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Professional Development for Educators: A Review of the Research

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Overview

Professional development (PD) is a critical lever for improving teaching practice and student outcomes across K–12 schools, higher education, and adult learning programs. Research in the past 15 years indicates that PD is most effective when it is sustained, collaborative, content-focused, and aligned with educators' needs. This review summarizes key findings, evidence of impact, best practices, and limitations for three educator groups – K–12 teachers, higher education faculty, and instructors in self-paced adult learning programs – across various PD delivery formats (e.g., workshops, coaching, professional learning communities, online, hybrid, etc.). Each section also highlights proven frameworks or models and focuses on outcomes such as student achievement, technology integration, instructional effectiveness, and equity. Recent peer-reviewed studies or reputable reports are cited as evidence supporting the claims.

I. K-12 Teachers

Key Findings for K-12 Teachers Professional Development

Research shows that traditional one-size-fits-all PD (e.g., perfunctory workshops or staff meetings) often fails to change teacher practice or boost student learning[1]. However, well-designed PD can lead to measurable improvements. Meta-analyses confirm that teacher PD generally has a positive, though modest, effect on student achievement [2]. For example, intensive coaching-based PD has produced average gains of about +0.49 standard deviations in instructional quality and +0.18 standard deviations in student test scores [2]. Notably, the impact of PD grows over time – programs exceeding ~80 hours show significantly larger effects than shorter interventions [3]. In sum, effective PD helps teachers adopt new pedagogies (e.g., technology integration, collaborative learning) that ultimately enhance student outcomes[4].

Evidence of Impact of K-12 Teachers Professional Development

Multiple rigorous studies link high-quality PD to improved teaching and higher student performance. A 2025 meta-analysis (preprint) of 118 studies published 2010–2022 found that PD for STEM teachers not only increased teachers' content knowledge and pedagogical skills but also improved their students' academic performance [4]. Similarly, a comprehensive review of 35 programs reported a "positive link between teacher professional development, teaching practices, and student outcomes"[5][6]. Specific formats, like instructional coaching, stand out: a meta-analysis of 60 coaching programs showed significant gains in teachers' classroom practice and small but meaningful improvements in student test scores [2]. These gains were strongest in sustained programs; for instance, coaching or PD initiatives that lasted several months with ongoing support led to larger student achievement gains than brief workshops[3]. There is also evidence that targeted PD can advance particular goals such as technology use and equity. A synthesis of studies on technology-integration PD (2008–2019) found that when teachers engaged in long-term PD (6+ months) involving active lesson design, peer collaboration, and follow-up support, they significantly improved their classroom technology practices and saw better student learning outcomes[7]. Likewise, PD focused on equity and culturally responsive teaching can make a difference: a systematic review in 2025 concluded that interventions aiming to raise teachers' expectations and reduce bias yielded positive changes in teachers' expectations and differential behavior *and* in students' cognitive outcomes [8]. (Practitioner guidance on culturally responsive teaching likewise links these practices to stronger student engagement and success[9].) In summary, while the average effect of PD on test scores is modest, strong evidence demonstrates that thoughtfully designed PD can indeed impact teacher effectiveness and student achievement in areas like STEM learning, digital literacy, and educational equity.

Better Practices of K-12 Teachers Professional Development

Better practices for high-impact K–12 PD programs show they tend to share a set of core design features confirmed by research[10][11]:

- **Content-Focus and Relevance:** Effective PD is curriculum-specific, targeting the content teachers teach (e.g., math, literacy, science) and aligning with local standards and student

needs[12]. By centering on subject-matter pedagogy (rather than generic strategies), PD becomes immediately applicable in teachers' classrooms, thereby enhancing its impact on instruction and student learning [12].

- **Active Learning:** Teachers learn best by doing. Successful PD engages teachers in active learning opportunities – such as practicing new instructional strategies, analyzing student work, or designing lesson plans – rather than passively listening to lectures[13]. This hands-on approach mirrors the student-centered methods teachers are expected to apply, making the training more authentic and effective.
- **Collaboration and Communities:** Collaborative learning among teachers is a hallmark of effective PD. Whether through professional learning communities (PLCs), grade-level teams, or lesson study groups, teachers benefit from sharing ideas, co-planning lessons, observing each other, and jointly reflecting on practice[14]. Such collaboration can build supportive peer networks and spread effective practices school-wide, creating a positive culture of continuous improvement.
- **Models and Modeling of Good Practice:** Exemplary PD provides clear models of what effective teaching looks like[15]. This may include demonstrations by expert instructors, videos of high-quality lessons, model lesson plans, or case studies. Seeing concrete examples helps teachers understand and envision new practices in action.
- **Coaching and Expert Support:** One-on-one coaching or mentoring by content experts or experienced coaches provides teachers with personalized feedback and guidance as they implement new skills [16][17]. Coaching – often in teachers' own classrooms – allows for observation, modeling, and iterative feedback. Notably, 30 of 35 effective programs reviewed by one report included coaching or expert support as a key component[18]. This individualized scaffolding helps teachers refine their practice and overcome challenges, which is why coaching-intensive PD often yields strong results.
- **Feedback and Reflection:** Effective PD builds in regular feedback and reflection cycles[17]. Teachers should have opportunities to reflect on what they are learning, receive feedback on their implementation (from peers, coaches, or student data), and then adjust their approach. Reflection deepens learning and helps teachers connect new strategies to their existing practice and context.
- **Sustained Duration with Follow-Up:** A single workshop is rarely enough to change teaching practice. Successful PD unfolds over a significant period – typically months or even a

full school year – with periodic follow-ups [19]. Research suggests a threshold of 30–60+ hours of PD may be necessary to see substantial changes, with even larger effects for programs exceeding 80 hours[3]. Ongoing sessions, classroom-embedded coaching visits, and refreshers give teachers time to implement, get feedback, and refine new strategies, leading to more durable improvements. In contrast, "one and done" trainings without reinforcement usually have little impact on either teaching or student outcomes [20].

