerns, researcher interests, and end user (adult learner, adult education provider, employer) priorities create connections that can base policymaking in a clearer understanding of "what works for whom, and why."

Integrated Education and Training

Federal policymakers' interest in adult education is heavily oriented toward career and technical education, as evidenced by the size of the bipartisan Congressional Career and Technical Education Caucus (https://careerandtechnicaleducationcaucus-langevin.house.gov/) and the considerably larger federal investment in WIOA Title I in relation to WIOA Title II, the Adult Education and Family Literacy Act. In addition, despite some concern and confusion about the meaning and value of different credentials, interest in skilled trades certification as an alternative to a four-year college degree appears to be increasing (Marcus, 2021a, 2021b).

These related factors give researchers the opportunity to draw adult learners in integrated education and training (IET) programs, program providers, employers, and policymakers together in research projects that explore how IET and other bridge educational models meet the needs and goals of various stakeholders and how they are using more recent developments in technology-mediated instruction to strengthen their outcomes and extend their reach. The work of the Advancing Innovation in Adult Education project (https://lincs.ed.gov/state-resources/federal-initiatives/advancing-innovation/explore), which highlighted partnerships between adult education programs and workforce, community, and higher education partners, provides a strong foundation for further research that also engages adult learners in identifying research questions that are relevant to them and discerning how the research results intersect with the specific situations in their communities. Similarly, researchers can use policymakers' interest in career and technical education to increase their awareness of the critical foundational skills and high school equivalency steps that underlie success in skilled trades training programs, inviting policymakers to identify the research questions that that awareness raises.

Digital Equity and Digital Inclusion

Researchers have produced a number of important studies on aspects of the move to online instruction that the pandemic has entailed (see, for example, Belzer et al., 2020; Morgan, 2020; Vanek, 2021; Vanek et al., 2021). This work has provided key insights into issues of access and availability, such as the fact that in some geographic areas virtual learning has resulted

in improved participation and persistence due to its mitigating effect on other concerns such as transportation and child care (Vanek et al., 2021). As Academy of Hope CEO Lecester Johnson has observed, the need to help children with their homework is one of the primary motivators that leads adults to enroll in adult education (Wondrium, 2021). An interesting direction for research could therefore be exploration of the effects that children's school attendance from home during COVID-19 has had on parents' and caregivers' attitudes and actions with regard to their own educational paths. Involving adult learners and educational programs in this research could lead to deeper insights into the factors that influence adult learners' motivation, engagement, and persistence, providing information for policymakers on the ways that preK-12 education policy affects adults and adult education providers.

Additionally, with the impending implementation of the Digital Equity Act, researchers will have multiple opportunities to study the effects of increased access on the groups that make up the majority of the population of adults with foundational skill development needs. An initial point for investigation could be the role(s) that such adults play (or are able to play) in the initial planning phases of implementation at state and local levels, and how such planning takes their needs and perspectives into account. Research in this area will be essential for evaluating how well DEA-funded work is fulfilling the law's mandate.

As high-speed access becomes more widely available in communities, researchers' attention could turn to uptake: whether, how, and how much adults in unserved and underserved communities begin to use newly available digital resources. Here again the involvement of community members in the development of research questions and interpretation of response data could provide greater depth of understanding. According to Zia and Keane (2021), for example, uptake was substantial among older adults in underserved parts of the District of Columbia when access to telemedicine became available during COVID-19. Their observations point to the need for further study of which populations adopt which technologies for which purposes, as well as studies that expand current understandings of how adults with foundational skill development needs interact with digital tools, such as the work on AutoTutor conducted by the Center for the Study of Adult Literacy (https://sites.gsu.edu/csal/our-study-abstract/), and how they use support mechanisms such as digital navigators who provide training and conduct troubleshooting (National Digital Inclusion Alliance, n.d.).

Adult Education in Community Context

Adult literacy advocates have long stressed the power of education to open the doors to critical housing, nutrition, health care, and other support services that increase individual resilience, strengthening families and building robust communities. Over the past several years, increasing recognition of the entrenched nature and effects of systemic inequity, combined with stark examples of the disproportionate effects of the COVID-19 pandemic on communities adversely affected by inequality, have reinforced the sense that adult education providers and programs must be active partners within the larger social service context in order to achieve their community-strengthening missions. For example, the Open Door Collective (n.d.) provides this description of its strategy: "We want adult foundational skills advocates to make common cause with advocates for other issues (community health, employment, criminal justice reform,

digital equity and inclusion, older adults services, public libraries, immigrant and refugee education and integration, and others) in order to build an integrated approach to reducing poverty." Similarly, a recent resource guide from ProLiteracy provides a rationale for adopting a more holistic perspective that, among other things, "improves the efficiency, sustainability, and transparency of basic skills development systems through coordination and integration with other governmental and non-governmental development supports (e.g., for health, economic and workforce development, democratization, environmental sustainability, and peace)" (Jurmo, 2021, p. 14). And the National Center for Families Learning has initiated the Family Learning Community Collaborative Model, through which "stakeholders working across sectors in service to families, and including families themselves, meet regularly to foster communication and collaboration towards improving learning opportunities for families" (Smith, 2022).

Recent research has provided valuable insights on the influence of the larger context on participation in adult education, with particular focus on factors that impede participation and persistence in adult education programs (Patterson, 2018; Patterson & Song, 2018). A potentially fruitful parallel area for research could be exploration of the effects of social safety net and community support initiatives on adult education outcomes. This research perspective could provide evidence that contextualizes participation in adult education as one element of the return on investment in poverty alleviation and social safety net initiatives.

For example, Mayors for a Guaranteed Income has initiated guaranteed income pilot projects in several cities, including Stockton, CA; Richmond, VA; and Washington, DC. In DC, the THRIVE East of the River pilot project provided direct cash payments and other support to 590 low-income households from July 2020 to January 2022. The Urban Institute's evaluation of project outcomes (Bogle et al., 2022) notes its short-term effects in terms of reduced housing and food insecurity and improved mental health. Longer-term research on direct payment projects of this type could explore whether and how the stabilization provided by the cash payments results in ability and motivation to pursue further education and training. A similar area of inquiry could look at longer-term outcomes of the health care stabilization provided through enrollment in an Affordable Care Act plan. Designing these research inquiries using a community-based participation approach would provide a rich picture that informs the understanding and addresses the concerns of policymakers, researchers, and end users alike.

Conclusion

Partnering with policymakers and adopting a community-based participatory approach to research are strategies that researchers can use to great effect to raise awareness, influence policy, and pose more apt, actionable research questions whose answers matter to end users. By opening the process of defining theories of change and identifying research questions to participation by the two ends of the policy chain—those who make policy and those who live with its effects—they adopt an asset-focused approach that lifts up the knowledge and ideas available in the larger community. At the three-way intersection where makers, recipients, and evaluators of policy converge, researchers engage all participants in making the future possible.

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Forum: The Role of Research in Policy and Practice

(Part 2 of 3)

Research and the Field of Adult Literacy Education

Carmine Stewart, Seeds of Literacy

The adult literacy education field draws on research from several disciplines to support the work of educating the 40-44 million U.S. adults who lack the skills to obtain and maintain family sustaining work opportunities (Kirsch et al., 1993). Adult literacy research that documents the prevalence of low literacy in the adult population is useful for increasing awareness, for advocacy, and for educating funders and community partners about the need for, and impact of, adult literacy education. Research from adult and K-12 education are useful for improving professional practice and implementing effective program initiatives and for developing new knowledge about effective instructional strategies, evolving learner needs, and improving learner outcomes. In adult literacy education, efforts are made to use research for each of these purposes at the national, program, and individual levels. This paper documents how Seeds of Literacy, an adult literacy program in Cleveland, Ohio, uses education research to support its work.

