

Math, Money, & Minutes: Barriers to Educational Advancement among Early Childhood Teachers

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"I can see myself doing this [educational program again] if I could skip the math. If they could take the math away, no problem."

"I have to be here at [work at] 6:30 in the morning... By the time I come here, I gotta' get my kids, make sure they're home or feed them, then get ready to go to class, and then do the whole cycle over. It was too much. And then the fast pace too, was a little too much for me."

Two early childhood teachers describing why they dropped out of an apprentice program, 2017

INTRODUCTION

In 2017, we interviewed a group of six center-based teachers in early childhood education (ECE) who dropped out of the first cohort of a new apprenticeship program that developers hoped would foster educational and career advancement. The women graciously answered our questions about why they joined and later discontinued the program and actions that might improve students' future retention. We provided a \$50 gift card for participation in the 50-minute interview, which we then audiotaped and transcribed for analysis. By exploring the women's barriers to educational completion, we hope to provide context for national conversations about the preparation and continued professional development of ECE teachers.

We also shared a summary of our findings and an initial draft of this paper with the apprenticeship program's developers. Grant activities began quickly, and program leaders juggled many tasks simultaneously without the benefit of developed systems, tested policies and protocols, or even a full team of program staff. During the months since program initiation, several of the recommendations made (on page 7) have already been incorporated into the ECE apprenticeship program in order to better serve current and future participants.

Study Participants

The women, who were workplace colleagues, had been in the child care field anywhere from two to 11 years. Most had at least four years of experience under their belt. Some arrived for work by 6:30 a.m., while others worked the 9:30 a.m. to 6:30 p.m. shift. In order to attend the program's evening classes, a few respondents needed to leave work early, which could occasionally be challenging if the staff-to-student ratios were not adequate. The center's management did its best to see that the women left work in time for class.

All six respondents held a high school degree and Child Development Associate (CDA) Credential™, the latter of which usually involved completing evening courses twice a week for six months. One woman also had her associate's degree, which she had earned right after graduating high school, more than 20 years ago. They earned about \$14 per hour, which was higher than the national standard. (Preschool teachers with an associate's degree earned a median hourly wage of \$13.84 and childcare workers with a high school degree earned, on average, about \$10 per hour in the U.S. in 2016 [Bureau of Labor Statistics, 2016]).

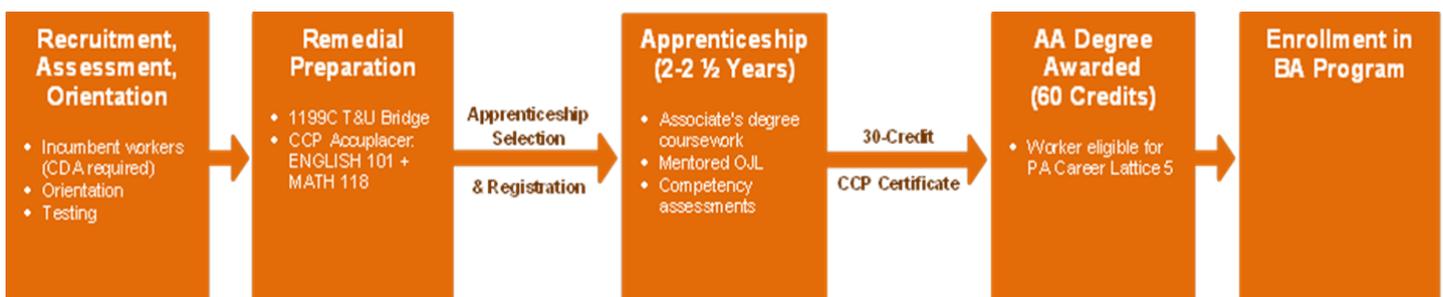
The women had participated in, and dropped out of, the first cohort of a registered ECE apprenticeship program in Philadelphia. The apprenticeship integrates classroom training with 2,000+ annual hours of "on-the-job learning (OJL)," with both aspects of the program structured around a set of customizable, employer-identified competencies.

