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Progress Together

MA Apprenticeship Study

NRCEC 2026





Agenda

- Study background and design
- Key findings
- Recommendations

Appreciation

- The Massachusetts Department of Early Education and Care
- Research team from Mathematica, along with Pia Caronongan and Laura Hawkinson from Boston University's Wheelock College of Education and Human Development
- Participating RAP staff, apprentices, and mentors in the study

Study background and design

Motivation and background

- Low wages and fragmented training pathways make it difficult to recruit and retain qualified early childhood educators nationally and in Massachusetts
- Since 2022, Massachusetts' Division of Apprentice Standards (DAS) and the Department of Early Education and Care (EEC) have partnered to implement Registered Apprenticeship Programs (RAPs)
- This study examined five RAP programs in Massachusetts to inform future scaling and program improvement

Research questions

1. How were RAPs designed and implemented (from recruitment to completion)?
2. What were the experiences of program directors, apprentices, and mentors participating in RAPs?
3. Were there benefits of participating for program directors, apprentices, and mentors?

Methods

Online surveys*

- Employers (N=39; 55% response rate)
- Apprentices (N=235; 45% response rate)

Interviews

5 interviews with 9 RAP administrators



Focus groups*

- 6 focus groups with 17 employers
- 3 focus groups with 21 apprentices
- 2 focus groups with 10 mentors

Administrative data

* Apprentice data collection activities offered in both English and Spanish. Apprentices included both current and former apprentices (completed and dropped out).

Characteristics of five RAPs in the study (2025)

RAP	Type of RAP (type of credential)	Employer type	Apprentice type	Year RAP began
A	Center-based educator (teacher certification and CDA credential) Administrative leader (director certification)	Works with external employers	Incumbent	2023
B	Center-based educator (teacher certification and CDA credential)	Employs apprentices and works with external employers	Incumbent	2022
C	Center-based educator (teacher certification)	Employs apprentices and works with external employers	New hires	2023
D	Center-based educator (teacher certification)	Employs apprentices and works with external employers	New hires	2024
E	Out-of-School Time educator (full-time role)	Employs apprentices	Incumbent	2024

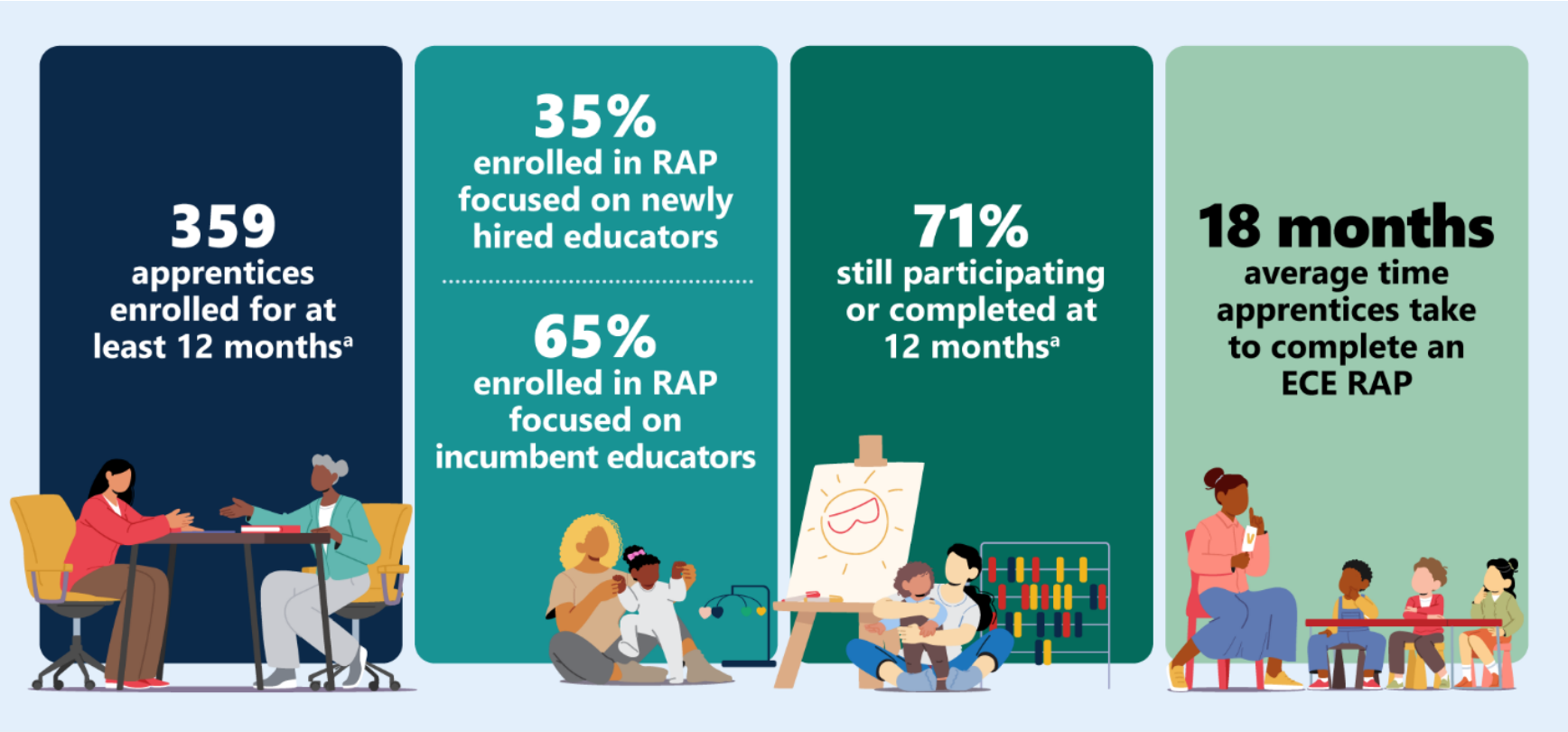
How were RAPs designed and implemented?