Awareness, Advocacy, Education

Seeds of Literacy (Seeds) provides free, one-to-one tutoring to adults who range beginning readers to those working on earning a high school equivalency credential. Research about the prevalence of low literacy helps Seeds increase public awareness about illiteracy and garner public support for adult literacy efforts. For example, the National Adult Literacy Survey (U.S. Department of Education, 1992) and the National Assessment of Adult Literacy (National Center for Education Statistics, 2003) helped Seeds provide the public with an understanding of how pervasive the problem of low literacy was in America at that time and how literacy rates have remained somewhat static over time. This helped point to the need to address (and prevent) illiteracy in the adult population, and the need for continued surveys of the adult population to track progress.

While information about illiteracy on the national scale provided valuable information, research that provided a more local perspective has been particularly effective in helping to craft a message that hits closer to home. Data that demonstrated high need in Cleveland generally and in specific neighborhoods helped Seeds tell a more compelling story to the local community and to educate funders about the need for increased funding for adult literacy programs in the Cleveland area. They also helped motivate residents of Greater Cleveland, the national community, and even the international community to do their part to decrease functional illiteracy rates by either becoming a Seeds tutor or donor.

In addition to using research to increase awareness, Seeds also uses data to support advocacy efforts, and to educate foundations, potential donors, and

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community partners on the impact of adult literacy education on K-12 education, criminal justice, and the local economy. Research from Dubow et al. (2009) found that parental educational levels predict a child's educational level and educational aspirations through age 19. Given that 47% of Seeds' students are parents of dependent children, the work that Seeds does educating parents has a direct impact on outcomes in the K-12 arena. Mitra's work (2011) demonstrated the role of education in decreasing reliance on welfare assistance programs and the public health care system. At Seeds, 88% of students live below the federal poverty level, and receive some form of public assistance. Achieving a high school equivalency credential increases the likelihood that students will obtain employment that reduces their dependence on the social safety net Furthermore, it increases their ability to participate in postsecondary education and training, which in turn increases their career opportunities and earning potential. Research from the Educational Testing Service (1996) demonstrated that there is an inverse relationship between education and recidivism. This research undergirds the role of adult education as a support for K-12 education, as a strategy for reducing recidivism rates, and as a way to help adults achieve self-sufficiency and decrease dependence on the public health care and welfare systems. Seeds uses this information to help funders, donors, and partners see those investments in literacy impact education, criminal justice, and local economies.

Professional Practice and Program Initiatives

Federal and state agencies develop practitioner standards and shape program practices based on best practice research. Research on supporting learners with special needs and on understanding learning styles impacts professional development requirements and assessment policies at the state level, and impacts program practices. For example, research on best practices for instruction informed the development of the Adult Education Teacher Competencies (American Institutes for Research, 2015) developed for the U.S. Department of Education, Office of Career, Technical, and Adult Education. These competencies inform state teaching standards by providing indicators and examples of what constitutes best practices. As a recipient of state funding, Seeds is held to these professional standards, which provide direction for our professional development efforts.

Seeds uses research to inform program initiatives. As an example, Seeds broadened its reading program based on findings of the National Reading Panel (National Institute of Child Health and Human Development, 2000) to address all five components of reading (phonemic awareness, phonics, fluency, vocabulary, and comprehension). Several factors encouraged us to make this change. First, many students were testing and retesting and not improving their high school equivalency exam scores by much. Seeds was looking for interventions to help those students. Second, tutors asked for help because they didn't feel effective in their work with struggling readers; they worried that students might become discouraged. Third, Seeds began to see an increase in the number of students in orientation who read below a third-grade level. Many of them had already sought help elsewhere, and Seeds was committed to finding solutions. It was clear that Seeds needed to do something different.

The findings from the National Reading Panel made clear that we needed to address all five components of reading to improve learner outcomes. This shift to focusing attention on foundational reading skills impacted everything from assessment to intervention. Seeds began

providing training on diagnostic measures to pinpoint student reading struggles, and to offer training on instructional strategies to address those reading skill deficits. Soon students who overheard newly trained tutors working with other students asked for the same type of help. These tutors were assessing student fluency and phonics and using a more systematic approach to help students develop their reading skills. Now during orientation students are assessed for particular skill deficits, and receive targeted intervention based on the assessment results. Anecdotally, Seeds has witnessed increases in students' confidence, enthusiasm, and skill levels. One student joined the program as a beginning reader with the goal of being able to read his Bible independently read the entire introduction to the Book of Genesis to a staff member within a year's time. Another beginning reader has not only used what she learned to begin writing, she has also used those skills to help other students. This demonstrates that using research to modify program practices can impact learning and instruction, and the experiences of adult learners.

Instructional Strategies and Learner Outcomes

Reading research also led Seeds to other effective instructional strategies. For example, Seeds staff members use research to better understand the needs of diverse learners. Applying Gardner's theory of multiple intelligences (1983) and adult education research based on Gardner's theories, Seeds staff members are able to guide tutors to incorporate multimodal instruction to cater to a variety of student learning styles. This might involve encouraging tutors to incorporate the use of manipulatives in mathematics learning to help students develop a conceptual understanding of math concepts or encouraging tutors to draw graphs or diagrams to help visual learners grasp a science or social studies concept.

In addition to using research to help tutors learn about learners and the ways that they learn, Seeds uses research to help learners learn about themselves as learners. Comings et al. (2000) found that it takes roughly 150 instructional hours to see a level gain in the adult literacy population. Seeds uses this research in its retention efforts with students to encourage them to reach 150 hours of instruction as quickly as possible— seeing progress early can encourage them on to greater progress. When discussing reassessment scores with students, Seeds staff members can use this research and student attendance data to encourage students who may be discouraged in their progress to put more consistent time and effort into their literacy work.

Barriers to Using Research in Adult Literacy

Given these examples of how Seeds uses research, one might be inclined to believe that there are no barriers to using research in adult literacy. However, barriers do exist. The main obstacles to using research in adult literacy education are lack of access to research, lack of understanding on how to implement the findings of research studies, and time constraints.

Professional organizations, professional development professionals, and program administrators have regular access to professional publications, communities of practice, listservs, and professional development activities which expose them to the most current research. Administrators can typically engage in these activities as a part of their paid work responsibilities. However, that access is not always available to instructors, most of whom are part-time employees. In their report evaluating the

Massachusetts adult education system, Johnson and Supel (2020) found that 71% of adult literacy instructors are part-time. This is lower than the national average as reported by the National Reporting System (2022) for fiscal year 2016-2017, where 82% of teaching personnel were employed part-time, and is consistent with Stewart's (2012) findings. Many part-time instructors also receive little or no paid "prep time," but are paid only for the hours that they are actively teaching (Stewart, 2012), which limits access to professional research and limits instructors' willingness to dedicate time to incorporating research-based practices:

> ...instructors are only paid for the hours that they are in class teaching. They are not paid for designing lessons, preparing materials, or grading papers outside of instructional time. Instructors discussed that while they would like to design creative lessons to introduce content, they didn't want to spend a lot of time working hours for which they won't be paid. To spend four hours outside of class designing lessons for a four-hour class, they explained, cuts instructor pay rates in half (Stewart, 2012, p. 149).

This lack of compensation for additional work also includes accessing research and presents a significant barrier to using research to inform instructional practices. At Seeds, 57% of the instructional staff are employed full-time; part-time staff are compensated for the time they invest in professional development.