It is designed for nontraditional, employed students with educational challenges who might need college preparatory and mentoring support. Apprentices will receive college credit from the Community College of Philadelphia (CCP) for both traditional classroom instruction and demonstrated mastery of on-the-job competencies. They can earn an Associate's Degree in two years at no cost and salary increases at specified milestones during that time. Designed and operated by the District 1199C Training & Upgrading Fund (Training Fund) to support the development of straightforward, articulating career pathway steps for ECE workers, the program is funded primarily by the William Penn Foundation.

Figure 1 summarizes the program's phases from recruitment to completion. During the Recruitment, Assessment & Orientation phase, participants must complete a two-hour orientation at the Training Fund and achieve minimum scores on 8th grade language arts and 5th grade mathematics Tests of Adult Basic Education. This is where the women we interviewed started and stopped.

During the Remedial Preparation phase, those participants meeting minimum program requirements in the Recruitment, Assessment & Orientation phase participate in the Training Fund's industry-contextualized Academic Bridge program. Upon completing the Bridge, participants are referred into a CCP Accuplacer Preparation class to complete accelerated, targeted developmental coursework with CCP. All phases of the program are outlined below.

FIGURE 1. PHASES OF THE ECE APPRENTICESHIP PROGRAM



While a winnowing down of participants was anticipated in the program design, from 75 incumbent CDA-holding workers to 45-50 qualifying participants to 36 apprentices that pass the CCP placement test, we wanted to understand the circumstances that led to participant drop out in the first phase of the project.

Universal Challenges?

“Some of us had... three classes a week, and that just was way too much. Getting up early and working eight hours—and then you have to go to a class three days a week. With children home, other things to do, it was just too much.”

ECE teacher explaining why she dropped out of an apprenticeship, 2017

In some ways, the challenges that impeded the women’s program completion were universal among nontraditional, adult learners in higher education who worked full time. As we age, it becomes harder to balance work and school due to increased family responsibilities. For instance, K-12 teachers interviewed for national research studies indicate that time constraints pose the greatest challenge to seeking advanced schooling. While K-12 teachers feel squeezed for time, they have a clear incentive for attaining advanced degrees. There is typically greater economic payoff for increased education or professional development among K-12 teachers than those in ECE (Phillips, Austin & Whitebook, 2016), and median teachers’ salaries increase with the grade level taught (Phillips, Austin & Whitebook, 2016).

Scholars identify the following three main types of barriers for adult learners returning to higher education: institutional, situational, and dispositional (Osam, Bergman & Cumberland, 2017). The first, institutional, are challenges that students experi-

ence in navigating the system, such as understanding policies, completing paperwork, and choosing the course offerings. Situational barriers include circumstances related to transportation and finance, work schedules, and time constraints resulting from family responsibilities. Finally, dispositional barriers can stem from attitudinal or belief systems, such as a lack (or abundance) of self-confidence or fear of embarrassment. The longer someone has been out of school, the longer scholars estimate it takes him or her to develop the wherewithal and self-efficacy to succeed (Osam, Bergman & Cumberland, 2017). The good news is that many people with a heavy work-family lift have high rates of returning to college and are successful at achieving their goals (Hostetler, 2007).

Motivations

Different motivations compelled the respondents to enroll in the Apprenticeship, although most thought it was a good opportunity to advance their education with their employer’s support. They had been thinking of pursuing higher education for some time, and leadership at work strongly encouraged them to enroll. (One woman was “voluntold” to do it, which is an expression we often hear in the K-12 world, too.) To be sure, the women were attracted to the program’s free cost, downtown location, and sponsor’s solid reputation. The downtown location meant a relatively convenient mass transit commute for some, although one person’s after-work eldercare responsibilities required her to drive to class, which carried hefty parking costs (about double what she earned in an hour). They also liked the program’s teacher, being part of a cohort, and the idea that obtaining further credentials would help improve the standing of the Center where they worked. Certainly, they appreciated earning what they characterized as “raises” during the time they participated. In short, the women praised the program sponsor and could generally see themselves enrolling again if circumstances were different. We discuss these circumstances below.

Barriers

Three barriers stood out from among the rest in our group interview: (1) the mathematics course content was too difficult for them; (2) “hidden” financial challenges persisted despite the program’s free cost, and (3) family responsibilities made it hard to attend up to three evenings per week. Figure 2 summarizes the curricular/instructional, situational, and dispositional barriers that contributed to dropping out of the apprenticeship.