How RAPs were designed (across five RAPs)

- **All RAPs were free for apprentices and used a cohort-based model**
- **Key similarities:**
  - Hybrid model (competency- *and* time-based)
    - Completion based on at least 150 hours of required technical instruction (RTI) and 2,000 hours on-the-job training (OJT)
  - Designed to take at least 12 months to complete
  - Mentors met for at least 2 hours/month with apprentices
  - Culminated in credentials such as Child Development Associate (CDA), early childhood teacher certification, or center director certification
- **Key differences:**
  - RTI coursework format (virtual evening classes vs. in-person RTI before OJT starts)
  - Supports offered to apprentices (e.g., stipends, materials, tutoring)
  - Coaching intensity
  - Starting wages

Source: MA Apprenticeship Study, RAP sponsor interviews, 2025.

Apprentice enrollment in and completion of RAPs



Source: Massachusetts Division of Apprentice Standards data as of August 2025.
Note: This exhibit represents analysis completed among all apprentices ever enrolled across RAPs.
[a] RAPs require apprentices to participate in the program for at least 12 months.
ECE = early care and education; OST = out-of-school time; RAP = Registered Apprenticeship Program.

What were the experiences of program directors, apprentices, and mentors participating in RAPs?

Apprentice experiences with the RAP

Facilitators

- Opportunities to apply learning in the classroom
- Supportive relationships with mentors, employers, and peers
- Flexibility with virtual/evening coursework
- Coaching and supports from RAP staff (e.g., help navigating coursework, credentials, and program requirements)

Barriers

- Juggling work, school, and family demands
- Variable mentoring experiences
- Limited protected time for mentoring and learning
- Unclear wage progression in some programs

Source: MA Apprenticeship Study, Apprentice focus groups, 2025.

Apprentice experiences

- **89% of apprentices reported increased confidence working and interacting with children**
- **Apprentices described gaining a stronger understanding of:**
  - EEC regulations (such as health and safety guidelines
  - Child development, including fine and gross motor skills, social-emotional development
  - Inclusive approaches to support children with varying developmental needs

> *[As an apprentice] you're not just studying a book, you're discussing real, day-to-day situations. Then you apply it the next day. Did it work? What went wrong? It was helpful to talk to people who can relate. They [peers] can offer solutions and you can try it. It's an exchange of skills.*
>
> — Apprentice

Source: MA Apprenticeship Study, Apprentice survey and focus groups, 2025.

Employer experiences with the RAP

Facilitators

- **Financial supports (e.g., free coursework/training and materials, mentor stipends**
- **Job-relevant and supported learning for apprentices**
- **Low administrative burden for employers (e.g., RAP staff handle logistics and implementation)**

Barriers

- **Confusion around wage progression requirements**
- **Lack of information to track apprentice progress**
- **Employer hiring constraints and expectations**

Source: MA Apprenticeship Study, Employer focus groups, 2025.