Even when access is not a barrier, many instructors find it difficult to implement research or lessons learned from professional development activities in their instructional practices (Stewart, 2012). Simply providing information and training does not alter professional practice. Single-session workshops or individual conference sessions are the primary method of professional development for many adult literacy educators, but research has found these methods to be ineffective in impacting instructional practice (Smith & Gillespie, 2007). Instructors need supports and opportunities to figure out how to incorporate new learning into their instructional practice. Full-time instructors may find that the immediate needs of running a classroom preclude them from working to incorporate research. At Seeds, in-house professional development is designed to provide strategies for incorporating research and often includes hands-on practice. This leads to tutors using strategies in their interactions with learners and sharing their experiences with other tutors as well.

Opportunities to Increase Research Use

There are a few important changes that can increase the use of research in the field. First, programs can adopt a learning organization culture that is committed to transferring new knowledge to full- and part-time staff. Program administrators who access research or research-based professional development can be more proactive about disseminating that research among staff. Administrators can share research findings in staff newsletters or during staff meetings and retreats where staff members are being compensated for their time. Administrative staff could sift through research to identify the most salient points and provide staff with practical examples of how research findings can be applied by staff members of varying roles within their particular program context. Adult literacy administrators who make professional development opportunities available to practitioners can seek out professional development providers with recent instructional experience who are able to distill research to actionable steps, and who can share their experiences with implementing those practices. As well, having more research related to instructional interventions with the adult literacy population that includes actionable strategies could increase research use. These small changes can make a big difference for adult literacy learners.

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Forum: The Role of Research in Policy and Practice

(Part 3 of 3)

Educational Research and Practice: A State-Level Professional Development Perspective

Elizabeth Severson-Irby and Kate Rolander, Virginia Commonwealth University

The relationship between research and practice in education, especially in adult education (AE), has generally been tenuous with most educational research focused on K-12 contexts and structured classroom environments that do not directly translate to adult learning contexts. However, the ever-increasing pace of change in the instructional landscape over the last two years has driven us, in our professional development (PD) center, to rely heavily on research about how people learn in diverse environments and to respond quickly with approaches and strategies that can be immediately applied to instructional practice. COVID has reshaped the educational landscape, requiring those in the educational enterprise to be flexible and adaptable in how they view learning and the learning environment.

The ever-changing demands of the pandemic has instructors and programs constantly shifting how they deliver instruction and how they design programs. As PD providers, we have worked to keep pace with these changes while focusing on quality, evidence-based offerings. This article describes how our use of educational research in developing PD has shifted, challenges we face when using and translating research, and suggests future research areas for AE.

Our State's PD Center: What We Do

The Virginia Adult Learning Resources Center (VALRC) is a PD center that serves AE programs across the state. Our work covers a range of activities in response to the state's local programs, our state's office of Career, Technical, and Adult Education, and national initiatives. VALRC employs specialists who create and deliver PD through webinars, face-to-face training, online facilitated and self-paced courses, professional learning communities (PLCs), and one-on-one technical assistance. Our work is informed by what we learn from the instructors themselves and from the PD we invest in ourselves, including scholarly educational research, best practices from other states and national projects, and reports on what works in AE. Translating these types of knowledge into accessible PD that instructors can easily utilize in their classes is a foundational component of VALRC's work.

Why We Use Research

As a PD center, we aim to support adult educators in Virginia with evidence-based instructional strategies and program design. Research provides a foundation for us, as PD providers, as we consistently change course to support new ways of teaching and learning. In addition to using

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research to guide the *what* of AE, there is an increased call for research that guides the *how* of AE, especially research that provides potential keys to harnessing learning, motivation, and persistence, and to expanding engagement through inclusive learning strategies. As PD providers, we work to keep pace with current research to provide the field with revised or new teaching methods, such as inclusive practices and virtual instruction. Additionally, we actively and intentionally seek input from the field to learn about what kinds of practices are working in our instructors' classrooms and which are not. Following that input, we direct our PD development toward research on practices important to them, and recently, these have been practices that support motivation, socioemotional learning, and culturally responsive education.

Challenges We Face

Adult learners bring various experiences and knowledge to the learning environment, which means that the most helpful research focuses on the adult population, taking into account the varying contexts in which they learn. Unfortunately, there is not always research available on key concerns of practitioners. More often than not, most of the research we utilize comes from the K-12 context. Thus, it is not readily applicable to the AE context. We attempt to be diligent about what K-12 research we use, how we use it, and how heavily we rely on it, but we find that it can often be hard to translate to the AE context, and instructors are hesitant to consider it appropriate for adult learner groups.

In our work as PD providers, we consistently hear from practitioners that they often "build the plane as they fly it." Devoting time and resources to accessing and translating educational research is considered a luxury with uncertain benefits. While some could argue that "teachers are teachers," there are nuances in AE that can hinder the applicability and usefulness of research: a mostly part-time teaching staff (Condelli et al., 2010; Smith & Gillespie, 2007), lack of paid time for PD, different teaching contexts (pedagogy vs. andragogy), teaching and learning spaces that are often physically built for small children rather than adult learners, and retention rates that strain long-term instructional planning processes.

There is also a disconnect between what kinds of research are considered valid by researchers and which are valued by instructors. Standardized and generalizable research findings do not often readily translate into actionable instructional strategies (Cochran-Smith & Lytle, 2004), specifically in AE classrooms that are contextually situated, evolving from one moment to the next. What works in a large educational research study does not predict what works in the individual classroom. On the other hand, instructor-driven research reflects the actual experiences of operating in an almost constantly changing set of circumstances, shifting strategies and approaches in response to the immediate needs of learners (McIntyre, 2005). Our PD center is increasingly focused on creating spaces for instructors to share and learn through action research. However, practitioners' time constraints and lack of easy access to educational research to inform their practice make action research challenging to accomplish on any large scale.

How We Use Research for PD Design

Although we encounter challenges in finding relevant research for the AE context, research on effective PD models plays a significant role in determining the structure of our offerings. Over

the last few years, we shifted from a majority in-person PD model to a primarily virtual model, which allows for more interaction and collaboration among educators across the state. We also diversified the types, lengths, intensities, and formats of the PD we offer. To accommodate varying teaching contexts, schedules, workloads, instructional goals, and capacity for PD, we differentiate our offerings and present more of a choice catalog where educators can find what works for them (Desimone & Garet, 2015). We also provide more sustained PD options for those who can participate and collaborate with others during an in-depth study of a topic (Desimone, 2009).

We decided to offer more PLCs in response to the sense of isolation many educators felt at the beginning of the pandemic and the increase in reliance and comfort with virtual platforms. The PLCs allow educators to work through instructional and programmatic challenges, such as quality teaching online, content area instruction, and data management. In line with research findings on PLCs, we have witnessed increased instructor collaboration, innovation, and self-reported improvements in practice (Brown et al., 2018; Doğan & Adams, 2018).

In addition to using research to guide how we structure PLCs, we also rely on research when designing the content of specific PLCs, such as our Teacher Leader PLC. The overarching aim of this PLC is to learn about and apply strategies and instructional practices that are based on neurological science to promote learning in diverse educational environments. The decision to design this PD opportunity as a PLC was grounded in the thought that equity-focused practices require a shift in mindset and that this cannot be accomplished in stand-alone workshops (Leonard & Woodland, 2022). Additionally, this mindset shift requires an ongoing commitment from and collaboration among instructors (Walton et al., 2022). Creating opportunities for educators to interact with one another over several months helps create shared practices (Alhanachi et al., 2021) as instructors build knowledge together using a more bottom-up PD approach (Leonard & Woodland, 2022).