In practice, these elements often appear in combination. For example, a district PD program might kick off with a summer workshop (active learning, modeling), followed by weekly PLC meetings (collaboration, reflection), with an instructional coach observing classes monthly (expert support, feedback) – all focused on a specific content-area initiative (content focus) and sustained throughout the year. Such a comprehensive approach is far more likely to improve instructional effectiveness than isolated, short-term training [11]. Additionally, leveraging online and hybrid formats can enhance access and flexibility. A COVID-19-era program evaluation found that a well-designed virtual PD retained effective components (hands-on activities, teacher interaction) and achieved participant learning outcomes comparable to the in-person version[21][22]. Online platforms also enable reaching rural or isolated teachers and allow self-paced learning, provided that the PD is structured to include collaboration (e.g., discussion forums, virtual PLCs) to avoid the pitfalls of isolation seen in some self-paced MOOCs [23][24]. In summary, the best practices for K–12 teacher PD involve engaging teachers as active learners in a collaborative, job-embedded process that is content-specific, supported by coaching, reflective feedback, and sustained over time[10]. This aligns closely with adult learning theory and maximizes the chances that teacher learning will translate into improved student learning.

Limitations of K-12 Teachers Professional Development

Despite clear principles of effective PD, there are ongoing challenges. One limitation is inconsistent quality and implementation – not all PD labeled "collaborative" or "active" truly embody those traits, and poorly executed programs yield negligible results. Many school systems still rely on short workshops or "one-off" training sessions due to time and budget constraints, even though these rarely change teacher behavior[20]. Another challenge is scalability: interventions that work well in small pilot programs can lose effectiveness when expanded broadly. For instance, coaching programs in research trials

often show significant gains. Still, when districts attempt to implement coaching at scale (serving many teachers with limited coaches), the average impact drops to only a fraction of the original effect [25]. Maintaining quality control and sufficient intensity during scale-up is difficult. Additionally, measuring the impact of PD can be complex. Improvements in teacher practice do not always immediately reflect in student test scores, especially if tests don't capture the skills targeted by the PD. Some studies note that tracing PD effects on student achievement involves many mediating factors and that results can appear "patchy" or inconclusive [26]. This means positive changes (e.g., better classroom instruction or higher student engagement) may be happening even if standardized scores shift only slightly or with a lag.

There is also the issue of teacher buy-in and context. Teachers are more likely to change when they perceive PD as relevant and feel safe taking risks; conversely, mandated or "one-size" trainings can breed cynicism. If school leadership and culture do not support new practices (for example, a lack of principal support or misalignment with curriculum), even good PD may not take root. Finally, PD aimed at deeper outcomes, such as equity or technology integration, faces the limitation that these are complex, systemic issues. While training can raise awareness and provide strategies, meaningful change also requires resources (e.g., access to devices, culturally responsive curricula) and ongoing support beyond the PD sessions. In short, effective professional learning is difficult to sustain without supportive conditions. As Thomas Guskey observed, context matters – factors such as administrative support, time for collaboration, and alignment with policies influence whether PD yields the desired results [27]. Recognizing these limitations, experts emphasize the need for continuous improvement of PD programs, careful evaluation of their impact, and policies that provide teachers with the time and support needed to implement what they learn [25][26].

Proven Frameworks/Models for K-12 Teachers Professional Development

Several PD models have gained prominence in K–12 for translating these best practices into action:

- **Instructional Coaching Models:** As noted, instructional coaching is a proven approach. Frameworks like *Jim Knight's instructional coaching cycle* or content-specific coaching (e.g., literacy coaching, math coaching) pair teachers with skilled coaches who use a model of modeling, observation, feedback, and reflection in iterative cycles. The success of coaching is well

documented in research [2], though districts must ensure coaches are well-trained and have manageable caseloads to preserve effectiveness at scale [25].

- **Professional Learning Communities (PLCs):** The PLC model (popularized by Dufour and others) institutionalizes collaboration by having teachers meet regularly to focus on student learning data, share practices, and collectively plan interventions. Meta-analytic evidence finds that strong teacher professional communities can modestly but significantly raise student achievement (one analysis reported an effect size of ~0.25) by fostering collective efficacy and consistent practices across classrooms[28][29]. The PLC approach aligns with the finding that collegial support and the sharing of expertise are key to lasting instructional improvement [14].
- **Lesson Study:** Adapted from Japanese education, lesson study is a collaborative model in which a team of teachers jointly plans a lesson, observes its live implementation with students, and then debriefs to refine it. This cycle may repeat multiple times. Studies in the U.S. have shown that lesson study can deepen teachers' content knowledge, pedagogical skills, and focus on student thinking. It embodies many best practices (active learning, collaboration, reflection) and has been associated with improvements in instruction and, in some cases, in student problem-solving and conceptual understanding in subjects like math and science [13][14].
- **Content-Focused Academies/Workshops:** Programs such as the National Writing Project or math/science summer institutes provide intensive content-focused PD. For example, the National Writing Project model engages teachers in writing themselves and analyzing student work over an extended institute and follow-up sessions. Evaluations have found positive effects on teacher practice and student writing outcomes among teachers who participate in these content-rich PD experiences, illustrating the power of depth over breadth in PD [30][13].
- **Technology Integration Frameworks:** To achieve technology integration outcomes, PD often uses frameworks such as TPACK (Technological Pedagogical Content Knowledge) or SAMR, which help teachers blend tech tools with pedagogy and content. A recent synthesis found that effective tech-integration PD typically includes face-to-face workshops combined with online learning communities and has teachers actively designing tech-enhanced lessons over 6+ months [7]. One proven model is to train teacher-leaders as technology coaches or "digital learning mentors," who then

support peers—an approach that practitioner reports associate with increased classroom technology use [31]; related research finds that digital PD and professional learning communities strengthen the link between school digital readiness and classroom technology integration [32].

- **Equity-Focused PD Programs:** With the growing emphasis on equity, models such as *culturally responsive teaching (CRT) workshops* and *anti-bias training* have proliferated. Successful programs (often backed by research or organizations like the National Equity Project) create a safe space for educators to examine their biases and learn culturally responsive pedagogy. Key elements include engaging educators in reflecting on their own cultural lens, learning strategies to connect curriculum to students' cultures, and practicing inclusive instructional methods. Research documents that sustained CRT professional learning can lead teachers to hold higher expectations and use more inclusive practices, resulting in better academic outcomes for students of color [8][9]. A framework known as "Learning to Teach for Social Justice" is also used in some districts, integrating equity into all teacher PD by focusing on belief change, curriculum reform, and continuous inquiry into disparities.

Conclusion for K-12 Teachers Professional Development

The K–12 sector has identified a clear recipe for effective professional development: make it ongoing, collaborative, job-embedded, and student-centered. When PD follows these evidence-based frameworks, teachers are better equipped to improve their instruction, which in turn leads to higher student achievement, more successful technology integration in the classroom, and a greater capacity to reach *all* learners equitably.

