Advancing Adult Education Research: Post-WIOA

Technical Working Group Meeting

National Center for Education Research
Institute of Education Sciences
U.S. Department of Education
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Technical working group members reviewed and commented on the following meeting summary, and IES incorporated their corrections and edited the summary for clarity and consistency. The views expressed in this document reflect both individual and collective opinions of the meeting participants and are not necessarily those of the U.S. Department of Education.

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INTRODUCTION

On October 26, 2018, the National Center for Education Research (NCER) of the Institute for Education Sciences (IES) at the U.S. Department of Education (ED) convened a group of experts to discuss the current state of adult education. This group of experts included adult education instructors, program directors, state directors, representatives from technical assistance and advocacy organizations, and researchers (including developers of technology, curricula, and professional development as well as evaluators). Representatives from IES and the Office of Career, Technical, and Adult Education (OCTAE) at ED also took part in the conversation.

The goal of this technical working group meeting was to hear from the field about how adult education programming is or is not changing since the authorization of the Workforce Innovation and Opportunity Act (WIOA) in 2014. The meeting also focused on how research and dissemination may support activities under Title II of WIOA: Adult Education and Family Literacy. The day's discussion centered on four topics: (1) basic skills and the traditional focus of adult education programming, (2) workforce preparation and the role of WIOA's integrated education and training (IET) programming, (3) the implications and potential of technology in adult education programming, and (4) building a research base and disseminating information.

Prior to the meeting, participants received a list of the four discussion areas along with discussion prompts and questions. Participants provided their initial thoughts on these topics. IES staff reviewed and compiled these thoughts to identify themes. During the meeting, each discussion included three parts: (1) a brief summary of participants' initial thoughts, (2) participant commentary or "snapshots" meant to provide specific examples relevant to the topics, and (3) a general discussion by all participants. The meeting concluded with each participant describing his or her primary recommendation for IES. This report summarizes key discussion themes and remarks. Where possible, IES has organized the comments made during the general discussion thematically.

BASIC SKILLS AND BEYOND:
ON WHAT AND WHOM DOES ADULT EDUCATION FOCUS?

Summary of Initial Thoughts

One of the difficulties facing the field is that adult education encompasses a broad range of content areas and a broad cross-section of learners, instructors, and programs. Traditionally, adult education programs have focused on a range of services to assist adults with low skills. Programs generally focus on basic skills (literacy, numeracy, and English language proficiency) but may also include programming that focuses on civics education, family literacy, workforce preparation and integrated services, and other topics (e.g., health literacy, financial literacy). The workforce preparation and integrated services have been of particular interest since the implementation of WIOA.

Adult education aims to serve anyone aged 16 and older who is not currently in the K-12 system and has a basic skill need. This population may include basic-skill learners who are native and non-native English speakers, adults working to become U.S. citizens, adults without high school credentials and those with such credentials but with skill levels too low for career or college success, adults with disabilities, and adults who are incarcerated. Two things unify this population: the need to build a basic skill and a wealth of world knowledge and life experience to draw upon to support the development of skills.

The adult education student population varies considerably (e.g., in age, life experiences), and this has implications for program services and research. For example, older students have very different experiences in education settings than younger students and may be drawn to different types of programming (e.g., family literacy instead of workforce preparation). Similarly, English language learners may all need help improving their English skills, but students in the same class can range from those with

little to no formal education to those with advanced degrees. These types of variation can present challenges for classroom management and programming.

Adult educators have widely diverse backgrounds and need evidence-based curricula. The instructors vary in multiple ways including whether they are full-time, part-time, or volunteers; whether they have teaching credentials; the amount of pre- or in-service training they have; and their expertise in the subject matter they are teaching. Instructors may feel pulled in multiple directions due to policy, curriculum availability, student need, and their own level of preparation. Also, instructors often have limited time to increase basic skills of a large, diverse population due to the amount of time and resources students have available to participate in the programs.

Adult education research has made progress in identifying characteristics of effective literacy instruction, but there is still much to be learned in this and other content areas. In particular, the group noted large gaps in research on teaching and learning basic numeracy and writing skills and on professional development. They also note that instructors have tried to apply research-based methods used for teaching literacy to children in the adult setting but with mixed results for reasons that are unclear.

Participant Commentary

Instructor.

Success in adult education programs can be helpful and transform adults' lives, but even the most motivated students struggle. Adult students have diverse motivations for participating in adult education and different pressures affecting their ability to persist. Instructors need to be sensitive to these realities and incorporate open-minded practices so that they do not unintentionally compound students' stress and so they can meet the range of needs and interests of their students.

For example, some learners have retired from the workforce and are motivated to learn for reasons such as reading to grandchildren. Others may have a previous conviction that would make them ineligible for employment in the field of focus for the workforce-training program. Pushing such students into workforce courses or using materials that reinforce workforce goals may undermine their motivation. Teachers are trying to manage covering the content and meeting students' other needs.

It seems that some programs are shut down, even if they have good outcomes. For example, a program may have positive measurable outcomes in one area, such as GED® completion, but still not get continued support from funders. Funding mechanisms may, themselves, be problematic.

State director.

Providers are constantly evolving and changing their focus to meet the needs of the community, policies, and funders. Programs that once focused on a couple things, such as English language skills and GED® completion, now focus on a wider range of activities or activities that may be harder to accomplish, such as career or college transitions.

