

Research Brief

Massachusetts Teacher Pathway Study

Introduction and Purpose

The Massachusetts Department of Elementary and Secondary Education (ESE) recognizes that teachers are one of the most important schooling factors affecting student achievement. Ensuring that all students have access to great teachers is a priority area for the state.

To that end, the Educator Preparation team, with support from ESE's Office of Planning and Research, initiated a research project to better understand the relationship between teachers' pathways into the profession and workforce outcomes, specifically student growth, educator evaluation, and teacher retention. The study was conducted by the Center for the Analysis of Longitudinal Data in Education Research (CALDER) housed within the American Institutes of Research (AIR).

It is important to note that ESE commissioned this study primarily to understand the implications of our policies on educator preparation and the power behind the newly available data linkages that connect teacher preparation providers¹ to the employment outcomes of their completers. Thus, the findings from this study serve only to inform and improve our understanding. Analyses, data, and findings associated with this particular research study are not in any way tied to the accountability framework currently in place for providers.

The following brief outlines the major takeaways, policy implications, and study caveats.

Major Takeaways

Below, we outline several findings from the report and explain how these findings relate to our policies. A more detailed and technical version of all of these findings can be found in the executive summary and full report.

- **Variation *within* a provider is more significant than *across* providers.** This means that an individual preparation program (e.g., Biology 8-12) contributes to candidate effectiveness more so than the provider. Combined, an individual program at a specific provider explains about 10-25% of the variation in teacher value added and about 2% of the variation in educator evaluation summative performance ratings. This necessitates an even greater need for teacher preparation providers to monitor the efficacy of individual programs within their institutions and examine the choices around recruitment, admission, curriculum and placement that are contributing to this variation. Another important takeaway from this study is that individual preparation programs *can* meaningfully contribute to candidate effectiveness.
- **Available outcome measures may signal something about provider effectiveness, but the methodologies associated with the analyses must be carefully considered.** Overall, outcomes

¹ Although these research findings are specific to teacher preparation programs, many of the implications are applicable to all educator preparation programs.

for the majority of teacher preparation providers are not significantly different from the state mean. In conducting the analyses, researchers found that estimates of effectiveness are highly sensitive to the chosen modeling specifications. While some of the results are statistically significant and consistent across models, overall, the findings indicate to ESE a need to continue to use outcome measures carefully in measuring program performance.

- **The type of program (baccalaureate, post-baccalaureate, alternative) a candidate completes appears to have some impact on their readiness once employed.** Based on educator evaluation summative performance ratings, researchers found that teachers from post-baccalaureate programs received higher ratings overall. Graduates from alternative programs had an even larger positive effect. The difference in summative ratings between a completer from a baccalaureate program and a post-baccalaureate program is nearly as large of that of a novice educator and a second year teacher. The difference in summative ratings between a completer from a baccalaureate program and an alternative program is similar to the difference between a novice teacher and a teacher with five years of experience.
- **Higher rates of attrition are correlated with certain licensure pathways and program types, but that may not matter based on the effectiveness of candidates entering through those routes.** Researchers found that teachers who enter the profession with a preliminary and temporary license are more likely to leave the teaching profession each year than teachers with initial licenses². Graduates from alternative providers appear less likely to remain in teaching compared to graduates from baccalaureate programs. Yet, in both these instances, evaluation ratings for temporary licensed teachers and those prepared through an alternative program were higher, suggesting potential short-term tradeoffs for districts in hiring from these pathways.

Implications

The research supports the Department’s position that preparation is a key lever to improving student outcomes and closing the achievement gap. The Department is committed to continuing our work to improve educator preparation: formal review, additional data resources, Candidate Assessment of Performance (CAP) support, and strengthening preparation-to-district pipelines in the Commonwealth. **Based on the results from this analysis, ESE remains confident in our improvement and accountability approach.**

As a result of reviewing the research findings as well as the study limitations, ESE proposes the following next steps to be taken by both educator preparation providers and ESE.

1. **Maintain Multiple Measure Approach:** ESE will continue to use available outcomes measures (e.g., SGP) *as a component* of our accountability and continuous improvement framework for educator preparation providers. As we learned from the research, our available outcomes measures can have limitations. This has concrete implications for two projects in particular: formal reviews and the annual snapshot (Educator Preparation Annual Snapshot (EPAS)). ESE will continue to engage in the triangulation of data in formal review. Additionally, ESE will also be sure that EPAS relies on multiple measures.

² An initial license is granted upon successful completion of an approved preparation program

2. **Report and Monitor Program Variation:** ESE will continue to focus on organizational systems and structures during formal review. The research indicates that there is more variation within a teacher preparation provider than across providers. In other words, the individual licensure program a candidate graduates from explains more variation in outcomes measures than the provider. The review and approval process emphasizes the organizational-level domains, and this will not change in light of this research. If providers have strong systems and structures in place to monitor their own self-efficacy, a review process that examines those systems and structures through a robust evidence base is sufficient. More specifically, one program approval criterion in the Continuous Improvement domain sets the expectation that, “Sponsoring Organizations monitors individual program efficacy and ensures that candidates who complete the program are prepared to be effective in the licensure role.” Additionally, ESE will provide data on program variation to education preparation providers via the Educator Preparation Annual Snapshot (EPAS). In the future, providers will have access to data that indicates the variation of their programs based on student growth percentiles and educator evaluation data. EPAS will help teacher preparation programs to answer the question, “Is there variation in teacher effectiveness outcomes across preparation programs?” This data will be made available to all teacher preparation providers annually for their continuous improvement.
3. **Consider the Pathway:** Although the study found that teachers from alternative providers are more likely to leave the profession sooner than baccalaureate completers, this analysis suggests that there is a relationship between graduating from an alternative provider and generating more student growth in math. While attrition does have a negative impact on students, the research suggests that the gains in student achievement from candidates prepared through these program may offset the cost. ESE will continue to evaluate all providers using the same standards and processes. We will use our review process to garner additional insights about what is contributing to this finding and the differences across program types. This is especially important given that the large majority of our program completers (almost 90%) are produced through traditional, not alternative, providers.

Study Caveats

It is important to note that there are limitations to this research. Although the research team employed strategies to separate the effectiveness of teachers from the context in which they work, the results are sensitive to the influence of the school or classroom context. It is difficult to disentangle diversity of prior skills that candidates bring with them and the training that they receive in their program. In addition, particular findings from the report are sensitive to modeling decisions because of the characteristics of providers. For example, some alternative providers that predominantly serve a specific school system or charter network are particularly difficult to generate precise estimates for, as these atypical school staffing patterns may influence the results.

Also, it is important to note that the researchers used a value-added modeling (VAM) approach in examining student achievement, whereas in Massachusetts we use a Student Growth Percentile (SGP) measure. The researchers did, however, find a generally high level of agreement between SGPs and VAM. Based on this finding, we can expect that SGPs would act similarly to the models the researchers used.

All questions should be directed to edprep@doe.mass.edu.