The more seasoned ECE teachers had not been students for many years and performed poorly on placement tests for which they regretted not preparing. They had not fully understood the importance of the test; some were surprised and then disappointed that low placement resulted in their having to take remedial, noncredit courses before being eligible for the Apprenticeship. They worried about investing valuable time in the remedial mathematics course only to find they did not place into the for-credit program. In hindsight, they wondered if a better approach might have been to obtain tutoring support while taking for-credit classes instead of spending time on noncredit preparation.

FIGURE 2. BARRIERS FOR EDUCATIONAL PROGRAM COMPLETION AMONG ECE TEACHERS

Curricular/Instructional	Situational	Dispositional
<ul style="list-style-type: none"> • Mathematics content was reportedly too difficult • Remedial courses were non-credit • Students within the same class were at different achievement levels and needed individualized tutoring help • Confusion about placement tests existed • Mentors who were not available might have helped • Students liked the teacher but would have preferred a different teacher for math and English • “Large” class sizes exacerbated the math anxiety that already existed 	<ul style="list-style-type: none"> • Taking three night classes per week was hard with family responsibilities • Working a shift ending at 6:30 p.m. meant clocking out early for evening classes and losing income • ECE staff-to-child licensing ratios could have required late work departure (although Center leaders helped prevent this from becoming a significant problem) • There was confusion about program eligibility: one person with an AA preferred to pursue a BA • Mass transit was not a viable option for one student who incurred high parking costs 	<ul style="list-style-type: none"> • Students felt uncomfortable having been out of school for many years • It was demoralizing to feel “stupid” around higher achieving peers • It was exhausting to go from working at 6:30 a.m. to an evening class, and there was no break (time off) for some teachers between the previous CDA program and the Apprenticeship

Math, Money & Minutes

The women acknowledged—indeed, appeared to feel embarrassed by—their low mathematics achievement. One woman placed into what she characterized as an advanced math class, but then struggled with the material, while others admitted to staring anxiously at the computerized exam and guessing incorrectly on questions. Essentially, they had felt “stupid” sitting in class with others who appeared to comprehend the content more quickly and thoroughly. One woman said:

“I ‘been out of school 20 years...I had no clue...what it was [the teacher] was doing and I couldn’t comprehend it. No matter how many times he went over it, I was lost. ...Especially when it comes to the math... That’s not what I was learning when I was in school...It just was confusing.”

The women had an easier time completing CDA certification, which incorporated content that was specific to teachers of young children, than mastering the mathematics content in the remedial course leading to the Apprenticeship. Math seemed to be the biggest impediment to program completion, and it was common for the respondents to wonder aloud why such skills were needed for a career working with children from birth to three years of age. Said one woman:

“Algebra and all that?...I’m lost, and then I [think], ‘Okay, I’m an infant room teacher...I’m gonna always—if I stay in this field—be an infant room teacher.’ So, [why] do I need that?”

In addition to struggling with the mathematics, at least two of the women had only just completed the CDA coursework when they enrolled in the apprenticeship, which meant no break from the

trials of balancing work and school. According to one person, the program warned the women that success would require dedication; however, she was motivated to do well. “That [was] not really an issue for me,” she said, “it was just that math.”

Although developers removed tuition as a barrier to program completion, expenses incurred in the pursuit of education hit the women’s wallets hard. One woman with eldercare responsibilities across town after work would have been late to class if she had taken mass transit downtown, so she drove and paid between \$20 and \$30 to park up to three times every week. Others who normally worked until 6:30 p.m. had to leave work at 4 p.m. to arrive to class on time, which meant a loss of two hours of work for each day of class. (It sounded as if the workplace or apprenticeship remunerated the women for some expenses.) One person said she was “losing out on money” because she had to leave work early to get to school.

Family responsibilities, one of the most common barriers for female adult learners returning to school (Osam, Bergman & Cumberland 2017), emerged as another important consideration in the calculus of dropping out of the Apprenticeship. The math scared people, but the difficulty of securing evening child care or helping an elderly parent was sometimes the last straw. One woman was open to enrolling again in the program in the future when child care responsibilities were less intense. She stated:

“Yeah, I would see myself [enrolling again]... Probably for me, it’s more about my son. I have to make sure I pick him up... [and find someone] to watch my son... and if he can’t stay overnight, I have to go pick him up then bring him home. And that’s like 10, 11 [p.m.]... The night is over.”