It can seem very daunting to get these types of credentials. There's a lot of steps. So I think having this pathway has been fantastic. It builds confidence in them [apprentices] and they can see a way towards their goal of being a teacher.

— Employer

If you're looking to hire a certified teacher or lead teacher [right away], this would not be beneficial. But if you're looking to fill a space for an assistant teacher or get someone who could be moved into a teacher role within a school year, [the RAP] is definitely a benefit.

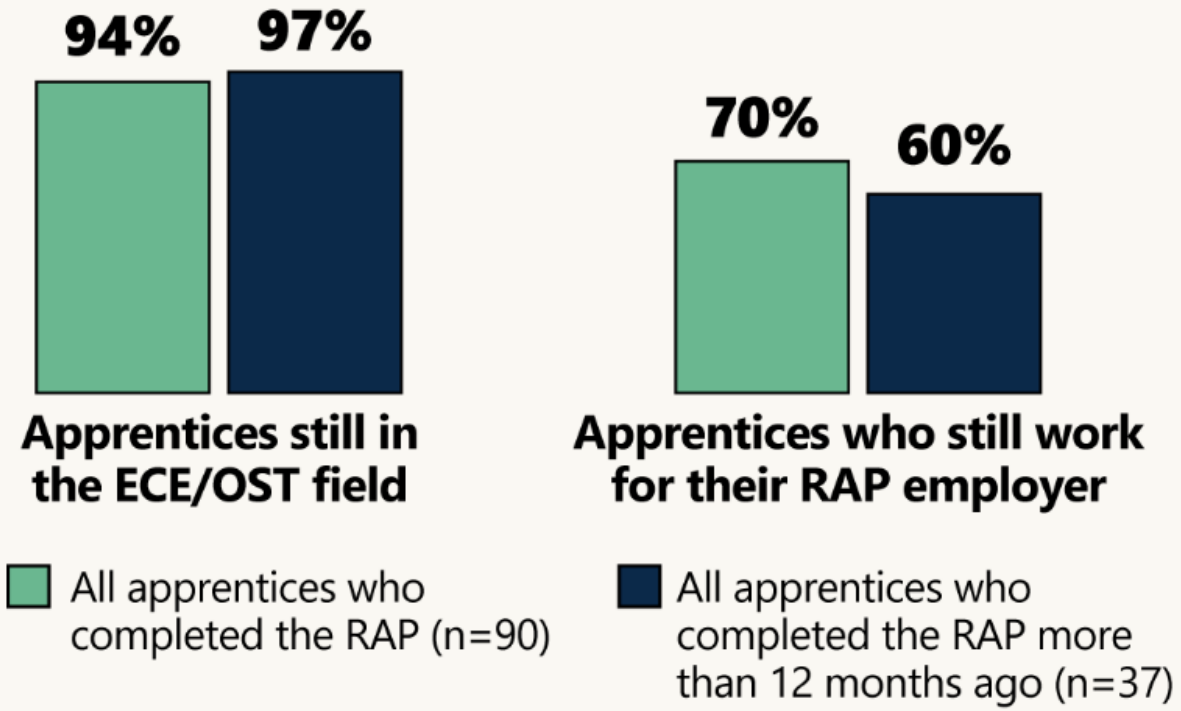
— Employer

Source: MA Apprenticeship Study, Employer focus groups, 2025.

Were there benefits of participating for program directors, apprentices, and mentors?

Apprentice retention in the field and with their employer





Source: MA Apprenticeship Study, Apprentice survey, 2025.