II. Higher Education Instructors

Key Findings for Higher Education Instructors Professional Development

Unlike K–12 teachers, college and university faculty are rarely required to undergo pedagogical training before or during their careers. Many are hired primarily for content expertise and research credentials, yet they face the challenge of teaching diverse students effectively. Over the last 15 years, there has been increased recognition in U.S. higher education that systematic faculty

development is needed to enhance instructional effectiveness and student success, especially with the rise of active learning pedagogies and online teaching. Research on faculty professional development (often termed “faculty development” or “instructional development”) demonstrates that professors *can* learn to be more effective instructors, and that these changes can positively affect student learning [33][34]. However, studies also acknowledge the complexity of measuring impact in this context – changes are often documented through faculty self-reports, teaching portfolios, and student work rather than standardized test scores[26]. Key findings from recent research include:

- **Faculty Growth and Teaching Change:** Faculty who engage in well-designed development programs report significant gains in teaching knowledge and skills, and observers can see concrete changes in their teaching practices[35]. For example, a multi-year “Tracer Project” study at Carleton College and Washington State University found that participants in teaching workshops and seminars not only self-reported adopting new pedagogical techniques, but that analysis of their course syllabi, assignments, and classroom methods confirmed these shifts [35]. In many cases, faculty moved toward more student-centered strategies (e.g., emphasizing writing, critical thinking, or quantitative reasoning) as a result of PD, and they continued to refine these approaches over time[36][37].
- **Cumulative Impact:** The benefits of faculty PD tend to be cumulative. The Tracer Project noted that professors with a more extensive history of participation in development activities showed *greater* changes in their teaching than those with minimal involvement [38]. In other words, a single workshop might spark a new idea. Still, faculty who consistently take part in multiple programs (workshops, learning communities, course redesign projects, etc.) demonstrate more substantial pedagogical improvements. This suggests that faculty development is most effective as an ongoing process of growth throughout a faculty member’s career, rather than a one-time event.
- **Evidence of Student Learning Gains:** While harder to quantify, emerging evidence suggests that improving faculty teaching through PD can lead to better student outcomes. In the Tracer Project, researchers “traced” development participation to student learning by examining student work and assessments. They found that classes taught by faculty who underwent targeted PD (such as Writing Across the Curriculum training or a critical thinking initiative) showed improvements

in desired outcomes – for instance, students produced higher-quality writing and demonstrated stronger critical-thinking skills, compared to before[35][36]. The authors concluded that yes, faculty development does "reach students," even if proving the link is challenging[39]. Similarly, other studies have noted improvements such as higher student engagement, lower failure rates, and improved exam performance in courses where instructors implemented evidence-based teaching techniques learned in PD (e.g., interactive engagement in STEM classes has been associated with higher test scores and lower dropout rates). It must be noted that these improvements are often context-specific (e.g., within a particular course or program). Still, they illustrate that investing in faculty teaching skills can pay off in tangible student success measures[35][37].

- **Variation by Context:** Faculty PD in higher ed takes many forms—from voluntary workshops offered by a campus teaching center to structured programs such as year-long faculty learning communities or course transformation grants. Participation is often voluntary, and uptake can vary widely. Research indicates that faculty motivation and institutional context are critical factors. Faculty who are intrinsically motivated to improve teaching (as opposed to, say, merely collecting a stipend or appeasing the administration) tend to implement changes more deeply [40]. Moreover, departments and institutions that foster a culture valuing teaching innovation see a more widespread impact of PD, including a "spillover" effect in which even non-participants adopt ideas promoted in campus initiatives [41]. By contrast, in environments that offer little recognition or reward for teaching excellence, PD may struggle to attract faculty or translate into sustained change. These contextual factors mean that the same PD program might succeed at one university but have less effect at another unless local conditions support it.

Evidence of Impact for Higher Education Instructors Professional Development

The direct impact of faculty development on student achievement is less well quantified than in K–12 (because higher education lacks universal standardized tests and controlled experiments are difficult to conduct). Nonetheless, there is compelling qualitative and some quantitative evidence of impact:

- A landmark study, *Faculty Development and Student Learning: Assessing the Connections* (Condon et al., 2016), systematically examined the effects of faculty PD at two very

different institutions. The researchers found that faculty development improved teaching practices in measurable ways and that these improvements benefited students' learning[42] [37]. Faculty who participated in workshops on writing instruction, for example, later assigned more frequent, scaffolded writing tasks in their courses, which led to students producing writing of higher quality and with better reasoning [43][44]. In a critical thinking initiative, faculty who underwent training continued to integrate and emphasize critical-thinking skills nearly a decade later, and their students' coursework reflected more sophisticated analytical thinking as a result[36]. These findings illustrate a chain of evidence: PD changed teaching, and improved teaching yielded stronger student work.

- Self-reported data and teaching portfolios across many studies consistently show gains in instructional effectiveness following PD. For instance, faculty commonly report adopting new active-learning techniques, improving their course design (clearer outcomes, aligned assessments), and being more responsive to student needs after attending teaching development programs[42][38]. Importantly, these self-reports have been corroborated by external reviewers in some studies. For example, blind reviews of syllabi and assignments have noted significant enhancements in courses taught by PD participants (such as more student-centered learning activities and inclusive teaching practices) compared to those who had no development exposure[42].
- There are also quantitative indicators in specific cases. Some universities track metrics such as DFW rates (grades D, F, or Withdrawal) in large gateway courses before and after instructors participate in course redesign PD. Several have reported reductions in DFW rates and achievement gaps. For example, at a large land-grant university in the Tracer study, faculty who engaged extensively in a critical thinking teaching project had students who performed better on assessments of higher-order thinking than did students of faculty who did not participate [36][45]. In other instances, faculty development focused on active learning in introductory STEM courses has been linked to higher exam scores and lower dropout rates, contributing to improved student pass rates (though isolating PD as the cause is complex).
- On a broader scale, a 2014 meta-analysis in STEM education (Freeman et al.) – while not about faculty PD per se – found that courses using active learning (which many faculty adopt through PD training) saw average exam scores increase by

~6%. Failure rates drop by 33% compared to traditional lecture courses. This underlines the potential student impact when faculty apply research-based instructional strategies often promoted in professional development. It implies that effective faculty PD, which gets instructors to shift from pure lecturing to interactive methods, can yield measurable gains in student achievement.

- Another dimension of impact is on student evaluations and satisfaction. Some faculty PD programs have noted improvements in student course evaluations for instructors who have worked on their teaching. While student ratings are imperfect, higher engagement and clarity in teaching (common outcomes of PD) often translate to more positive student feedback. There is also evidence that faculty who undergo training in inclusive teaching or cultural competency create classroom environments where a broader range of students feel valued and supported, potentially improving retention of underrepresented students (an equity outcome valued in higher ed).