Not every instructor has the capacity for PLCs or intensive PD because of our field's overwhelmingly part-time instructional workforce (Condelli et al., 2010; Smith & Gillespie, 2007). Therefore, we also work to accommodate the irregular schedules, workloads, and instructional goals of adult educators, by offering a mix of the following:

Research-driven models:

- Differentiated PD, similar to a choice catalog, to accommodate varying contexts, schedules, and capacity for PD (Desimone & Garet, 2015)
- More sustained PD options, such as multi-week, semester, or year-long to support deeper learning on a topic, with opportunities to collaborate with others across the state (Desimone, 2009)

Practitioner-driven models that are responsive to schedules and emerging areas of need:

- Support through small groups and discussions to tackle areas of need, such as math instruction and distance learning
- Sixty- to ninety-minute bite-sized, interactive, online sessions
- Synchronous facilitated online courses
- Asynchronous, self-paced tutorials

Research is limited on what works with our specific instructional cohorts who have competing life and work obligations. As much as we can, our PD is designed to follow research-based best practices (e.g., Brown et al., 2018; Desimone, 2009) and

from instructors' input on what works for them to improve their practice (Desimone & Garet, 2015). While we can adjust some of our offerings, others require more research, specifically in the AE context (e.g., English language acquisition, various literacy areas, numeracy, high school equivalency, and other life skills).

An Example of How We Use Research for PD Content

As PD providers, a large part of our task is to facilitate the translation of research into strategies that instructors can readily integrate into their instruction because "PD is less effective when it does not help teachers translate the knowledge or strategies into daily instructional routines and lessons" (Desimone & Garet, 2015, p. 256). Over the last two years, the PD that has been the most repeatedly well attended has explicitly focused on inclusive learning, including socioemotional learning, and delivering quality online teaching. And, while most of the research on these topics comes to us from the K-12 arena, they are sometimes easily translated into the adult education context.

One example from the last year is Zaretta Hammond's (2015) book *Culturally Responsive Teaching and the Brain*, one of the primary texts for our Teacher Leader PLC, described above. This PLC is a series of four synchronous Zoom sessions with asynchronous interaction in response to readings and assignments geared towards reflective practice and a cycle of improvement. While this book does not rely on primary data, it does translate research into practice and provides practitioner-oriented suggestions and strategies, which is why we chose to focus on it. In this instance, the combined use of the research-driven PD model and content, the instructor-driven content selection, and a focus on instructor-to-instructor sharing of practice resulted in learning that, from our observations and informal evaluations, transformed instructors' approaches to teaching and learning and engaged them in sustained PD to improve their practice.

Future Research: Calls to Action

Based on our work, how and why we use research, the research currently available, and the expressed needs of instructors in the field, we offer some calls to action to help direct the future of AE research.

Practitioners as Research Partners

Soliciting and incorporating feedback is essential to help us improve our offerings; however, we have taken this one step further to include practitioners in the planning and facilitation of our offerings. Practitioners are the first line of contact with learners, and their voices and perspectives are invaluable when planning PD opportunities that meet their needs. In addition to including practitioners in the planning and facilitation of PD, creating research partnerships with them would be a way to elevate their expertise further (Hillier & Gregson, 2015; James & Augustin, 2018). One way to involve practitioners in the research process is by supporting them as they develop and carry out action research (AR) projects, which involve cycles of planning, reflecting, acting, and observing (Hine, 2013; James & Augustin, 2018).

Through AR, instructors can "become better at what they do by conducting research," leading to higher quality instruction and improved learner outcomes (Zeichner, 2003, p. 302). Involving practitioners in the planning, execution, and dissemination of research could also help strengthen the relevance of the research and help provide ways to communicate the research

findings in a timely and usable manner. This practitioner-involved process would also equip us as PD providers with invaluable insights into what research is most usable and how that research is best translated into practice.

Research in Virtual Learning for Adults

Feedback from practitioners indicates they are seeking ways to teach effectively in virtual environments, going beyond the use of collaborative platforms or digital tools. We all made a quick shift to virtual and remote learning in spring 2020, doing what had to be done at the moment. Now is the time to invest in developing robust, research-based virtual programs for adults. However, we first need to understand how virtual learning is similar to and different from in-person learning, what strategies are best for virtual learning, how to ensure learners receive the academic support they need and deserve, and, just like in-person learning, we need to know how to keep learners motivated so they persist. An important focus for PD could be developing instructors' capacity to foster the "social aspects" of synchronous virtual learning, including interactivity, collaborative learning, and student-centered instruction to engage learners and increase motivation (Racheva, 2018). Knowing how to develop quality virtual programs is crucial moving forward if programs continue to offer various learning environment options to meet the needs of learners' lives and schedules.

Rethinking Adult Education Models

In addition to rethinking and redesigning how classes are offered, we also need to reconsider how we offer instruction. In order to truly and authentically consider all that adult learners bring with them (lived experiences, culture, background, funds of knowledge, etc.), we need research that helps practitioners understand why and how to build capacity for responsive, inclusive, and differentiated instruction. Building off research regarding culturally responsive education (CRE) practices for adult multilingual learners (Rhodes, 2017; Sanczyk, 2020/2021), more research is needed to understand how instructors in other AE contexts (e.g., high school equivalency, literacy, integrated education and training, etc.) internalize and use CRE practices. We also need to understand the learner's perspective to ensure that teaching practices align with their learning needs and the ways they conceptualize education. Additionally, emphasizing a more learner-centered practice could increase learner motivation and persistence; however, research is needed in this area to make these connections.

Focusing on Learner Motivation

The topic of understanding and increasing learner motivation is consistently mentioned when we ask practitioners what other areas would be of interest to them. We know that learning and motivation are tied to culture (Ginsberg & Wlodkowski, 2019; Wlodkowski & Ginsberg, 1995); therefore, practitioners must understand how to make these connections authentically. Research shows that many factors motivate adult learners to enter AE, which can impact persistence and retention (O'Neill & Thomson, 2013). To fully understand the motivational factors that impact all our learners, we need research that considers their race, ethnicity, culture, and background (DeCuir-Gunby et al., 2016; Kumar et al., 2018;). Combining the knowledge gained from this research with the knowledge gained from understanding culturally responsive practices in the adult context, practitioners could design instruction and programs that meet the needs of learners in an authentically motivating way.

Concluding Thoughts

Over the past decade, our experience as PD providers has shown us that to make scholarly research on teaching and learning of interest and value for practitioners in the field, two overarching conditions must be met: the research needs to be presented in manageable pieces that can be easily translated into instructional practice with minimal adaptations; and the content of the research must be relevant to the immediate needs and goals of the instructors and their learners (Desimone & Garet, 2015). Providing PD opportunities for instructors in all contexts and across varying levels of time availability can help strengthen the ways practitioners deliver instruction, design programs, and incorporate inclusive practices. Finding ways to develop coherence between research and practice, particularly with a focus on adult education, could help encourage lifelong and lifewide learning.

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Book Review

Review of *The Handbook of Adult and Continuing Education, 2020 Edition*

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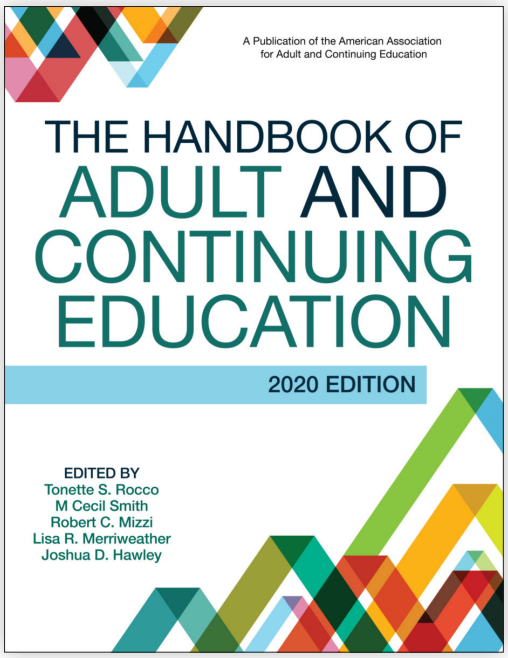
Tyler H.J. Frank, Clark College

The Handbook of Adult and Continuing Education, 2020 Edition is a nearly 500-page text that provides a comprehensive overview of the knowledge, practices, and research in adult and continuing education. The book's overall purpose is to inform scholars, practitioners, learners, and policymakers about the complexities of adult learning in education. It is divided into five sections with the chapters in each section connected by a central theme.