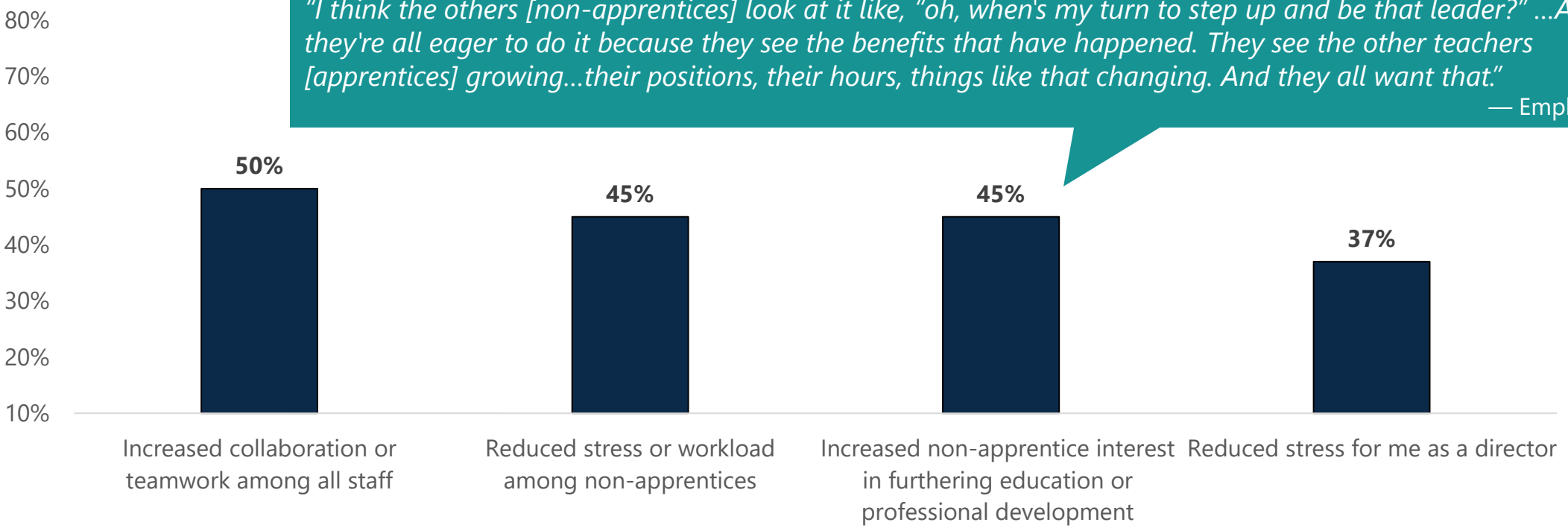
Apprentices' average wage growth through apprenticeship

	Average pre-RAP wage	Average post-RAP wage	Average wage change[a]
All completed apprentices	$21.05	$24.02	$3.45 (77)
New hire apprentices	$19.28	$22.62	$4.04 (21)
Incumbent apprentices	$21.88	$24.72	$3.21 (55)
Completed 12+ months ago	$23.26	$27.59	$4.51 (30)

Source: MA Apprenticeship Study, Apprentice survey, 2025.
Note: Out of 90 completed apprenticeships, 77 apprentices reported both pre- and post-RAP wages. Post-RAP wage is the hourly wage apprentices reported at the time of responding to the survey. Pre-RAP wage is the hourly wage they reported before starting the RAP. Wage change is the average of the post-RAP minus pre-RAP hourly wage.

Employer-reported spillover benefits

> *"I think the others [non-apprentices] look at it like, "oh, when's my turn to step up and be that leader?" …And they're all eager to do it because they see the benefits that have happened. They see the other teachers [apprentices] growing…their positions, their hours, things like that changing. And they all want that."*
>
> — Employer



Source: MA Apprenticeship Study, Employer survey, 2025.

Recommendations

Recommendations for future implementation of apprenticeships

- **State agencies and RAP sponsors can support employers with consistent and clear guidance including:**
  - Employer screening, orientations, and regular check-ins
  - Simple tools for tracking wages
  - Clear expectations and training for mentors
  - Supports to help apprentices secure roles upon completion
  - Cross-RAP data and outcome tracking including credential attainment
- **Employers who employ apprentices should reflect on:**
  - Their capacity to provide wage increases and flexibility for coursework
  - How apprentices' credentials will align with staffing needs upon completion

Recommendations for future research on apprenticeships

- **Examine long-term workforce outcomes**
  - Such as retention, career advancement, wage growth
- **Study employer and workforce system outcomes**
  - Such as alignment with state career pathways, staffing stability, and coordination with other early childhood or workforce systems
- **Deepen understanding of program features that facilitate positive outcomes for all educators**
  - Such as the type and intensity of mentoring, coaching, RTI delivery, wage progression, and wraparound supports
- **Expand evidence on emerging apprenticeship models**
  - Such as adapting RAPs for family child care providers

Contact us!

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- mathematica.org/projects/massachusetts-early-childhood-education-apprenticeship-study

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