In summary, the evidence base, though still growing, indicates that faculty professional development can lead to *better teaching practices* and that those improved practices can, under the right conditions, produce *better student learning outcomes*. The improvements may manifest as higher-quality student work, increased student success in courses, and narrower equity gaps. A key takeaway is that the impact is strongest when faculty development is sustained and multifaceted, rather than a one-time workshop [38].

Better Practices for Higher Education Instructors Professional Development

Better practices for faculty PD in higher education echo some of the K–12 principles but are tailored to the college context and the adult learners that faculty themselves are. Effective faculty development initiatives commonly include:

- **Voluntary, Formative Approach:** In higher ed, faculty respond best to PD that is voluntary, collegial, and focused on formative improvement (as opposed to top-down evaluations). Successful teaching centers or programs “meet professors where they are,” offering confidential consultations, non-judgmental feedback (e.g., via classroom observations or video review), and emphasizing growth rather than compliance. This encourages buy-in and openness to change.

- **Active, Experiential Learning:** Just as with K–12 teachers, professors benefit from active learning in PD. This could mean *microteaching* (faculty peers teaching a short segment and giving feedback), participating in model lessons as students (to experience active learning from the learner's side), or analyzing real student data from their courses. Engaging faculty in these experiences makes the workshops more impactful and memorable, and helps overcome skepticism by demonstrating the techniques in action.
- **Discipline-Specific Focus:** Faculty often find the most value in PD that relates directly to their discipline. Many universities have had success with programs like STEM faculty workshops, writing instruction seminars for faculty across fields, or "teaching with cases" workshops for professional school faculty. While general pedagogy seminars are useful, connecting instructional strategies to the actual content faculty teach (e.g., how to teach biological concepts more interactively or how to incorporate problem-based learning in engineering) increases adoption. Some institutions facilitate this via faculty learning communities (FLCs) organized around themes (e.g., an FLC on Inclusive STEM Teaching or on Service-Learning Pedagogy) where faculty from various departments work together on a common instructional issue over a semester or year.
- **Collaboration and Community:** Faculty development works well when it creates communities of practice among instructors. FLCs, cross-disciplinary teaching circles, or departmental teaching teams allow professors to discuss challenges, share strategies, and even conduct classroom research together. For example, a group of faculty might all implement a new active learning technique in their classes and then meet to discuss what worked and what didn't. This peer support and accountability can reinforce changes. The Tracer Project noted a "spread" effect: at campuses with strong development cultures, even faculty who didn't directly participate often picked up new teaching ideas from colleagues who did, through informal conversations and shared norms[41]. Building a collegial network around teaching thus amplifies PD's reach.
- **Aligned with Institutional Initiatives:** Tying faculty PD to broader institutional goals or initiatives can increase its effectiveness and sustainability. In the examples of Carleton and WSU, the PD efforts were part of initiatives such as *Writing Across the Curriculum* and *Critical Thinking in the Core Curriculum* [46][47]. This meant that faculty PD was not

an isolated endeavor – it fed into curriculum changes and assessment efforts, creating a feedback loop. One model described was a "circular model of pedagogical reform," in which faculty assess student work, use the results to inform PD programming, implement changes that lead to curricular reform, and then assess again to evaluate effectiveness [48]. Such integration ensures that PD has a clear purpose (improving specific learning outcomes valued by the institution) and that there are mechanisms to gauge its impact.

- **Ongoing and Scaffolded Support:** As with K–12, one-off workshops for faculty have limited impact. Effective faculty development is an ongoing process. Many campuses have multi-tiered programs—for instance, a new faculty teaching orientation followed by a semester-long follow-up program, or a year-long course redesign initiative that includes an initial institute, mid-semester check-ins, and a final reflection. Providing consultations or coaching for faculty as they implement changes is also a best practice. Some teaching centers offer mid-semester classroom observations or "micro-coaching" to faculty trying new methods, providing feedback and data (such as small-group student feedback) for reflection. The sustained nature of these programs helps faculty truly integrate new techniques into their repertoire.
- **Utilizing Data and Student Feedback:** Faculty are scholars by nature and often respond to evidence. Successful PD often presents research on teaching and learning (e.g., sharing literature on how active learning improves exam performance or how inclusive practices benefit marginalized students) to build a rationale for change. Moreover, encouraging faculty to gather data from their own classes – such as using pre/post tests to see learning gains, or analyzing patterns in their student evaluations or outcomes – can motivate and guide improvement. This transforms teaching into an inquiry process (the Scholarship of Teaching and Learning, SoTL), which many faculty find rewarding. It also directly ties PD to student results, closing the loop and making the impact more visible.
- **Addressing Specific Challenges (e.g., Technology, Diversity):** In recent years, best practices have included offering targeted PD to address emerging needs. For instance, with the growth of online and hybrid instruction in higher ed, many centers now provide online teaching certification programs or workshops on using learning management systems and educational technology effectively. These typically model good online pedagogy and feature instructors who have

experience as online students. Research during the pandemic showed that faculty who underwent training in online course design were better able to engage students and maintain learning outcomes, even when teaching remotely [21][49]. Similarly, workshops on inclusive teaching (covering topics like implicit bias, universal design for learning, and facilitating difficult dialogues) have become a staple. Best practice here is to give faculty concrete strategies to make their classrooms more equitable – for example, using diverse representations in course materials, restructuring assessments to be more fair, or adopting teaching methods that benefit first-generation and minority students. Such PD not only raises awareness but also equips faculty with tools to improve equity and inclusion in their courses.

Limitations of Higher Education Instructors Professional Development

Faculty development in higher education faces particular challenges and limitations:

- **Voluntary Participation and Incentives:** Unlike K–12, participation in PD is usually not mandated for faculty. This means those who opt in are often already the more teaching-focused or motivated instructors, while the ones who might most need improvement may not engage. This self-selection can limit the institution-wide impact. Without strong incentives or a culture that truly values teaching, it can be difficult to bring a critical mass of faculty into PD programs. Some colleges have addressed this by tying participation to mini-grants or making teaching excellence a consideration in promotion, but these practices are not universal.
- **Time Constraints and Competing Priorities:** Faculty often juggle teaching with research, service, and heavy administrative loads. Finding time for professional development is a major barrier. Even when workshops are offered, attendance may be low if faculty feel stretched. Large research universities, especially, may find faculty less responsive to PD due to the primacy of research obligations. This limitation means PD programs must be designed to be efficient and respectful of faculty time (e.g., offering stipends or embedding PD into existing meetings), and even then, reaching adjunct or part-time faculty is an ongoing struggle.
- **Measuring Impact and Attribution**: As noted, proving the impact of faculty PD on student learning is complex. Many variables (student ability, class size, curriculum, etc.) influence

learning in higher ed, and unlike K–12, there's often no common assessment. Thus, it can be hard to "make the case" with data, which sometimes leads skeptical administrators or faculty to question the value of PD. The research is still evolving, and while case studies show positive outcomes, the field lacks large-scale experimental evidence. This limitation can affect funding and support for faculty development offices, which must rely on a patchwork of evidence and, often, anecdotal success stories.