Successful programming depends on planning with a focus on long-term goals. Employment, preferably high-wage employment, and post-secondary education are current central goals of adult education programs, especially under WIOA. Students in their late 20s have less time than younger students to make choices and complete education goals that support those choices, so accelerated education is essential for them. Providers are trying different activities to help students with career and college goals, such as career awareness, pre-bridge, and bridge programs. However, it is not clear what services work best for which students, whether all students will benefit from accelerated learning, or how providers can realign their programming and resources appropriately.

Teachers find it challenging to incorporate all required activities into instruction and would like guidance on how to do this. Teachers themselves may be resisting programming changes for various reasons.

It is important to ensure that partners such as other community organizations, postsecondary institutions and employers understand what programs offer and how partners can contribute to and benefit from components such as acceleration, integrated training and education, and bridge programs. Providers and administrators could use help in "rebranding" or otherwise communicating their message to other people, e.g., local partners and leaders, state-level policymakers.

Researcher.

To some researchers, it appears that much of the research base for adult education has been cobbled together from other fields and other populations. A concern is that when theories build off of research with children or other populations it may not be valid to adult populations in adult education settings. Another concern some have is that a notable amount work relevant to adult education has been conducted by professionals in other fields, such as psychology, and not adult education per se. This approach complicates dissemination and makes it difficult to get a "big picture" of adult learning and what might be most effective. For example, work related to the education needs of adults with disabilities may be published in psychology and disabilities journals, not in publications with adult educator audiences. So it is not clear that what is learned informs the field broadly or makes its way to end users.

To date, a lot of the research has focused reading. There is less emphasis on numeracy and writing skills. However, writing skills are important for many jobs as well as for citizenship. Similarly, adults with disabilities are often overlooked and understudied.

We need more research related to adults' digital literacy or to correctional education. Although there is extensive literature on family literacy, it tends to focus on child outcomes. . The new nomenclature of "two-generation" strategies tends to focus on providing parallel classes for parents and children. Research on family literacy and "Two-generation" approaches should consider more fully the development of the adults' basic skills along with the shared learning between the adult and child.

There is little longitudinal research, research that tracks engagement in learning over time. It is expensive, partly due to adult learners' mobility and the costs associated with tracking them over periods of years. However, longitudinal research is important for assessing outcomes after program exit and to clarify causal relationships. For example, the Longitudinal Study of Adult Learning (Stephen Reder, PI) showed that program participation led to greater engagement in literacy, which then led to increased proficiency.[1] This finding suggests that focusing on short-term proficiency gains does not adequately capture how programs influence learners' literacy development.

General Discussion

Goals of adult education programming and modes of instruction.

Adult educators are teaching skills other than academics, such as persistence, conflict resolution, and systems navigation. Civic engagement is another important skill taught in adult education settings. Many students find it rewarding to learn how government operates and how they can engage government to create change. Some students have applied civics lessons to successfully change policy and have been inspired by the experience. However, data on this outcome are often not captured, even though civics programming is part of WIOA Title II.

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[1] Reder, S., and Bynner, J. (Eds.). (2008). *Tracking Adult Literacy and Numeracy Skills: Findings from Longitudinal Research*. New York: Routledge.

Teachers vary in their understanding of equity issues that may affect students (e.g., financial aid, wage theft, immigrant rights, housing/rental laws). It would be useful for them to understand these issues and to be able to teach their students how to address the issues through advocacy and community involvement.

Many basic skills learners are very knowledgeable and skilled and have experiences to draw upon, and instruction could leverage such strengths. Contextualized approaches can be transformative for students. Contextualization motivates them to learn skills needed to achieve their goals. Still, knowledgeable students need guidance for developing plans and obtaining funding to achieve long-term goals. This requires navigation skills.

Some changes in program delivery approaches may be useful. Programs tend to be designed for face-to-face delivery over 14- to 16-week-long periods. However, this may not be practical for all students. More flexibility in the timing, structure, and location of program offerings may be useful.

Programs should also consider flexibility in how they assign teachers, especially for courses with multiple subjects or with career or technical content. It is a challenge to find a teacher who is equally skilled in all content areas. Therefore, programs should capitalize on the strengths of teachers or partner instructors with one another or with other experts, rather than asking that they teach all subjects. Instructors teaching in their area of expertise are best able to provide contextualization for the material. Dividing work among co-teachers may be effective.

Navigating systems, transitioning, and accessing program supports.

System navigation is a major hurdle for students, instructors, and providers. Knowing how to get students into and through various programs, find funding support, and manage resources is difficult. Students also need help identifying steps along career pathways. The field needs to determine how to measure progress along these paths. Postsecondary education research and health literacy research may have information relevant to this issue.

In addition to learning how to navigate systems, students need support as they transition between systems. When they graduate from one program and move to the next, they often need assistance learning how to move into and through the new system. However, teachers may not have systems navigations skills or financial aid knowledge themselves. Instructors who suggest possible goals and point out students' capabilities can inspire students to achieve those goals and overcome major barriers.

Students may need personal support for overcoming barriers, such as health, housing, or transportation issues. Some students are dealing with issues such as homelessness or hunger. Unless these are addressed, quality of instruction will not be adequate for them to succeed. However, many adult education providers are not equipped to address these issues. Wraparound support services for adult learners, including the Center for Working Families model and the Financial Opportunity Center model, are crucial for success for learners who need them. Research has demonstrated that by meeting students' basic needs, programs can help them focus on their studies more fully by removing stressors.