Section one, Foundations, describes the key principles, debates, and developments that demonstrate current grounding in the field today. Section two, Understanding Adult Learning, examines adults as students, clients, stakeholders, and consumers of knowledge and incorporates specifics of contemporary and historical theory. Section three, Teaching Practices and Administrative Leadership, provides useful information about program implementation, program development, and teaching practices for adults. Section four, Formal and Informal Learning Contexts, focuses on the application of adult and continuing education practices in a wide variety of learning contexts including newer focus areas. The fifth and final section, Contemporary Issues, addresses building stronger and more resilient learning communities against the backdrop of current social, cultural, and political contexts.

The volume is made up of 46 chapters plus an introduction, a conclusion, and an epilogue written by the editors. Each chapter follows a predictable structure with subheadings that aid in skimming for specific information. Chapter authors offer adult educators and researchers specific guidance on theories, practices, and perspectives that can guide current and future research and practice connections.

Rocco, T. S., Smith, M. C., Mizzi, R. C., Merriweather, L. R., & Hawley, J. D. (Eds.). (2020). ***The Handbook of Adult and Continuing Education, 2020 Edition***. Stylus. 480 pages, $135.00, hardcover. ISBN: 9781620366844

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Evaluation

The editors, together with the chapter authors, have successfully accomplished their stated goals of informing the field and forging connections among scholars, practitioners, and policy makers. While the volume is well-organized and clearly presented, it does not sacrifice theoretical breadth and depth. This text will not appeal only to scholarly audiences, as it thoughtfully examines implications of practice and policy. The chapters fit and build on each other, offering cohesion rather than confusion about the state of the field. A unique contribution of this resource is the way the editors have placed the chapter authors in conversation with one another. Critical perspectives are brought to bear as counterpoints.

The range of chapters and the content covered depict the extensive territory of adult learning along with distinct theories, practices, and perspectives that are unique to adult learning. Adult learners are not portrayed as unidimensional but are instead represented as complex beings with diverse personal goals and perspectives. Adult educators are likewise described as multifaceted individuals with diverse motivations for teaching and serving their communities. Moreover, the contexts in which adult learners and educators co-construct learning become more layered as our world crosses multiple divides, problematizing issues such as access, opportunity, and program sustainability.

The 2020 version of the *Handbook of Adult and Continuing Education* is of particularly high interest for scholars who are synthesizing historical trends in adult education and for those conducting literature reviews. The volume captures turns in the field that have led to where the field is currently. The text offers an extensive number of references for all subject matter subsumed under the umbrella of adult and continuing education.

The handbook is reader-friendly, easy to navigate, and valuable for locating specific information on many adult education topics. Moreover, the chapters do not simply rehash previously published material, they offer unique perspectives on learning theories and practices that are relevant to today. Contemporary viewpoints point readers of this text toward designing instruction that is responsive for futures yet unknown.

Recommendations

The length and heft of this text may be intimidating at first; however, each chapter is written in an approachable tone that encourages personal connections and thoughtful prompts to guide readers' understanding and application of ideas. This reference book is useful for both novice and experienced scholars alike. While the packaging within such a lengthy volume might present a challenge for some readers, the content in this text is not intended exclusively for scholars or academics. The themes and opportunities for problematizing practice are approachable to and for practitioners.

The major themes and arguments in the resource cohere around central ideas and are well articulated. As the education field continues to change, the perspectives in this text can guide new innovations and reflections on social contexts such as equity and inclusion through the work of labor organizers and activists. The resources within the chapters resonate with perspectives of practitioners and program coordinators. They point to the need for continued examination through the collection of data to further inform both theory and practice.

The volume's informational writing style is inviting. As a reader digs into the material, the

text offers connections among and between the content that spark the desire to read onward. One may come to the resource for a specific purpose and continue reading to make connections across related issues and ideas.

Each of the chapter authors takes a unique stance and offers up-to-date information about multiple facets of adult learning. The content is well-organized and offers a range of perspectives, theories, and approaches. There are unique perspectives offered in the text that will engage any reader with an interest in adult learning. Through these perspectives, readers will make important connections to content detailed in different parts of the book.

Handbooks have their place in all fields and are often viewed as the definitive publication that represents the current state of knowledge. Often the publication of a handbook coincides with a significant shift in thinking among theorists, practitioners, and policy makers. This resource coincides with the global pandemic during which education and the workforce turned to online and virtual means to accomplish their goals for large numbers of learners and workers. This shift came without warning or preparation, prompting the rethinking of many tried and true educational practices. This volume provides theories, research, and practices that ground our understanding of these unprecedented times and offers reflections on the changing nature of learning in the 21st century.

While it may not be practical for individuals to purchase this resource for their own use, libraries and other public repositories should invest in this resource for its value in both informing and transforming the field of adult and continuing education.

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Resource Review

Review of *Desmos Classroom Activities*

Eric Appleton, The City University of New York

In my role as a staff developer in the CUNY Adult Literacy Program in New York City, I support math teachers with curriculum and coaching and teach a weekly math class. In March 2020, I was teaching a class when we switched to online because of the COVID pandemic. Since then, I have been searching for a combination of instructional tools for remote math instruction that would allow for a problem-solving approach to teaching math based on group work. The most useful tool I have found so far is the Classroom Activities tool on Desmos.com.

Desmos offers a range of tools for learning math, including graphing and scientific calculators (also available as free smartphone apps) and a geometry tool for constructing lines, polygons, and circles. Most of these tools allow for saving and sharing the work teachers create through a free Desmos account, which is accessible through a Google login. For example, I have saved almost 300 graphs in the Desmos Graphing Calculator. These tools can be used independently and are available in the Desmos Classroom Activities teaching and learning application.

Evaluation

Desmos activities incorporate each of the functions needed for a problem-solving classroom: displaying mathematical information, facilitating interaction with math tasks, and allowing for substantive interaction between students and teachers. Desmos also promotes a problem-solving approach and tools for exploration and discovery while learning math. In short, it solves the technical problem I was having but also provides a richness of activities and tools for instructional design that were previously outside of my experience.

The Classroom Activities are available as completed sequences created by other teachers or Desmos staff in featured collections by grade level and math content which work well for pre-HSE and HSE level instruction. Teachers can copy and modify existing activity sequences, create a sequence from scratch, or copy individual screens into their activities to develop their own sequences.

Desmos activities have given me the ability to display mathematical information for my students to consider and respond to. They allow me to create interactive screens with the following elements: notes for students, uploaded images, tables of data, and graphs. I can create opportunities for students' responses with text input boxes, multiple-choice answers, input into a data table, and interaction with a graph and coordinate plane. I can even allow students to sketch their ideas on a blank canvas, an uploaded image, or graph. For example, I have used this option to ask

Desmos, ***Desmos Classroom Activities***, https://teacher.desmos.com.

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students to make predictions about the graph of an equation. They might plot points or draw a line on one screen and then consider the completed graph of an equation on the next screen.

Beyond this ability to display and collect information, Desmos allows students to interact with each other's ideas. When designing a screen, teachers have the option to share students' responses with their classmates. A teacher might display a graph of data, say, the price of bread and the federal minimum wage since 1930, and ask students what they notice. After typing their response, they will see responses from their classmates. They can also see other students' responses to a different answer type, such as a multiple-choice question.