An older respondent who helped her elderly mother after work also cited family responsibilities outside work as an impediment to program retention. She said:

“It was total frustration...Okay, you’re frustrated getting there [because] you’re trying to get there a certain time and...leaving there at 8:30 at night and...then going all the way home and still having to check on, you know, my other person. When I stopped goin’, I was relieved.”

FOR CONSIDERATION

The purpose of this article was to provide context for discussions about the preparation and credentialing of ECE teachers. What thwarted the women’s educational program completion had more to do with institutional, situational, and dispositional barriers than a lack of interest or motivation. They praised the program developers and had high esteem for various actors involved. Those with low math performance were anxious and frustrated and felt bad about the experience; it was humiliating to struggle publicly with math in class while some students appeared to excel with less effort. Although we focused on math, money, and minutes (time) as key barriers to the women’s program completion, the significance of dispositional barriers should not be understated.

Older students can be more reliable and focused on learning than traditional students; indeed, some researchers find that women with child care responsibilities are often highly motivated to complete their education as expediently as possible (Hostetler et al., 2007). The women we interviewed **were** motivated to pursue educational degrees; they had difficulty coping with the instrumental and academic demands of the program. Because the initial schedule of adult basic education classes is often individualized, the women were not aware of the specific class schedule and



many seemed surprised that they would be in school three nights per week. While in this case the issue may have been closely related to or exacerbated by apprenticeship program start-up issues, generally speaking, programs that communicate expectations clearly to adult learners have a greater likelihood of success in retaining ECE teachers.

The initial hurdles to achieving proficiency in the adult basic education (ABE) and Bridge coursework and passing the Accuplacer test are significant for some ECE teachers. While these steps are necessary to ensure that adult students can be successful in college and eventually earn a bachelor’s degree, the time invested to meet these milestones does not earn participants college credit. For those who attended poor high schools and/or had negative experiences in school, they may be learning this content for the first time. For those who graduated from high school decades ago, the content may be long forgotten. These participants require academic tutors, personalized instruction, and other supports to mitigate subject matter and testing anxiety. One respondent we interviewed had experienced discomfort during the first night of the course. “I was already stressed!” she said, and added, “I’d been thinking about it all day, all week.” Address-

ing these challenges will likely require additional program funding.

Finally, while Americans are accustomed to paying for higher education—for sure, many incur debts that take decades to repay—they need to see tangible payoffs from their investment of time and effort. Wage steps are a required element of the apprenticeship model and are negotiated individually with each employer. Focus group respondents noted the wage steps as a positive element of the apprenticeship program design, but even with this

incentive the women interviewed were unable to complete the academic work and spend the level of personal time required for apprenticeship participation. And while wage steps are positive, ultimately the compensation package for an AA level ECE teacher remains quite low. If the ECE field continues to offer low wages and minimal benefits, then professional developers in the industry may be disappointed by low rates of workers pursuing higher levels of education and credentialing given the barriers we have discussed.

Based on our research, we recommend the following:

- Create individual education plans for those interested in participating in the ECE Apprenticeship program
- Increase the availability of personalized learning supports (academic and “soft”) necessary to realize the goals outlined in the individual education plans of those participating in the ECE Apprenticeship program
- Decrease the number of participants in the math preparation course, and group students more closely by achievement levels
- Continue to advocate for public reimbursement rate increases for child care, Head Start, Pre-K Counts and other such programs
- Continue to tie increased reimbursement rates to increased teacher compensation
- Tie increased education attainment to significantly increased teacher compensation

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The Early Childhood Action Collective (ECAC) is an initiative of Public Health Management Corporation, sponsored by the William Penn Foundation. ECAC is a multi-disciplinary consortium comprising researchers, policy experts, and practitioners who share a commitment to creating a better future for Philadelphia's children by informing policy and practice decisions to help move Philadelphia's early childhood education

The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the William Penn Foundation.