Teachers and programs would benefit from professional development or resources to help them identify and address students' needs for transition services (both to college and career) and how they can help students to obtain those services and supports.

The adult education system and community colleges should connect with one another and work on improving transitions. For example, allowing students who score above a specified threshold on the high-school equivalency exam to enter community college without taking placement exam or attain college-level proficiency would be an incentive for adult education students to participate and invest in their programs.

Incumbent workers are another important population, so connecting to their employers and having their support would help. It is not clear how to "hook" employers or get them to help with curricula content or,

perhaps more importantly, with funding to support the education or training itself. When employers are involved, students may show greater improvements, and the outcomes can support the employer. In one state, an employer hosted a basic skills course for its employees and insisted that the English language course be integrated into the basic skills course. They reported that both their English Language learners) (ELL) employees and non-ELL employees benefited from this approach.

Student population and subgroup awareness.

It is important to think of adult education, programing, and outcomes in terms of subgroups. When choosing the right measure, whether for research or accountability, providers and researchers should match the population, program, or outcome of focus. This requires attention to variation. Curricula and measures appropriate for one sub-population of adult learners are often not appropriate for others. For example, while there are several curricula for ELLs, there are almost none specifically targeting adult basic education. The field should identify where there are gaps and prioritize work in these areas.

A substantial number of adult students are ELLs. These learners need to learn how to navigate systems as they are learning language skills. Many had careers and hold academic degrees from their countries of origin but do not have the necessary skills to continue those careers in the US. They are often unaware of how to leverage adult education resources as an entry point on the path to meet career goals. They may need more person-to-person assistance than non-ELLs.

Adults with disabilities may be a notable portion of the student population. For example, some programs have 30 percent of their students self-reporting disabilities. It is not clear that all programs are prepared to accept or serve students with disabilities. Similarly, teachers may not be able to tailor their instruction appropriately. Instruction for students with disabilities can include self-advocacy and can leverage resources such as assistive technology. Many instructors are not special educators, so they may not be ready to serve the needs of students with diverse disabilities. Some programs are trying to use Universal Design for Learning (UDL) approaches but are experiencing limited success. Programs need ways to help diagnose adults who weren't previously identified and to provide them appropriate resources.

Senior citizens are also a part of the population and worth considering. Programs struggle to provide them appropriate services in an environment that seems to target career outcomes. Title II funding is especially focused on workforce integration. But senior citizen students may be in programs only so that they can read to or gain custody of their grandchildren. The field should consider how to address these needs.

Professional development and teacher preparation.

Requirements for becoming an adult educator are less rigorous or not as prescribed than those for K-12 education; in fact, some states do not require a license or even short certification for instructional staff. Instructors may have no prior teaching experience and may be ill-equipped to work in classrooms populated with multi-level learners, some of whom may have learning disabilities and lack of prior formal education. When instructors feel overwhelmed, they are likely to quit. Some organizations rely on volunteers, who also do not have rigorous training and may be unprepared for situations they encounter. The field should determine what is needed to adequately prepare instructors. There is little research on the nature of professional development of adult education instructors. Research should investigate what teachers need to know and how best to train teachers, including how coaching and mentoring should be offered. There is little funding allocated for professional development. Low cost options (e.g., online options) should be determined because teachers are often hourly or make very low wages. WIOA Title II leadership funding has been used for professional development, but more may be necessary. Low pay for instructors is a disincentive for teaching. Higher pay could help to address turnover. High turnover undermines trust between students and teachers, and this could impede learning.

Many teachers are asked to teach math. Few become adult educators because they specifically want to teach math. Some do not have basic math skills; others have math anxiety. Many have no pre-service training and inadequate in-service training in math education. They have to consider standards for adult education, community college placement exam requirements, and authentic career content. Their students must demonstrate level gains on standardized tests after short periods of instruction time. All of these factors lead teachers to make difficult instructional decisions, leading the teachers to prioritize teaching to the test and teaching procedures without context. It would be useful to study how instructors make these decisions and what occurs in classrooms in order to learn about how choices affect student persistence and skill gain as well as professional satisfaction and to determine whether instructors may feel the need to "teach to the test".

Additional research gaps.

Additional research is needed in some areas related to basic skills. The field needs more research on employer-based programs because what currently exists is outdated. Researchers should consider a wider range of relevant outcomes and how to define and measure them for assessing the various types of programs. It also would be useful to know how teachers approach digital literacy instruction, and how policy and professional development support digital literacy instruction. Research on best practices in teaching digital literacy is needed.

Teachers are often reluctant to use whole curriculum packages (e.g., materials that include a teacher's guide, student materials, and supplemental resources), but rather they may pull from various resources in a piecemeal approach to tailor their instruction based on their estimation of what students need or what they can teach best. Results expected of best practices require implementation with fidelity. Researchers, instructors and administrators should consider how to address this issue or explore research that aims to characterize the choices made and why.

WORKFORCE PREPARATION AND ENGAGEMENT: WHAT IS THE ROLE OF INTEGRATED EDUCATION AND TRAINING?

Summary of Initial Thoughts

Under WIOA, there is a clear focus on making sure that adult education activities prepare students for careers, as noted in Integrated Education and Training (IET) programming and the use of workforce boards to help coordinate services. These newer elements of WIOA are the focus of the NCEE-led national evaluation of WIOA, and throughout the comments IES received from the technical working group members, it is clear that these components of WIOA are central in the minds of instructors, administrators, policymakers, and others. In addition to the national evaluation already underway, IES is interested to hear what issues the field would like research to address. The TWG has given these components of WIOA a great deal of consideration, and they appear to inspire both hope and concern.