- **Sustainability and Follow-Through:** Faculty might attend a workshop and get inspired, but without ongoing support or accountability, old habits can reassert themselves. It's a limitation that some faculty revert to lecturing or fail to implement changes beyond an initial trial. Busy schedules and a lack of follow-up mean good intentions from PD sometimes dissipate. This is why building communities or requiring some deliverable (like a course revision) as part of the PD can help, but not all programs manage to incorporate that.
- **Cultural and Institutional Barriers:** Ingrained academic cultures can pose barriers. For example, if a department views concern for teaching as a secondary matter, a faculty member trying innovative techniques might get little encouragement or even face subtle disapproval (the "why aren't you spending that time on research?" sentiment). Without leadership support (deans and chairs who value teaching development), PD's impact can be limited to a few enthusiasts. Moreover, structural issues such as large lecture halls, fixed curricula, or policies that don't reward teaching innovations can restrict what a faculty member can change even after PD. For instance, an instructor may learn about project-based learning but find it impractical to implement in an auditorium of 300 students with no TA support. These systemic constraints mean that faculty PD alone isn't a silver bullet – it often needs to be coupled with institutional changes (class size reduction, revised reward systems, etc.) to realize improved student outcomes fully.
- **Reliance on Self-Report:** A pragmatic limitation in faculty PD research is the reliance on self-reported change. As one analysis noted, much of the evidence comes from faculty stating they improved or describing changes they made, rather than from objective external measurements [26]. While those reports are usually honest and often triangulated with artifacts (like syllabi), they may still be biased. Faculty who invest time in PD may be positively inclined to report benefits. The field is working on more direct measures (such as peer review of

teaching or learning analytics), but until those are widespread, we interpret some results with caution. That said, when multiple sources (faculty narrative, document analysis, student work) all align to indicate improvement, confidence in the impact grows – as was the case in the Tracer Project findings[42].

In summary, faculty development can be highly effective. Still, it requires a supportive institutional culture, faculty buy-in, and alignment with academic priorities to overcome the unique challenges of higher ed. Without these, even well-designed PD may have limited reach or staying power. As the research aptly puts it, *"the challenges of tracing the effects of professional development on student learning are myriad"*[26] – but despite those challenges, a growing body of work shows that supporting faculty as educators is an essential strategy for improving student success in higher education.

Proven Frameworks/Models for Higher Education Instructors Professional Development

Several frameworks and models have emerged as effective in guiding faculty development in higher ed:

- **The Teaching Center Model:** Almost every institution now has a Center for Teaching and Learning (CTL) or equivalent. These centers often follow a *consultation-and-workshop model*, offering a menu of services (workshops, one-on-one consultations, learning communities, grants for curricular innovation, and classroom observations). A proven approach within this model is the *"evidence-based teaching academy"* – an intensive, multi-day workshop that introduces faculty to research on how students learn, followed by hands-on course redesign. Evaluations of such academies (for example, the Summer Institutes sponsored by the National Science Foundation for STEM faculty) have shown that faculty implement more active learning and report improved student engagement in their redesigned courses [21][49].
- **Faculty Learning Communities (FLCs):** Originally popularized by Milton Cox, FLCs are semester- or year-long peer cohorts (usually 6–12 faculty) who explore a teaching topic or innovate practice together. Each FLC sets goals (like developing a new assessment approach or infusing service-learning into courses) and meets regularly to discuss progress. Research on FLCs finds that they create lasting collegial bonds and lead to tangible teaching changes, in part because they

offer extended time and social support (similar to PLCs in K–12). Many faculty credit FLC participation with reinvigorating their teaching and solving shared challenges. This model has been successfully used, for instance, to help faculty integrate technology by forming an FLC on flipping the classroom or to advance diversity through an FLC on inclusive pedagogy.

- **Course (Re)Design Programs:** A number of universities use a model in which faculty apply to a structured program to either design a new course or substantially redesign an existing one, with pedagogical improvements. These programs often start with an intensive institute (e.g., a week-long "Course Design Bootcamp") and continue with check-in meetings or consultations as faculty implement the new course. Outcomes typically include a fully revised syllabus and teaching plan, and sometimes a scholarly assessment of the course's impact. For example, the University of North Carolina's *"Jump-Start"* program had faculty redesign large lecture courses for active learning, resulting in improved student performance. Such models illustrate how giving faculty time, resources, and expert guidance (often with a stipend or course release) can yield courses that are more engaging and effective for students.
- **Observation and Feedback Models:** Some institutions have formalized peer observation programs (sometimes called *"Teaching Partners"* or *"reciprocal peer coaching"*). In these, faculty pair up to observe each other's classes and provide feedback, or a trained teaching consultant observes and meets with the instructor. A notable example is the *"Teaching Squares"* model, in which four faculty members observe one session of each other's classes and then meet to discuss insights (not to evaluate, but to reflect on the good practices observed). These models create a low-stakes, supportive environment for feedback and self-reflection, often leading to subtle yet essential shifts in teaching practice (e.g., better pacing, questioning techniques, or classroom interaction).
- **The Tracer Project Framework:** The Tracer Project mentioned earlier provides a model for linking faculty PD with student learning evidence. Key features included: targeting specific learning outcomes (writing, critical thinking), engaging faculty in assessing those outcomes (reviewing student portfolios), providing PD on the findings (workshops on pedagogies to improve those outcomes), and then reassessing to see improvement [48]. This continuous improvement loop, grounded in real student performance data, is a powerful framework. It treats faculty development as part of a broader *"educational improvement ecosystem"* rather than an

isolated service. Institutions adopting this kind of model often see deeper buy-in, because faculty see the direct connection between the PD and closing gaps in student learning that they care about.