In my class, the ease of student input into Desmos screens has helped us interact with each other's ideas. Generally, students do this by sharing screens and looking at each other's work. Since everyone has their work in the same online place (as opposed to a notebook, a Google Doc, an annotated PDF, etc.), students learn the routine of opening the Desmos activity and showing their work to each other. Once everyone learns how to share screens (not necessarily easy for everyone!), students can work collaboratively to make sense of the mathematics through conversation and demonstration. I can't say enough about the power of students teaching each other by sketching, showing calculations with the embedded calculator, reasoning with a data table, and graphing points.

After assigning a Desmos activity, teachers also have access to a powerful teacher dashboard where students' real-time responses can be tracked during a class or in between classes for homework. Teachers can observe where individual students are in activities and see their responses as they occur. There is no need for students to save or submit work, which simplifies the experience for students and allows teachers to give feedback immediately. For example, during a recent assignment, one of my students completed a data table that automatically plotted points on an accompanying graph. I was able to post a feedback note where I commented that some of the points weren't in the same line as the other points. I wondered if the student had noticed this and why that might be true. When I returned to the dashboard the next day, the student had corrected the data table. This response to feedback would take days or weeks if homework had to be submitted, corrected, and returned, missing the moment when the feedback would be most useful.

In my experience, one of the best things about Desmos is how easy it has been for my students to learn. I create a share link for each weekly activity and post it in Google Classroom, though the link could easily be shared through email or in a Zoom chat. After clicking on the link, students can enter with a Google login and begin the activity immediately. They can return at any time with the same link and continue working or see my feedback on their work. Desmos is integrated with Google Classroom, so my class list of students is synced automatically, but Desmos Activities can also be used independently.

Recommendations

I believe the Desmos Classroom Activities tool could be used broadly in adult education, and not just in math instruction. The activities can be created from scratch and allow for displaying of text and images, with text, multiple choice, and drawing responses. These are tools that would be useful in a reading/writing or ESOL class. Text could be posted as a note. A screenshot of a short poem could be uploaded as an image, allowing

students to highlight and annotate. Screens with practice test questions could be created with multiple-choice answers. The teacher dashboard enables teachers to see their students' responses and share them with the class.

However, because Desmos is built for math instruction and collects so many well-designed lessons, it is probably most useful for math instructors in adult literacy. Though the technology is incredibly powerful, Desmos has probably helped me most by connecting me to innovative teaching in K-12 which uses an exploratory, discovery-based approach to math instruction that allows for curiosity, predictions, and conjecture using interactive tools. I have just started to learn about the possibilities of this new form of teaching. Even though we hope to return to our physical classrooms soon, I will continue to integrate Desmos into my instruction, including in-person instruction.

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Research Digest

Dyslexia and Other Reading Difficulties in Adults: Where Are We Now and Where Are We Headed?

John Sabatini, The University of Memphis

The scientific study of dyslexia has a long history, dating back to the 19th century (Stein, 2018). Despite intensive study in the fields of neuroscience, psychology, genetics, and education, simple truths about dyslexia have been slow to emerge, with some early results not holding up to further scientific scrutiny. As a result, many misconceptions persist in the public and among educators. Further, the research conducted with and applied to adult learners is especially thin, as intensive scientific scrutiny has increasingly focused on children and developing readers. In this brief article, I review some of the established findings about dyslexia, its diagnosis, and instructional implications for adult learners. I also briefly review the emerging debate among researchers about the social value of dyslexia as a diagnosed condition, given the social impact on attitudes and services provided to learners of all ages. Finally, I consider the changing nature of reading literacy in light of emerging technologies and research methods that are changing how we both research and understand the cognition of reading.

What We Know About Dyslexia and Reading Difficulties

Dyslexia is at its core a difficulty with word reading. Typically, it is a language-based difficulty impacting the functioning of the visual to phonological network that non-dyslexic readers develop to recognize visual words with ease and fluency (Shankweiler & Liberman, 1989). Dyslexia is not directly a comprehension problem, but difficulties in reading printed words can result in subsequent reading comprehension difficulties upstream in the cognitive system. There is no reason, however, to believe that an individual with dyslexia could not understand and learn something by listening (Seidenberg, 2017).

Dyslexia is distinguishable *theoretically* from poor word reading that results from inadequate learning opportunities or low instructional quality. In practice, this distinction may be difficult to demonstrate in adults. Despite public perception, dyslexia is not a visual processing problem per se that results in letter or word reversals, but rather some combination of language (phonological), visual temporal processing, and sequencing factors (Stein, 2018).

Dyslexia is a continuum condition that ranges from mild to extreme, not all or none. There is currently no test that definitively shows that one is positive for dyslexia, and it does not appear likely there will be one soon (though see Stein,

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2018). Dual deficits in tests of phonological and rapid naming (a sequential processing task) skills are associated with more severe cases of reading difficulty, though disentangling the neurocognitive mechanisms for why and how is a work in progress (Catts et al., 2002; Vukovic & Siegel, 2006).

There is a genetic component to dyslexia, but precisely which genes are necessary or sufficient to make one dyslexic is not known. At best, certain genes may predict an individual's increased risk for dyslexia, though this risk is moderated by one's language learning environment. Current research suggests that there may be more than one variant of gene clusters (genotypes) that can result in the manifesting characteristic (phenotype) of word reading difficulties characterizing dyslexia (Carrion-Castillo et al., 2013; Olson, 2006). True, genetic research may eventually isolate a set of genes that are strong predictors of dyslexia. However, determining whether a case of dyslexia is mild or extreme in severity seems like it will always require interactions with learning progress to diagnose with any level of precision. With dyslexia, there is a nature-nurture trade-off. An individual with mild dyslexia but strong early instruction and practice may end up with the same reading proficiency as an individual with a strong genetic disposition towards reading, but poor learning opportunities and instruction. In contrast, a hyperlexic child may learn to read with no direct instruction, just experience and modeling reading texts. Their brains are wired to learn complex statistical patterns, like sight to sound correspondences (and vice versa) (Ostrolenk et al., 2017).[1]

Diagnosis and Instruction

This nature-nurture interaction is the basis for identifying children, adolescents, or adults with dyslexia and for providing a clear, definitive prognosis for learning to read. Fowler and Scarborough (1993) posed the question, "Should reading-disabled adults be distinguished from other adults seeking literacy instruction?" On the basis of their review of theory and the research, they concluded "that while the distinction may still be valuable for theoretical purposes, it may not be as clear-cut or useful as it once was for most practical situations" (p. 63). They also concluded that research with reading-disabled children and more generally, diagnostic assessments and effective instruction for students with reading difficulties of all ages, could be gainfully adapted for use with adult learners, as long as the adaptations were sensitive to adult needs and maturity (for an updated review, see Sabatini et al., 2020).

In elementary students, there are multiple indicators that a child is *at-risk* of dyslexia, but the ultimate test is providing strong, intense, quality decoding instruction and monitoring the trajectory of word skill learning that ensues. Children that are not dyslexic at all are likely to respond to intervention and acquire age-appropriate word reading skills and fluency. Those with mild dyslexia may require more practice; their reading growth trajectory may be slower, but the prognosis is good. Meanwhile, even intense interventions of lengthy duration may fail to help individuals with severe dyslexia to achieve proficiency; and assistive technologies (e.g., text-to-speech reader) to allow the individual to compensate may be warranted.

1 Note: due to complexity and space limitations, I have simplified discussion especially of other moderating and mediating factors – like other related cognitive skills such as attention, executive function, working memory. See reference list of sources that discuss these issues in greater detail.