As a result of WIOA, state agencies are coordinating efforts across multiple agencies. Adult education agencies sometimes find it challenging to work as an equal partner and to communicate effectively with multiple partners. WIOA implementation varies widely within and across states, resulting in confusion for researchers and State administrators. Stakeholders are interested in examples of how workforce preparation and engagement has been implemented, in lessons learned and promising practices.

TWG participants are interested in the promise and challenge of IET programming. Many participants call for descriptive research, an understanding of how IET fits into broader programs, information about leveraging apprenticeships, definitions of program goals, and discussion of whether IET is appropriate for all programs and students. There was also concern that by stressing IET programming, the legislation may change which populations are served by adult education programs. For example, programs may

enroll students most likely to meet IET goals, leading programs to enroll only the students most likely of making gains and achieving IET goals (e.g., finding employment, enrolling in postsecondary education). Research is required to determine whether this is the case.

TWG participants are also interested in how programs choose and implement curricula and how this may interact (or not) with the local economy. For example, a program may be effective in supporting a sector that leaves soon after training has been developed.

In addition, TWG participants want to determine whether adult education is effective at preparing students not only for career pathways but also college pathways and at addressing equity issues related to college readiness.

Participant Commentary

Program administrator.

Some adult education programs use multiple streams of funding, meaning that programs have many accountability systems to attend to. It seems that, nowadays, individual programs need to be part of larger consortia to meet funders' goals and the community needs.

Some programs are "flipping" their services so that the program leads with career readiness and follows with core academics and basic skills. One reason program administrators may feel particularly concerned about this is due to WIOA, which seems to prioritize an employment focus over an academic focus. This approach affects every aspect of coordinating a program. Academic teachers have found it challenging to focus on career-readiness. Programs must make tough decisions about buying curricula, hiring instructors, and other necessary expenses.

Programs may also have concerns about serving the needs of learners. The IETs and career-focus of WIOA are appropriate for some learners but not necessarily all. For example, at programs such as the one the speaker operates, many Level 1 students are seniors or have significant disabilities, and they may not have the same work aspirations or opportunities as other students. The seniors in the speaker's program want to read to grandchildren or get a high school credential for its own sake, not for work.

 WIOA emphasizes workforce preparation. It is challenging to meet legislative requirements but also serve all students.

Program administrator.

Programming is attempting to be "radically student focused" and attuned to WIOA and local economic issues. Some areas, such as New York city, are leveraging their community colleges and U.S. Department of Labor's One Stop Job Centers to develop approaches to help potential learners. About 80 percent of jobs require some level of postsecondary education, so adult education may need to head towards an assumption of "some postsecondary for all" as a goal. This goal leads to a few fundamental questions that programs need to consider, such as "How do we bridge students and systems?", "How do we ensure students have the digital skills to find and keep work?", "What resources are there for programs and instructors?"

It would be useful to operationalize successful outcomes and study students' paths to success. It is very hard for students to gain admission to even general technology training programs. Many training programs assume a basic level of digital literacy and basic skills. One approach is bridge programs that teach digital literacy and help students get the skills they need to be eligible for general training. Such programming may also help to address the digital divide.

Another example is Guild Education, which is a digital learning platform that employers can offer to employees as a benefit. This approach is a partnership with employers and colleges and has created a "one-stop shop" for employers that asks students if their goal is English language skills, high-school equivalency, a college degree, or career advancement. One thing adult education programs should keep in mind is that many adult learners are currently employed. So programs should consider roles of employers in adult education.

Because of the drive to consider workforce preparation, programs may want all content instruction to tie to workplace contexts. There are some resources already out there. For example, Voxy.com is an online tool to teach English skills relevant to specific job sectors.

Research should consider education settings (e.g., community college, library, workplace) and the variability of existing resources (e.g., curricula). For example, there are many technology vendors with products of varying quality. Researchers should develop standards for assessing these products.

Researcher.

Providing contextualized teaching for lower level learners can be a challenge, but it is not new to adult education. In fact, even under the previous legislation, there was a focus on workforce readiness. WIOA may differ more in degree than substance.

Contextualized teaching (teaching academic content within the context of learning some other content such as technical training) is encouraged under WIOA, but there is little research on how to do this effectively and whether it alone is sufficient. There is a need for research as well as professional development in the area of contextualized teaching.

Current wisdom in the field is that effective workforce preparation requires providing necessary wraparound services, bridge programs, and support for transitioning to desirable work. It is challenging for programs to meet WIOA Title II requirements and offer supportive service components. Transitioning to the workplace is challenging. WIOA Title 1, which is administered by the U.S. Department of Labor, is intended to help people get jobs. Titles 1 and 2 support obtaining the necessary credentials for work, but the transition from adult education to work remains challenging. Exploratory work describing how systems currently operate would be valuable for establishing a baseline.

General Discussion

IET Programming goals and options

Programs may be hard-pressed to offer different "flavors" of IET, even when the programs have many learners or are in large, urban centers, because it's difficult to develop and sustain many sector-specific course options.