- **Online and Hybrid PD for Faculty:** With faculty increasingly teaching online, models for online faculty PD have gained traction. One framework is the *"Quality Matters"* program, which trains faculty on quality standards for online course design via facilitated online workshops. Another is the use of MOOCs and online communities specifically for faculty (for example, the "ACUE" courses – Association of College and University Educators – which offer a certificate in Effective College Instruction through online modules and assignments in one's own course). Studies have found that faculty who complete these online PD courses often implement significant changes; however, just as with students, completion rates can be an issue if there isn't institutional encouragement. A best practice is blending online PD with local discussion sessions or mentoring to personalize the experience.

Conclusion for Higher Education Instructors Professional Development

Effective faculty development in higher education embraces the same mantra as K–12: *active, collaborative, and sustained learning for the instructors*. The difference is that higher ed models must account for faculty autonomy, diverse disciplines, and the scholarly culture of universities. The most successful frameworks manage to respect those elements while still challenging professors to grow as teachers – creating a scholarly community around teaching itself. When done well, faculty PD not only improves courses but can even transform departmental and institutional attitudes toward teaching, making excellence in instruction a shared priority rather than an afterthought.

III. Instructors in Self-Paced Adult Learning Programs

Key Findings for Instructors in Self-Paced Adult Learning Programs Professional Development

This group includes educators who work in adult basic education (ABE), literacy and GED preparation programs, continuing education, and other self-paced or open-entry learning environments

typically serving adults. In U.S. public education, many adult learning programs are offered through community colleges, K–12 adult schools, or workforce development initiatives, and they often feature self-paced, competency-based instruction to accommodate adult learners' schedules. Professional development is especially critical for adult education instructors, as many enter the field without formal education training. Studies note that the majority of adult educators enter "sideways" from other careers or academic backgrounds (e.g., a volunteer with a degree in business teaching GED math, or an adjunct teaching ESL who was trained in literature) and thus may lack knowledge of effective adult pedagogy[51]. PD is a key mechanism to equip these instructors with the skills to teach adult learners successfully. Over the last decade, adult education has shifted to emphasize not just literacy/numeracy but also digital skills, workforce readiness, and equity for learners who are often low-income or immigrants. PD for adult educators has evolved to address these needs, with a focus on strategies such as contextualized instruction, technology use, and trauma-informed teaching.

- **Job-Embedded and Flexible PD is Needed:** Traditional PD models (like day-long workshops or annual conferences) can be less effective for adult ed instructors, many of whom are part-time and geographically dispersed. There's a push for more job-embedded PD (coaching, mentoring, communities of practice) and flexible delivery (online modules, webinars) to accommodate instructors' schedules[52][53]. For example, delivering PD through online learning communities allows part-time instructors from different programs to come together virtually, reducing travel barriers and fostering peer learning across sites[53]. Research suggests that ongoing support – even if delivered virtually through coaching or discussion boards – helps adult educators implement new methods more effectively than one-off workshops.
- **Relevance to Adult Learning Principles:** Effective PD for this group explicitly models the principles of adult learning (andragogy). Adult educators, being adult learners themselves, benefit from PD that acknowledges their experience, is problem-centered, and allows self-direction. A recent field study applying the Universal Design for Learning (UDL) framework to PD design found that the best way to help adult educators build inclusive classrooms was to model the same inclusive practices during the PD[54]. In that two-year study, PD providers used UDL principles – offering multiple ways of engagement, representation, and expression – in self-paced PD modules for instructors, which led to higher educator engagement and educators subsequently using UDL techniques

with their students [54]. The takeaway is that PD should practice what it preaches: if we want instructors to use, say, interactive and differentiated methods with adults, the PD itself must be interactive and differentiated for the instructors.

- **Content Focus on Literacy, Numeracy, and Technology:** Adult learning programs aim at fundamental skills (reading, writing, math) and life skills (digital literacy, workforce skills). Thus, PD often centers on teaching strategies in these domains. Research on teacher change in adult basic education indicates that teachers make greater gains when PD is tied to the content they teach and the assessments they use [51]. For example, an adult ESL instructor will benefit more from PD on second-language acquisition strategies or integrating English with job skills than from generic pedagogy. PD that helps instructors contextualize literacy and numeracy instruction to real-world adult contexts (like health, finance, or workplace scenarios) has been highlighted as best practice. Additionally, technology integration PD has become crucial in adult education. Many adult learners need digital skills, so instructors must be comfortable embedding technology in instruction (from using educational software for self-paced learning to facilitating remote classes). Training adult educators in the effective use of technology – and doing so in a hands-on way – is widely regarded as essential, given that many adult learners need digital skills and many programs report instructor digital-skill gaps [56]. One example is the widespread training on using learning apps and online resources during the pandemic, which enabled adult educators to continue instruction virtually and even expand access for learners who couldn't attend in person.
- **Emphasis on Equity and Inclusion:** Adult learner populations are diverse (in age, ethnicity, prior education, and learning challenges). PD initiatives often stress culturally responsive teaching, trauma-informed approaches, and strategies for learners with learning disabilities or English language needs. A consistent finding is that adult educators, like K–12 teachers, may hold misconceptions or low expectations for certain learners (e.g. those with very low literacy or from disadvantaged backgrounds). PD that addresses these mindsets and provides tools for differentiation can lead to more equitable instruction. For instance, training instructors to recognize and accommodate learning differences (like undiagnosed dyslexia in adults) can improve learner persistence and achievement. Although research specifically linking equity-focused PD to adult learner outcomes is

emerging, there is consensus that instilling an equity mindset in adult educators is essential, given the critical role they play in re-engaging marginalized learners.

- **Limited but Positive Evidence of Impact:** Compared to K–12, there is less large-scale research quantifying the effects of PD in adult education. However, smaller studies and program evaluations provide encouraging evidence. Practitioners often observe that when instructors receive relevant, ongoing PD, their learners show better outcomes (improved literacy levels, higher GED pass rates, etc.). One mixed-methods study in an adult education center found that when part-time teachers were finally given consistent PD support, they reported improved teaching confidence and saw "measurable student achievement as a result"[57]. Another analysis noted that states or programs that invested in regular PD saw higher learner gains on federal performance measures, though the data are correlational. Overall, the logic model is clear: since instructor quality is a top factor in adult learner success (as one report put it, *"instructors are the key to helping students achieve level gains"*[58]), building that instructor quality through PD should improve student outcomes. The challenge is gathering rigorous data, but existing research and practitioner consensus strongly support this link.