The preceding paragraph describes elementary children's learning to read. For most children, the texts are short and mostly narrative; the printed words are mostly simple and frequently occurring in the language; sentence structures are straightforward; and comprehension questions are not very demanding. If you read the texts aloud to learners, they would probably comprehend fairly well; a middle grades student would nearly always understand the text.[2] As a student matures, however, texts grow exponentially in complexity. The breadth of vocabulary that appears in texts expands, sentences become longer and more complex, texts get longer, and comprehension questions become more demanding. These textual changes partly explain the difficulty in accelerating learners who fall behind grade level in reading comprehension early in their K-12 careers. They are chasing after a skill set while grappling with an increasingly demanding print world. Even slow reading (dyslexia's most prevalent symptom in highly spelling-sound consistent languages like Spanish or Finnish) can be highly disruptive to maintaining the pace of grade level changes in text demands.

Back to adult learners. We cannot recreate either the assessment indicators that we might have collected when adults were children first learning to read or their instructional experiences. So, we have no record of dyslexia risk when the reading and text learning environment was relatively simple and finite. Adults live in a literacy world with innumerable texts of every size and kind – not only texts of a few thousand words conveying simple narrative stories. We do not know whether adults received adequate instruction nor how much they practiced. They likely acquired multiple compensatory strategies, but these strategies may be maladaptive for sustained growth, and therefore may need to be unlearned for the adult to recover a more typical word learning skill trajectory. Further, we cannot expect adults to commit to immersion learning and instruction in reading so that we can monitor their individual growth trajectory (and perhaps infer the presence and/or severity of dyslexia).

The Dyslexia Debate - What Is the Public Value in a Diagnosis of Dyslexia?

This brings us to what has been referred to recently in the literature as "the dyslexia debate" (Elliott & Grigorenko, 2014): is there even value in diagnosing dyslexia? Problems the research community expected to be relatively simple (e.g., creating a brief, valid test for dyslexia; identifying behavioral, neurocognitive, or genetic indicators) have turned out to be vexing and complex, taking decades to unravel. For example, research began by looking for visual processing problems (letter and word reversals) only to uncover a mix of phonological, serial processing, language, cognitive, and affective factors.

While the causes of dyslexia and reading difficulties are multiple, the treatment has turned out to be so far singular - quality instruction, especially in decoding and word recognition, with increasing intensity and duration in response to the student's learning progress. The slower that progress, the stronger the evidence supporting a dyslexia diagnosis, with perhaps a cocktail of other cognitive, socio-emotional, and environmental risk factors compounding the challenges of learning to read proficiently.

Individuals with a diagnosis may receive

2 Here, I am assuming native speakers of the print language, not non-native children learning a second language.

additional services. Labeling the cause of the reading difficulties may validate an individual, the parents of children, or a teacher searching for reasons that a learner fails to make progress. For those who overcame reading difficulties to become successful readers, the diagnosis may be a source of pride. These potential positives must be weighed against the experiences of those with the same reading challenges who do not receive the diagnosis. Researchers do not want to give up the scientific pursuit of understanding dyslexia as a distinct condition. However, the pace of learning, change, and conclusive implications of research on dyslexia and reading challenges has been slow. As a result, the question posed by Fowler and Scarborough (1993) is still relevant, for adults and learners of all ages.

Future Directions

Earlier, I noted the challenges of identifying reading difficulties/dyslexia in adults and the prognosis for learning to read proficiently. To address these challenges, we can begin to conduct the research needed with adult learners to build rich datasets that allow us to detect not only the presence of reading difficulties/dyslexia, but also its severity. With recent data science analytics and techniques, we could produce learning trajectories that help us predict what kind and how much instructional support is warranted, as well as how much practice is needed to see substantial achievement gains. For the first time, we have technologies that can closely monitor an individual's reading and language instruction, experience, and practice. With the learner's consent, we can encrypt the data and share with the wider research community. To conduct this microlevel research, we would draw upon: the digital revolution in electronic print sources, increasingly accessible/affordable interactive devices (e.g., smart phones, tablets), response capture technologies (e.g., speech recognition, eye tracking apps), computational linguistics and natural language processing techniques, data analytics, the learning sciences, and AI algorithms. These elements could be aligned to build the infrastructure to test and evaluate theoretical models and practical instructional approaches to improving adults' reading proficiency.

This would be a massive undertaking, but with the knowledge produced, we can imagine a learning environment wherein adults can choose the learning regimen that works best for their needs. Having the choice may encourage a learner's commitment, by which learning outcomes may be accelerated. The prospects for those with severe dyslexia (unaided by assistive technologies) may be less encouraging, but at least we can counsel them early on their prognosis so that they can make informed choices about their lifelong learning goals.

Conclusions

It is not uncommon to read news stories about successful adults with dyslexia. Sometimes the adults were diagnosed in childhood; other times not. On the one hand, this can be viewed as a positive - whether these individuals meet clinical diagnostic criteria or not, the consequent public discussion could encourage less stigma and anxiety surrounding reading difficulties. On the other hand, if the conversation devolves into a comparison of individual accomplishments and circumstances, then it perpetuates the social context that has led to the dyslexia debate. With current estimates of dyslexia at 7-15% of the U.S. population, we can conclude that there are millions of undiagnosed or hidden dyslexics in the adult population. National surveys of adults show basic reading, fluency, and comprehension

skill gaps (Baer et al., 2009; Grotlüschen et al., 2016). This implies that there are many adults with reading difficulties, many with dyslexia, and many leading successful lives even while keeping their reading skills hidden from public view. Thus, as we move forward, how we address issues of dyslexia diagnosis, treatment, and research are likely to have broad societal implications.

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Technology for Simultaneous Blended or Flex (HyFlex or BlendFlex) Instruction

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

Originally, the name of this column was Technology Solutions for Adult Basic Education. *Adult Foundational Education* is a new term that steering committee members of the Open Door Collective, other researchers and practitioners, and I have been using to refer to our field that has often been described with terms such as *adult literacy, adult education and literacy, adult basic education,* or *adult education.* An evolving definition of the new name will be found **here**.

Description of the Challenge

The challenge we take up in this issue is how to provide: (a) *simultaneous blended* instruction that offers adult foundational education learners the choice of two learning modes: in a classroom or simultaneously joining classroom learners remotely, and (b) *flex* instruction that offers a third mode, asynchronous online learning, and the possibility that students can change modes as often as daily. There are many aspects to addressing this challenge including course or curriculum design, professional development and training, assessment, managing the modes, engaging students, and others; one aspect, that we will begin to explore in this column, is using the right technology to match a program or school's purposes and goals, its resources, and its adult learners' needs. This issue of *Technology Solutions* focuses on hardware and software solutions that could be useful for either a *simultaneous blended* or *flex (HyFlex or BlendFlex)* model of *adult foundational education*.

Solutions

There are several categories of hardware and software solutions to consider, including:

Classroom Hardware

As you consider what hardware to purchase, you may want to look for videos on a product's website, or on YouTube, that show how the hardware can be used. The hardware examples below include a wide range of costs from just a few hundred dollars to up to $30,000 including installation. Some of these hardware solutions may require or benefit from hardwired (not Wi-Fi) internet access, and high bandwidth broadband. Product brands are offered as possibilities to consider,

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depending on your program or school needs, not necessarily as recommendations.