Some think it may be better to focus on career foundations and similar skills, rather than things tied tightly to a sector. Teaching "soft skills" and building career awareness may be appropriate for IET. Sometimes adult education programs jump too quickly into things like resume writing. The timing of career-transition activities is key to good programming. There is concern that if things are tied too closely to a sector, it will come at the expense of measurable skill gain and achieving broader learning goals. Research should identify skills that are transferable across jobs. Certification for these skills could be valuable to students.

Digital badges may also provide a way to motivate learners and communicate learners' skills to potential employers. Badges demonstrate recognition of non-academic achievements and progress toward difficult long-term goals. Badges can encourage persistence. Students appreciate opportunities to build portfolios of evidence for the skills they have gained. Some programs are already using digital badges. It's

important to have employer buy-in and to tell them which skills are being measured and how. Experiential learning may also be a promising avenue for IET and could be linked to badges or "micro" credentials.

One participant emphasized the importance of being mindful that academic pathways are just as meaningful as career-focused pathways. In the pursuit of career training, it may be important to not lose sight of basic skills and to provide opportunities to focus on skill development separately from the career integration in order to improve student outcomes.

Basic skill programming should be integrated with the supports needed for success. Instructors find pressure to train students for higher-wage jobs to be anxiety-provoking, but information about competencies that are valuable to employers to be motivating. They can use this information to tailor instruction.

The number of students obtaining a GED® credential has dropped 40 percent since 2012, in part due to changes to the test in 2014. The drop in these credentials presents a challenge for IET and transition to postsecondary education programs. This may be in part because students do not want GED®s; they prefer a diploma. In a pilot test, students in one western state were enthusiastic about competency-based diplomas, and the number of students pursuing competency-based diplomas in this state is increasing as the number pursuing a GED® decreases.

A key research question is how to teach people how to learn. Adult learning programs have limited time to teach. But they can teach people to continue learning outside the programs.

Career planning must include plans for funding each step of the pathway. Students may be motivated to change, but cannot follow a career pathway unless they know how to fund it. Students need money for tuition but also for living expenses. Coordination between agencies that provide funding would probably support most students' plans. It would be useful to study the impact of having transition specialists and career navigators in adult education programs. It may be useful to smaller programs to share a career navigator. Research is needed on whether students who are placed in a job are actually beginning a career pathway and how they remain on that pathway. Research should explore the impact of having a career navigator involved with the adult education program.

Collaborating with Title I WIOA agencies

IET programming may be a pathway out of poverty. Title I of WIOA sees getting a job as the first step, and this seems to conflict with the Title II goal of building basic skills. There is continued tension between getting people off public assistance, having a job, and developing people's skills. Prioritizing employment can result in guiding students toward lower-income jobs with little opportunity for promotion. When these students subsequently lose child care support and food stamps, they stop working. Public assistance may provide a better livelihood than a minimum wage job. IET success can provide a better pathway. Program partners in childcare and transportation can provide services that are critical for students' success. Decreasing benefits such as TANF and SNAP immediately when a person becomes employed is problematic. Policy makers should consider extending benefits until a person obtains employment benefits. Career navigators may be able to help adult learners to access needed support services. Title II funding is limited. Researchers should document how other funding sources such as TANF support IET programs, as well as the costs and benefits of using other funding sources.

Because WIOA promotes work across agencies, it is important to collaborate with Title I providers and to start conversations where they are at. It is important for Title II (i.e., adult education agencies) to be at the table and to affirm the role of Title II in reaching Title I goals. One way to frame the contribution of adult education is to describe it as "pre-apprenticeships".

Adult education programming and research should also take into consideration work done through Title I and the U.S. Department of Labor. For example, the TAAACCT grants invested a lot of time and money

into building resources and into exploring how to use competency-based education (CBE). This work may have implications for adult education IET.

There is little research on engagement with Title I partners over issues such as whether IET programming is adequate to meet employer needs. The field should document the role of engagement in ensuring education and training responds to local labor market needs.

IET programming for subgroups.

There are also concerns about the effect of IET programming on particular subgroups. For example, formerly incarcerated adults may have barriers to certain sectors (e.g., healthcare), and if that is the primary focus of programming, there may not be services that can help them meaningfully. Many credentials, jobs, and services, such as federal financial aid, are not available for learners re-entering society after incarceration. Some sectors are more likely to hire than others. It would be interesting to study job retention and criminal recidivism among adult learners in these sectors.

Rural communities also face distinct challenges because of local limits. For example, they may be more prone to "boom and bust" cycles, making planning the appropriate sector-specific programming even more difficult. At the same time, the local economy may not have high-wage or high-growth options. This presents challenges for IET programs in rural communities.

Measuring outcomes of IET.

One issue facing IET programming is determining the right outcomes. WIOA states that programs should offer integrated services that lead to outcomes including educational attainment (an employer-recognized credential) and employment. But there are still questions about what counts as success. Some programs or funders may interpret the goal as attaining a job gain in high-wage, high-growth areas, but this isn't always possible. Sometimes there are life or situational barriers that make this impossible. For example, the regional economy may not have opportunities. And what counts as a gain will vary by subgroups. Some States define success as employment in a high-wage, high-growth sector. However, for some students, such as recent immigrant ELLs, low-wage, low-growth sector jobs are a significant step forward. It may be more reasonable to define success according to the varying needs of sub-populations and their contexts. There is concern that the National Reporting System (NRS) measures may be curbing programming.

The field needs to define and develop measures for integrated outcomes. Changes in learning level, credential achievement, and progress in employer-sponsored training are important outcomes but are not currently credited by WIOA. Research could indicate whether this should be reconsidered.