Evidence of Impact of Instructors in Self-Paced Adult Learning Programs Professional Development

Concrete evidence in adult learning contexts includes:

- **Instructor Skill Growth:** Virtually all studies on adult educator PD show gains in instructors' knowledge and teaching techniques. For example, after statewide training on a new adult reading curriculum, instructors demonstrated increased use of evidence-based reading strategies (like phonemic awareness activities for low-literacy adults). They could articulate a deeper understanding of adult literacy development. These kinds of improvements are often captured through pre-/post-surveys, teaching practice inventories, or program coach observations. In one national effort (the Adult Education Teacher Competencies project), instructors who engaged with competency-based PD self-reported significant growth in areas such as lesson planning for differentiation and using assessment to guide instruction.
- **Improved Learner Outcomes:** While harder to tie directly, there are documented cases where PD likely contributed to better learner results. For instance, an initiative in California's

adult ESL programs provided teachers with training on project-based learning and formative assessment. In programs that implemented the training with fidelity, adult ESL learners showed higher gains on standardized ESL tests and higher promotion rates to the next level than in programs without that training (internal report data).

- **Application of New Methods:** Perhaps the strongest evidence comes from qualitative accounts of change. Adult educators frequently cite PD experiences that transformed their teaching approach—for instance, learning about adult learning theory and subsequently shifting from lecture-style teaching to facilitating group problem-solving, which led to more active student participation. In one report, an adult basic education teacher noted that after attending a series of math instructional workshops, she moved from drill-based teaching to using real-life scenarios and manipulatives; following this change, her students' post-test math gains and confidence improved noticeably (though numbers were small). While such anecdotes are not formal experimental proof, they align with broader K–12 research showing that active, relevant instruction yields better learning, and they indicate that PD was the catalyst for the instructor to make that change.
- **Satisfaction and Retention:** There's also an impact on the instructors themselves. PD can increase adult educators' job satisfaction and efficacy, which, in turn, benefits learners because enthusiastic, confident teachers are more likely to persist and go the extra mile for students. Many adult ed programs struggle with high turnover of part-time instructors. Those who receive meaningful PD often feel more connected to the program and profession and may thus stay longer, providing continuity for learners. Improved teacher retention after implementing supportive PD has been noted in some adult literacy organizations (e.g., a literacy council found that providing mentors for new volunteer tutors not only improved the tutors' teaching quality but also doubled their average length of service). Stable, well-prepared instructors are clearly advantageous for adult learners' progress.

In summary, while the research base in adult education PD may not be as extensive as in K–12, the available evidence and expert consensus suggest that effective PD for adult educators leads to better teaching practices (more student-centered, more skilled instruction) and that, in turn, drives better student outcomes such as higher skill gains, credential attainment, and learner persistence[57][60]. Given the high stakes – adult learners achieving literacy, diplomas, and jobs – even modest improvements traced to PD are significant.

Better Practices for Instructors in Self-Paced Adult Learning Programs Professional Development

Better practices for professional development of adult learning program instructors share similarities with general teacher PD, but with adaptations to the adult education context:

- **Use of Adult Learning Theory (Andragogy):** PD for adult educators should embody Malcolm Knowles' adult learning principles – recognizing that the participants (instructors) are internally motivated, bring prior experience, and desire practical, problem-solving relevance. Concretely, this means PD sessions might start by surfacing the challenges instructors face with their learners, then collaboratively working on solutions. It also means treating the instructors as partners in the learning process (for instance, involving them in planning PD topics or allowing them to choose PD modules). Respecting their professional experience and focusing on immediate application will increase engagement. As one resource provocatively asks, *"Has the PD been designed with the same care we expect adult educators to use when teaching their own adult students?"*[61]. The answer should be yes: PD must model effective adult teaching.
- **Modeling and Practice:** Just as K–12 PD should model desired classroom practices, adult ed PD should *show, not just tell*. If instructors are learning to facilitate a self-paced learning software for students, the PD might have them go through the software as learners, then practice facilitating in a role-play. If inclusive teaching is the goal, the PD facilitator should model inclusivity (e.g., using respectful language, including scenarios that reflect diverse adults, and demonstrating techniques such as addressing stereotype threat). The UDL-based PD modules mentioned earlier provided a model in which each module was itself accessible and flexible, which instructors found enlightening – they experienced firsthand how multiple means of engagement or assessment could work, and were then more ready to use them with students [54].
- **Situational and Needs-Based:** Adult education instructors teach in a variety of contexts – from prison education programs to community college night classes – and often have very specific needs. Effective PD is differentiated or customizable. For example, new volunteer tutors might need basic training in lesson planning and adult learning basics. In contrast, experienced instructors might seek advanced strategies for GED math or for helping adult learners transition to college.

Offering leveled PD or elective topics ensures each educator gets relevant development. Conducting a needs assessment (e.g., surveys or focus groups asking instructors what topics or skills they need) is a best practice endorsed in the literature [62]. This might reveal, for instance, that instructors feel weak in teaching writing to adults or in using Zoom for remote classes – in which case PD can be tailored accordingly.

- **Collaboration and Communities of Practice:** Just as other educators do, adult instructors benefit from learning communities. However, given their disparate schedules, these communities often thrive online. Many states have established online communities of practice through LINCS (Literacy Information and Communication System) or similar platforms, where adult educators discuss and share resources. PD that facilitates ongoing peer interaction (through cohort-based programs, WhatsApp groups, etc.) helps break the isolation of instructors who may only teach a few hours a week and rarely meet colleagues. For instance, a community of practice around "Teaching ESL at a Distance" formed during the pandemic allowed dozens of adult ESL teachers to swap tips and troubleshoot problems in real time, essentially serving as on-demand PD. Structured peer mentoring is another collaborative model – pairing a novice adult ed teacher with a veteran for classroom observation and feedback can accelerate the novice's skill development. The Teacher Induction Toolkit for Adult Education (U.S. Department of Education, 2015) advocates mentoring. It has been shown that mentored instructors use a wider range of effective strategies and stay in the field longer.
- **Blended and Technology-Enabled PD:** Because many adult educators have other jobs, offering PD in a blended format (part in-person, part online, or fully online asynchronous) is often necessary and effective. Blended PD might include an initial face-to-face workshop followed by a series of online follow-ups or coaching calls. Research indicates that purely online PD can work for adult educators, but combining synchronous interaction (e.g., live webinars or cohort check-ins) with asynchronous modules helps sustain engagement and collaboration [21] [53]. One successful example is the LINCS online courses –self-paced modules on topics such as teaching adults with learning disabilities. Adult educators who complete these often meet virtually with a facilitator or discuss the content in an online forum, which helps contextualize it. Additionally, using recorded videos of master adult educators teaching (with real adult learners) has

been a powerful PD tool, letting instructors observe best practices in action and discuss them. Overall, leveraging technology in PD not only extends reach but also familiarizes instructors with tools they might use with their students, serving a dual purpose.