Tools to broadcast and video record an in-person class session. Some adult schools and programs use a laptop or smartphone placed on a stand or tripod, with a built-in camera that is focused on the instructor. It is accompanied by software that enables broadcasting, video recording, and possibly uploading and saving a video recording of the lesson. A variation may be to use two video cameras on tripods, remotely controlled, one aimed at the instructor, and the other aimed at the students. The two-camera solution, while including everyone for broadcast purposes may not be feasible for recordings without editing the two videos, a process which can be prohibitively time-consuming and costly, and may require sophisticated editing skills, particularly if an uploaded recorded video is required for each classroom session. The advantages of this solution are that it is relatively inexpensive, that much or all of the hardware may already have been purchased, and that an instructor may already be comfortable using the laptop. An important part of this solution, and one that has many disadvantages, is that a great deal of attention needs to be paid to placement of wired and wireless microphones and speakers to assure that remote learners ("Zoomers") and in-person learners ("Roomers") can all hear the teacher and each other. That may somewhat increase the cost, and unless the classroom is dedicated to these teaching modes it can be time consuming to set up and take down the hardware after each class.

A somewhat more expensive solution is an all-in-one "robot" camera and sound system that tracks and records video and sound of the teacher and Roomer students. Examples of this kind of hardware include:

- OBSBOT
- SWIVL
- Meeting Owl, Meeting Owl Pro and Whiteboard Owl
  Note: Meeting Owl Pro is intended for larger rooms.
- Panopto (licensed with an annual subscription)

The advantages of this all-in-one hardware solution include tracking the movement of the instructor as well as the instructor's voice or the voice of a Roomer student who may be talking. While the costs of these devices range from under $300 to a few thousand dollars, this is still at the low-to-middle cost range of the technology solutions. Some devices, the Owl, for example, have built in microphones and speakers that are suitable for small to medium-sized classrooms. Larger classrooms may require two Owls, and an Owl Connect system. Some devices are easy and straightforward to learn and use; others may be more complex. A disadvantage may be that some of the cameras in this range are slow-tracking and that "teachers on roller skates" may have to slow down so the camera can properly track their movement. Another disadvantage is that Large, and/or high-ceiling classrooms without sound dampening may not enable Zoomers to hear everything that is said.

High-end hardware, in quality and cost, may include: a permanently installed ceiling-mounted, wide-angle camera that affords instructor tracking; a permanent wall-mounted, wide-angle camera tracking system; or a permanent two-camera system in one unit (wide-angle, instructor tracking of motion and voice). These are more expensive solutions.

Display Tools

A traditional whiteboard or a chalkboard with a video camera positioned so that remote learners can see it well is an easy, low-cost solution that

may only require a laptop with a camera, but this may have limitations in terms of capturing the teacher's voice.

An electronic whiteboard (*Smartboard*) may be a better solution, although more expensive. An all-in-one video camera, or possibly a laptop video camera, may also be needed along with a smartboard so that remote learners can both see what is written on the smartboard and see the instructor. Here are links to two video examples of collaboration tools to support interactive whiteboard in-person and synchronous remote activities. These are not necessarily endorsements.

- KappIQ Smartboard. https://www.youtube.com/watch?v=3ojsMEcIxdk
- Vibe https://vibe.us/demo/

An interactive projector
If you have an interactive projector with your presentation software, you can show Zoomers what you are working on in the classroom. One of the possible disadvantages is that it is a projected image that may not be able to be clearly seen by the remote learners.

An interactive television
This is like a giant tablet on a wall, it can function as a personal computer depending on what software you may have purchased. You may be able to control it with a wireless mouse or a keyboard. It may also have presentation software included.

A document camera
With a document camera Roomers should be able to see a projected document, but the image may not be clearly visible to your Zoomers. You'll need to try it out to see.

Audio: Microphones and speakers
If you are not using an all-in-one system, wired or wireless speakers, and microphones (ideally wireless, and moveable across the classroom) – need to be properly placed so all Roomers and Zoomers can hear. You may need several microphones. Wireless microphones, for example ones like these https://www.adorama.com/l/Audio/Microphones-and-Accessories/Wireless-Microphones , should be considered. A wireless lapel microphone for the instructor could be especially useful. One inexpensive and clever solution to microphones for Roomers is the *Catchbox* throwable microphone. You can learn from a video about this at https://thom.catchbox.com/

Classroom laptops, Chromebooks, or electronic tablets for each Roomer
Some adult schools and programs have invested in providing a laptop, Chromebook or electronic tablet for each student in the classroom. These are often kept on a cart rolled into the classroom. For *Simultaneous Blended* and *Flex* models these need to have the capacity to connect to the adult school or program Internet which may need to be a hard-wire connection if there are many students in the classrooms. If Roomers have these, or other devices or their own, they log into the same videoconference that the Zoomers log into. They can participate, at least for part of the class session, in online breakout rooms with their Zoomer classmates. They can also easily take advantage of other online apps and software, or a learning management system (LMS).

Software

Software for the synchronous mode

Web videoconferencing tools for the synchronous instruction mode
These include, among others: Zoom; Google Meet; GoTo Meeting; Webex; and *Microsoft Teams*. Whatever videoconferencing tool you use needs to be able stream the in-person mode and display the remote synchronous mode in a way that is

seamless for class Zoomers and Roomers. In Flex models, where instructors may want to video record and post each class session, it is helpful to have a videoconferencing tool that can automate that process, for example, automatically save each recorded session on a particular page of an LMS or website dedicated to that class, where learners can easily go to find all the video-recorded sessions. Synchronous sessions may be recorded, captioned, catalogued, archived, and uploaded to an LMS such as Canvas or Google Workspace. A convenient captioning tool that can be used with Zoom and possibly some other videoconference software tools is Cielo24 Captioning.

Software for the asynchronous mode

There are many possibilities for the synchronous mode. Some adult schools and programs put this Flex mode in place first using a high-quality, online course designed for their students' needs and their level(s). They may then create the in-person and online synchronous modes to align with that course to provide extended or enriching opportunities to those who prefer to learn synchronously. Other programs simply host the synchronous session video recordings so that learners who could not attend can view them asynchronously, and so that any learner can review segments of the recorded videos as needed. Some programs and teachers design their own asynchronous curriculum, possibly based on their successful in-person curriculum. For these, the software used is a LMS such as *Google Classroom, Canvas, Schoology*, *Moodle*, or another LMS. It may also be possible to use a website for this purpose such as *Weebly/Space, Wix*, or another free or low-cost instructor-made class website.

Hardware and Software Video Resources

To explore these hardware and software solutions further:

- Search YouTube Videos to see hardware product demonstrations that could be used for Simultaneous Blended or Flex model instruction
- Learn more about *flex* model hardware, for example, as used at Waubonsee Community College in Illinois. This site includes:
  - Flex Delivery (a 2-minute video)
  - Flex Overview slides

  https://facultydae.waubonsee.edu/instruction/delivery/flex-introduction
- Watch a World Education EdTech Center webinar video recording of this Distance Learning Strategy Session, "HyFlex Model in Adult Ed: Tips on Technologies & Strategies"
- Explore HyFlex Mobile Kits with slides by Reed Dickson, Program Manager for Faculty Development, PimaOnline, Pima Community College, Arizona https://docs.google.com/presentation/d/1Rwa6FRsElz4NBVhK-YotX3ffQudw5iq1uEs67VLX9do/edit#slide=id.g1013c79c93d_0_87

Reflections and Analysis

Purchasing hardware is complicated. It requires instructors and IT staff to work together to get the right teaching/learning solution(s). It might be helpful for a program using a *simultaneous blended* or a *flex* instruction model to talk with instructors and administrators at other programs using these models about their needs, what hardware and software they have bought, what technology they may have rejected, or purchased and later discarded, and why. If your budget is very limited and you need to begin, limited solutions are possible for between $1,000 to $2,000 Dollars per classroom; however, while these solutions may be adequate, they may not be ideal. It would be very helpful to adult schools and programs if adult professional development centers in states

in which several adult schools or programs have been using these models could develop technology purchasing guides for programs and schools that are new to these models. Also, adult schools and programs new to *simultaneous blended* and *flex* models may benefit from using more advanced and proven technology if their funders could support budgets for it.

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