Collaborating with employers.

It would be valuable to explore the meaning of employer engagement. Legislation requires employer engagement. The field should describe implementation and outcomes. In a western state, food industry employers encouraged adult education programs to work with their employees to build their basic skills, and they were pleased with results. In particular, the employers requested that basic education and English language learning skills no longer be taught separately but rather integrated in adult learning programs because it's integrated in the workplace. Their ELL employees reported that learning with native speakers improved their skills more rapidly, and the employers were pleased with the program.

It would be useful to have policies that encourage employers to invest in workers' education by paying tuition and training costs. Stakeholders in the field need to improve their skills in making the case to leverage more money to sustain programs. Return on investment data could be part of this case.

TECHNOLOGY: WHAT ARE THE IMPLICATIONS AND OPPORTUNITIES?

Summary of Initial Thoughts

Technology can be both a tool to improve adult education instruction and access and a focus of instruction and programming. Using online, mobile, or computer-based instruction may increase adult learners' access to education, reduce stigma, and offer new channels for engaging students. At the same time, digital literacy is critical for workforce and postsecondary school success, so programming may need to focus on building this skill.

There is cautious optimism regarding the role of technology in adult education, but there is also broad concern about learners', instructors', and programs' ability to use technology effectively. Infrastructure and funding for IT support varies between adult learning programs. Teachers sometimes lack digital literacy. Teacher and administrator support is necessary for technological innovation to succeed. Some teachers are concerned that technology will replace rather than support them. Students with low digital literacy may not be able to use technological tools.

Participant Commentary

State director.

Some states and adult education programs have had great success deploying technology. Online courses help students access content, and despite common concerns, even low-level learners can engage with online programs. For example, the state of Washington implemented I-DEA (Integrated Digital English Acceleration), an English Language Arts curriculum targeting the lowest level ELLs. Colleges were cutting programs and were not going to serve students performing at the lowest levels, but with funding from the Gates Foundation, the state board was able to create I-DEA. To help learners access the curricula, however, the programs needed to ensure they had the necessary infrastructure. So learners received a laptop computer, online instruction for half of class material, and continual internet access. Students earned an average of 2.2 performance points. The average prior to the program was between 0.6 and 1.2. Students made more than 3,200 WIOA level gains. Faculty were the most important barrier to implementation and success. Prior to implementation, faculty were adamant that the program would not succeed with low-level ELLs. Some faculty lacked digital literacy and chose to retire rather than implement the program.

I-DEA is publicly available online. Materials are age appropriate, unlike many text books. The resource allows students to repeat lessons until they master them. It allows students to work without commuting and without requiring childcare. It allows flexibility in when students receive instruction. Courses support high school credits.

Researcher (Integrating Technology and Online Curricula)

Technology can provide valuable tools to instructors, but instructors must choose their technology wisely because some uses may lead students to become passive learners. For example, math instruction can devolve into "drill-and-kill" with technology, if instructors aren't adequately prepared. Passive learning isn't good learning. Although technology can be useful when no qualified instructor is available it should be used only as a last resort.

Of most importance is ensuring that instructors have the materials and training they need to use technology effectively. More professional development or appropriate curricula would help adult education instructors do this.

Researcher (Digital Sill Development)

Adult education needs to build learners' digital fluency, i.e., their ability to use technology to support critical thinking, problem solving, and learning. Research has shown that digital technology reduces SES gaps in civic engagement and community advocacy. Artificial intelligence may be a threat to workers in some sectors, making complex skills (e.g., problem solving) more important. Research is needed to inform development of digital literacy instruction. Contextualized instruction may be a valuable approach, such as linking digital literacy to areas that are meaningful to the learner, thinking not only of work but also beyond career-focused areas.

Researcher (Technology Developer).
Some industry leaders have identified adult basic education as an untapped technology education market. For example, the XPrize competition challenges people to build a mobile application to help adults with very low literacy improve reading skills. This sort of interest affects current funding and approaches. Developers are collecting proprietary data, making it difficult to accumulate shared, public knowledge that can inform future development work. The public has an interest in studying technology's effects, with a focus on learners' needs, so there needs to be a public investment in development.

Research should also focus on the affordances of technology. For example, it should consider comparative benefits of technological resources to learners and how these resources can be improved to better serve learners' needs. Developers and programs should take seriously the identity of learners.

General Discussion

Technology in programming and instruction.

Technology issues involve both use of technology to support instruction and providing students and faculty with instruction about using technology. Technology can also be a resource for faulty development. To learn technology, students and faculty need opportunities to practice extensively.

Online courses are taught by human instructors, who can offer contextualization. It is better for resources to be interactive and adaptive. Sustainability is a necessary consideration for non-proprietary technology. Corporate and foundation partners can help to sustain technological developments.

There should be more research about how technology can best serve learners. Approaches such as text messaging and robo-calls can be useful for communicating with students. One current randomized controlled trial is assessing the effects of text messages intended to support adult learners in high school equivalency completion and the transition to post-secondary education. Students receive prompts to take steps such as taking tests and transition planning activities

Technology can be a useful tool for supporting research in adult education. It could help to reach participants, which is often challenging.

Technology's capacity to bridge or reinforce divides.