- **Focus on Outcomes and Data:** Effective PD for adult instructors often incorporates examining learner outcome data and setting goals. For instance, PD might involve analyzing pre- and post-test gains for students or retention rates, and then identifying instructional adjustments to improve those numbers. A data-driven approach was illustrated by a yearlong K–12 project in which teachers examined quantitative data on equity patterns in classroom participation (the EQUIP observation tool); teachers who engaged with these data were more likely to name and discuss how race and other social markers mattered in their classrooms—a precondition for changing practice [64] [65]. The same approach is readily adaptable to adult education programs. In short, treating PD as a continuous improvement process where instructors use data to inform their teaching changes is a best practice. It mirrors how K–12 PLCs use student data, but in adult ed, data might include skill-gain measures or learner survey feedback on what helps them persist.
- **Supportive Administration:** Though not a "PD activity" itself, one best practice is ensuring program administrators support and participate in PD. When directors or coordinators join trainings and discussions, they can align program policies with the new strategies (for example, adjusting class schedules to accommodate a new instructional approach or providing needed materials). Also, recognizing and rewarding instructors who pursue professional learning (e.g., stipends, certificates, public acknowledgment) encourages a culture of development. Adult ed historically has limited funding, so dedicating some funds to PD (or leveraging grants) is critical – programs that embed PD into their operations (for instance, a paid hour each week for instructors to plan and learn) see better teaching consistency and morale.

Limitations of Instructors in Self-Paced Adult Learning Programs Professional Development

The adult education context has some distinct limitations and challenges for PD:

- **Instructor Turnover and Part-Time Status:** A large proportion of adult ed instructors are adjuncts or volunteers,

and turnover is frequent. This makes it challenging to provide sustained PD – just as an instructor becomes more effective, they might leave for a full-time job elsewhere. It's also hard to require extensive training for low-paid part-timers or volunteers. This limitation means PD efforts can be fragmented, and the return on investment might be lost if instructors leave. Solutions include advocating for better pay/stability for adult educators and creating onboarding PD that quickly brings new instructors up to speed.

- **Funding Constraints:** Adult education programs often operate on tight budgets (federal and state adult education funds) that prioritize direct student services. PD is sometimes seen as a luxury. Without dedicated funding streams or grant support, programs may not be able to afford high-quality PD (such as hiring expert trainers or providing paid time for instructors to attend). This limitation can result in sporadic or low-quality PD (e.g., only free webinars) rather than a coherent program of teacher learning. Advocacy by organizations like COABE has been pushing for recognition of PD as essential program-quality infrastructure, but funding remains a hurdle.
- **Diversity of Instructor Backgrounds:** While diversity of experience can be a strength, it can also make it challenging to design PD that is relevant to everyone. In one room, an adult ed PD session might have a certified retired schoolteacher, a business professional turned volunteer tutor, and a community college adjunct – all with different knowledge bases. This heterogeneity means some content may be too basic for some and too advanced for others. It requires skillful differentiation by PD facilitators, which not all PD providers achieve. Some instructors might disengage if they feel the PD is not tailored to their level. Providing leveled or modular PD (as mentioned) can mitigate this, but it's not always done.
- **Measuring Outcomes in Self-Paced Environments:** Adult learning programs often allow students to progress at their own pace, making it tricky to measure teacher impact. A single class might have students at varying levels, all working individually or in small groups on different modules. Standardized tests (like TABE or GED practice tests) are administered, but linking an instructor's PD to, say, an increase in test pass rates is an inferential leap, given the self-paced structure. This limitation in clear impact measurement can make it hard to justify PD investments to funders who want to see immediate bumps in outcomes. Programs rely on broader indicators and qualitative feedback to infer the impact of PD.

- **Scheduling and Attendance Issues:** Adult educators typically teach at odd hours (evenings, weekends) because many adult learners work day jobs. Coordinating PD sessions when everyone can attend is challenging. Often, PD has to be offered multiple times or asynchronously. Even then, instructors may miss sessions due to other commitments. This fragmentation can limit the coherence of the PD experience – an instructor might get one piece of training but not the follow-up. Ensuring consistent participation is a logistical headache and a limitation that can reduce PD effectiveness.
- **Adaptation of K–12 Methods:** Many teaching strategies originate in K–12 or K–12 research. Not all translate perfectly to adults, who have different motivations and life experiences. PD must adapt methods (for example, behavior management techniques for children may be irrelevant, whereas dealing with adult learner anxiety or life barriers is crucial). If PD simply copies K–12 approaches without adaptation, instructors may find it impractical. A limitation has been the scarcity of research focused explicitly on adult learning settings, though this is improving. Thus, PD providers sometimes operate on principles assumed to be universal, which might not fully address adult classroom realities (such as multilevel classes or sporadic learner attendance). Developing a stronger evidence base specific to adult education instruction is needed to fine-tune PD content.

Despite these limitations, the trend in adult educator PD is toward greater professionalization, mirroring other education sectors. The last 15 years have seen efforts such as the Adult Education Teacher Competencies (2015), which provide a framework of skills that adult educators should master, and many states creating certification or credentialing systems for adult educators that include PD requirements. These frameworks serve as models for PD curriculum —for instance, focusing on competencies such as “Analyzing Adult Learner Needs” or “Managing the Learning Environment.” By articulating what effective adult teaching entails, they help PD providers design comprehensive, standardized training. One recommended model emerging from this work is a coaching model in adult education (similar to K–12 instructional coaching), in which a mentor teacher observes adult classes and provides feedback. Early implementations in a few states have shown promising results, improving instructors’ use of differentiated instruction and student-centered techniques (as evidenced by classroom observation checklists). Scaling such models will require addressing the funding and structural issues mentioned.

Conclusion for Instructors in Self-Paced Adult Learning Programs Professional Development

Instructors in self-paced adult programs greatly benefit from PD that is practical, flexible, and attuned to the realities of adult learners and part-time teaching. Proven approaches – such as modeling inclusive practices via UDL[54], using blended online communities for support[53], and focusing on immediate instructional challenges – have helped make PD more effective in this sector. When adult educators are given relevant training and support, they "realize their own craft growth, with measurable student achievement as a result"[57]. This ultimately translates into more adults achieving literacy, numeracy, and life goals—the accurate measure of success in these programs.

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