Almost everyone has a cell phone and most people have smart phones, and we could leverage these technologies for engaging people. Adults with smart phones may feel comfortable using them for learning. Sometimes, people with smart phones are afraid of computers, and people with low income or with low socio-economic status may not own computers or have comfort using them. Despite access to cell phones and smart phones, the digital divide persists and is greatest for those with less than a high school education. Smart phones are not ideal for reading extensive text. Even so, many students continue to work on smart phones.

The capacity of digital technology for remote access is important to some learners. Some immigrant students are afraid to go to college campuses. Using an online resource in the library feels safer. Digital technology instruction is being tested in prison settings, and basic literacy programs are a popular resource, perhaps because incarcerated students may hesitate to participate in face-to-face programs. They appreciate that digital resources support private repeated practice of basic skills. Digital technology may be the only way for some rural residents to access instruction. It is important for technology to comply with ADA Section 508 standards for accessibility to people with disabilities. Students without digital skills may avoid use of digital technology.

Role of adult education administrators and instructors.

Service sector jobs often require employees to use technology such as tablets. Digital literacy programs tend to focus on technology for instructional purposes. It would be useful to address students' needs to use technology in the workplace. Digital technology is changing rapidly. Students need to learn how to learn continually about tools as they emerge.

Administrators are usually responsible for the choice to use technology. Some administrators are concerned about losing expensive devices. In 6 years, across three States, I-DEA has lost a total of three laptops.

Research is needed on instructors' digital literacy and use of technology in classrooms. Research should also study programs' standards for student and instructor digital literacy. The International Society for Technology in Education has set standards for students, teachers, and administrators. The Northstar Digital Literacy Assessment Project has digital literacy standards written exclusively with low-literate adults in mind.

Teacher reticence to use new technology may be partly due to institutional pressure not to change. Some States have developed good models of teaching instructors how to use technology. One example is Debra Hargrove of Texas A&M and colleagues' mentoring system for teaching instructors how to use technology. The successful implementation of I-DEA was partly due to classroom coaches who helped teachers in the beginning. The first 2 weeks of teacher training are face-to-face.

BUILDING A RESEARCH BASE:
WHAT WE HAVE AND HOW TO GET WHAT WE NEED

Summary of Initial Thoughts

IES wants to increase research capacity with researchers from diverse disciplinary areas. IES has a few mechanisms to meet these goals, including supporting field-initiated research, providing research training opportunities to emerging and practicing researchers. IES also wants to increase research use and has mechanisms such as producing public documents (e.g., practice guides) and leveraging social media. IES aims to provide all education stakeholders with resources relevant to their needs and, thus, needs to know what types of products, training, or research the field needs.

Participant Commentary

Instructor.

Instructors want research results that can be applied in the classroom. Instructors are not likely to seek out research findings. The typical instructor is part-time and may have another full-time job, so they may not have a lot of time. They may also not be highly motivated to seek out research. Professional developers can help translate research findings, and administrators can be important conduits for finding

training opportunities. Thus, both of these groups are important to include in dissemination efforts. These leaders are in a better position to select relevant, evidence-based resources. At the end of the day, the products need to be goal-oriented and relevant to the classroom.

Technical assistance representative.

Technical assistance and advocacy organizations often hear, "Tell us what works", and there isn't much to draw upon. There is a need for implementation and descriptive research, not all research needs to be causal impact studies. Because employers are also big stakeholders in improving skills, return-on-investment (ROI) studies are also important. When it comes time to translate the results of the findings, the field needs Plain Language summaries.

Researcher (policy and systems).

Some research organizations do both technical assistance and research, including implementation and evaluation, and doing both helps refine the approach. The technical assistance signals research needs. There is a need to know what program models are out there, especially given the heavy lift of WIOA for many organizations and states.

There are, however, obstacles facing the development of a rich research field. There are few journals to publish in, and the researcher pool is very small, making it hard to conduct the actual research. However, the problems facing adult education are similar to issues in other systems, and there are possible strategies that would help advance the research agenda and field. For instance, this field of research should engage more fully with practitioners to generate both data and research questions. It is also important to talk with administrators to determine what they need to know.

Certain designs may also make sense for this field, such as rapid-cycle evaluation and human-centered design. The IES Network model is also worth considering for this field. This approach helps to coordinate the field, which needs a centralized source to help guide efforts.

Researcher (teaching and learning).

Partnerships are critical in this field because there is not a long history of doing research in adult literacy like there is in K-12. Working in K-12 settings can be difficult, but it can be even more difficult for researchers to gain access to adult education classes, because some practitioners do not trust researchers and may see their role as protecting their students. Also, they do not necessarily read research, research does not get disseminated to them, and researchers themselves often do not truly understand how the programs work.

The relationship between IES and OCTAE is also critical because they can help make connections between researchers and practitioners. IES should work toward ensuring that OCTAE is familiar with the research studies it supports and to disseminating with or through OCATE. The field may benefit from more collaboration, (e.g., if IES, OCTAE, and organizations such as COABE and Proliteracy came together).

General Discussion

Practitioners, administrators, and other stakeholders.

Some practitioners do not trust researchers, partly because researchers are often unfamiliar with adult education. Dissemination of research findings aims to convince practitioners to change and should

address "pain points". Results are not disseminated effectively. OCTAE could help support effective dissemination.

Practitioners pay attention to research when it offers a solution to an urgent problem. The field should then focus on translating results into practice. Local agencies should commit to funding this process. Local support will help to engage practitioners. Administrators can explain the relevance of research results to practice. Administrators are also very busy and would benefit from concise research summaries.

The public health field includes many examples of translating research results into practice in the field by developing simple, actionable tools and procedures. The Knight Foundation has developed tools for journalists to learn the latest information about best practices without reading the original research reports. Publications from the National Center for the Study of Adult Learning and Literacy, such as Focus on Basics, provided examples for how to disseminate information.

The field and those who want to disseminate information could make better use of the work already completed. For example, the field could look to adjacent work, such as CUNY Start, and build on what is already known about postsecondary developmental education. There is also a lot of work occurring with philanthropic support, and the field could leverage that.

OCTAE should prioritize translating current research findings into practice. Simple infographics that illustrate the relationships between interventions and results are an example of a potentially effective dissemination approach. Practitioners use OCTAE's LINCS Resource Collection to learn about research. This resource can be used for dissemination. Practitioner involvement with research increases credibility of results with practitioners.

Research has to respond to employers' changing priorities. Results need to be disseminated to practitioners quickly. However, the research process takes time and should not be rushed. Carnegie has promoted a rapid cycle approach to "improvement science" that includes adjustment to results over time and dissemination through a network. This may be a useful approach.

Research funding mechanisms could support partnerships and existing networks as an approach to linking research and practice. IES Regional Education Laboratories (RELs) are funded to support research questions. Two IES RELs will be addressing adult education questions and are a resource for researchers.

Academic researchers.

There are few journals dedicated to adult basic education and literacy. There are several other journals open to publications about adult learning. The field is small and may never have high-impact journals. However, many academic researchers need to publish in high-impact journals to obtain tenure. This tension must be addressed when developing dissemination strategies.

There are few experts in adult literacy, so few are available to review grant applications. Some reviewers' expertise is K-12 education, making their comments sometimes seem irrelevant to applicants. Non-academic experts in adult education, including practitioners, should be included on review panels to provide input regarding the relevance of research questions and feasibility of proposed interventions. It may be useful for literacy and numeracy experts to review only proposals in their areas of expertise. It may be useful to have an expert in adult literacy serve on multiple review panels. An IES representative noted that IES works to have all proposals reviewed by at least one expert in adult education. Currently, IES recruits academic experts in adult education for review panels.

Research initiatives.

The field is underfunded, meaning that programs themselves are underfunded. This ripples through everything, including the fact that there is not a teaching force in the same way there is in K-12. Research funding for adult education mirrors this. Stakeholders should advocate for Congress to increase the budget for adult literacy research.

The amount of rigorous research in the field has increased dramatically over the past 20 years. However, there are serious gaps in what the field knows, and practitioners may not be able to find the research they need.

One participant said IES should prioritize primary data collection efforts, and another said currently available datasets should be used to conduct analyses on sub-populations. For example, the field could use a central repository, such as the National Reporting System, to leverage data already collected.

Longitudinal work would help the field build theory and link efforts to outcomes. For instance, Steve Reder's longitudinal research demonstrates that proficiency gains may occur after post-test.[2] This should be considered when designing and interpreting evaluations.

Currently, a lot of the research and the most effective interventions can increase learning for low-level students, but less is known about how to help students that are performing at slightly higher levels. Research should explore how to achieve larger change and for students throughout the performance continuum.

More research to understand the adult education teacher workforce would be helpful. For example, research should explore teacher retention and compensation. Available data suggest that intensive programming with full-time teachers can result in major changes. These programs are expensive but cost less per successful student than others. Minimal time investment does not produce major change. Major change will build a case for more funding in the field. Another priority is to compare the results of full-versus part-time instruction. Teacher demographics affect student outcomes. Students are more engaged when teachers reflect their demographics. Practitioners and policy makers should consider implications for best practices.

Research should identify a few practices that produce the greatest change. Learners get frustrated with the time required for change. When it takes too long, they quit. Research is needed into how to accelerate learning for this group.

Teachers work in the field to find what works for them. The field needs to learn from them, test their results, and disseminate them. There are not currently mechanisms for this. It may be useful to train practitioners to conduct research on their own classroom methods.

Numeracy should be a priority; lack of math skills is a barrier to transition to occupational learning programs.

Future research should compare IET models to each other, not to no-treatment conditions. It has already been established that IET is better than no treatment.

Another area for investigation is the outcomes for students who receive financial aid and basic skills education versus those who do not. These results should be analyzed by sub-population.

Combining basic education and English as a Second Language approaches should be compared to results of teaching these separately, especially for ELLs.

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[2] The project website for this study is at http://www.lsal.pdx.edu/index.html.

Researchers should compare results of acceleration models to those of sequenced models. Such research should also compare results of combining general education with basic skills to approaches that teach them separately.

There should be a new competition for research and development centers. Five years is not long enough to answer major research questions.

Collaborating across units and agencies.

IES should convene researchers and evaluators to discuss recent findings and collaboratively develop strategies for addressing priority issues.

OCTAE and IES could facilitate potential partners' participation in professional conferences, and facilitate communication about grant opportunities with potential applicants.

Stakeholders should consider the roles of federal agencies as partners and innovators. States have been requesting technical assistance, and various federal agencies have provided things that IES might leverage. For example, the Administration for Children and Families at the U.S. Department of Health and Human Services has a large portfolio of programs for research on career pathways, and it administers the Health Profession Opportunity Grants (HPOG) program. Early impact data from these investments are available for secondary analysis. Congress has requested that ED align the Perkins and WIOA State plan processes. This presents an opportunity for ED to influence the process and facilitate collaboration.