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Transformation Through Technical Assistance? Analyses of Survey Data for Teacher Preparation Programs in the US PREP Coalition

US PREP is a technical assistance center that supports university-based teacher preparation programs (TPPs) in implementing a transformed teacher preparation model. The transformed model is designed to increase teacher candidates' readiness to teach by strengthening program coherence, providing extensive opportunities to practice instruction, improving the work of teacher educators, and deepening partnerships between TPPs and K–12 districts. In this research brief, we analyze data from surveys to assess whether teacher candidates and mentor teachers in the transformed model perceive their program as more effective than those in a traditional preparation experience. We find that teacher candidates and mentor teachers report greater program coherence around a common understanding of effective instruction and more opportunities to practice under the transformed model compared to a traditional model. Although the findings are less robust, results also indicate that the transformed model is associated with more positive perceptions of teacher educator effectiveness and interactions between TPPs and mentor teachers. These perceptions matter, as they suggest that candidates in the transformed model may be more ready to effectively teach. Continued work is necessary to determine whether the transformed model, as supported by US PREP, benefits preparation quality and candidate effectiveness.

Introduction

In recent decades, research has shown the importance of high-quality teacher preparation to the performance and retention of teachers. Teacher preparation can ensure that educators enter the classroom with the knowledge and skills to succeed and stay in teaching. As such, efforts to strengthen teacher preparation are a regular focus of policymakers, teacher educators, and philanthropic groups.

One such effort is the work of a set of technical assistance centers that partner with TPPs to strengthen program quality.¹ These

technical assistance centers provide TPPs with evidence-based frameworks for effective preparation practices and with supports and resources to better enact those practices. The goal of these technical assistance centers is to engage with TPPs and help them promote scaled and sustained change that improves graduates' readiness to teach.

While these technical assistance centers have great potential, as of yet there is little evidence as to whether they directly benefit TPP quality. In this research brief, EPIC begins to address this gap in knowledge by assessing outcomes for TPPs supported by US PREP. Housed at Texas Tech University, US PREP provides

¹Examples of these technical assistance centers include US PREP, Branch Alliance for Educator Diversity, Teaching Works, and the National Center for Teacher Residencies.

technical assistance to more than 25 university-based TPPs across the country. Specifically, US PREP provides a range of technical assistance supports and resources — e.g. transformation specialists, clinical coaches, professional development sessions, data sharing — to help TPPs enact a transformed preparation model.² This transformed model differs from a traditional preparation model in several important ways. Specifically, the transformed model emphasizes the following key elements: a common understanding of effective teaching, extensive opportunities to practice instruction, highly effective teacher educators, and strong partnerships between TPPs and K–12 districts. These elements are exemplified by year-long student teaching experiences, frequent opportunities for co-teaching and high-quality feedback during coursework and student teaching, intentionally selected and trained university field supervisors³ and mentor teachers, a focus on data sharing and use, and regular governance meetings between university and K–12 district personnel. Combined, these elements are expected to improve program quality and the readiness of graduates to teach, especially with K–12 students who have been historically underserved.

As one component of an assessment of the implementation and impact of US PREP’s technical assistance, the Education Policy Initiative at Carolina (EPIC) developed and administered surveys to a range of teacher education stakeholders. In this research brief, we analyze these survey data to address the following question: Do stakeholders perceive the transformed model as more effective than a traditional preparation experience? From these analyses, we hope to provide state education agencies, school districts, and TPPs with initial evidence on the efficacy of the transformed model, as implemented through US PREP’s technical assistance. These data can also highlight areas in which US PREP’s technical assistance is effective or may need further development.

Background

Since fall 2018, EPIC has partnered with US PREP to evaluate the implementation and impact of its technical assistance for TPPs. In particular, EPIC’s evaluation focuses on the 12 TPPs in US PREP’s inaugural and second technical assistance cohorts.⁴ As

part of this work, EPIC has developed and administered surveys of teacher candidates and mentor teachers. The teacher candidate survey is taken by candidates near the end of their student teaching experience and is available for five semesters of program completers (from spring 2019 through spring 2021). The mentor teacher survey is taken by the mentors of student teachers (near the end of student teaching) and is available for spring 2021.

These surveys ask candidates and mentors to reflect on the quality and frequency of preparation experiences. In particular, there are survey items on program coherence around a common understanding of effective instruction, opportunities for practice, the effectiveness of teacher educators (i.e. TPP faculty, field supervisors, and mentor teachers), interactions between mentor teachers and university-based teacher educators, and overall candidate efficacy. Most survey items use one of two response scales: strongly disagree to strongly agree or the frequency with which preparation activities occur. With these data we created dichotomous outcome measures that indicate whether the survey response was in a particular category.⁵ For example, we created outcome measures equal to ‘1’ if the respondent strongly agreed with a respective item. Likewise, we created outcome measures equal to ‘1’ if the respondent indicated that the activity occurred at specific intervals (e.g. several times a week, often).

With these outcomes, we estimate regression models to compare the perceptions of candidates in the transformed model to the perceptions of candidates in a traditional preparation model. Similarly, we compare the perceptions of mentors supervising a candidate in the transformed model to the perceptions of mentors supervising a candidate in a traditional model. These analyses control for the demographics of the respondent and the extent to which the student teaching experience was in-person or remote.⁶ Importantly, these analyses also include a TPP fixed effect, meaning we compare perceptions of the transformed and traditional models within the same preparation program.⁷

Table 1 (pg. 3) presents descriptive statistics for the demographics of survey respondents and for the survey measures we analyze. Most items are available from both surveys; some items are only available for the teacher candidate or mentor survey.

² Please see the following for all 14 components of US PREP’s transformed model: usprepnationalcenter.com/portfolio-items/our-model

³ In the transformed model, this university field supervisor is often referred to as a site coordinator. We use the term field supervisor as it is commonly understood and used by TPPs, teacher educators, and policymakers.

⁴ These 12 TPPs are as follows: Brooklyn College, Jackson State University, Lehman College, Sam Houston State University, San Diego State University, Southeastern Louisiana University, Texas Tech University, Touro College, the University of Houston, the University of the Pacific, the University of Texas El Paso, and the University of Texas San Antonio.

⁵ Alternate models treat the response categories as a numerical scale and produce comparable results.

⁶ In response to teaching conditions during the COVID-19 pandemic, we included a survey item to capture whether student teaching was entirely in-person, mostly in-person, equally in-person and remote, mostly remote, or entirely remote. Results are comparable when we include/exclude our control variables.

⁷ We prefer analyses that compare transformed versus traditional within the same TPP because this approach helps adjust for other programmatic characteristics that may be associated with candidate or mentor perceptions.

Table 1: Descriptive Statistics for Survey Respondents and Items

	Candidate Survey		Mentor Survey	
	Transformed	Traditional	Transformed	Traditional
Respondent Demographics				
% Female	92.77	82.07	88.29	79.25
% Asian	1.75	4.12	2.25	0.00
% Black	9.53	9.18	13.06	2.64
% Hispanic	22.89	30.73	19.82	27.55
% Multiracial	8.43	11.14	4.95	8.68
% White	55.75	41.87	55.86	53.58
Program Coherence				
% Strongly agree that TPP has a shared vision	59.75	54.23	43.69	27.74
% Strongly agree that TPP consistently communicates about effective instructional practice	61.22	53.76	—	—
Opportunities for Candidate Practice				
% Indicating that opportunities to practice happen often during program coursework	76.60	73.82	—	—
% Indicating that opportunities to practice happen often during student teaching	84.09	78.66	74.78	73.14
% Engaging in key instructional tasks with mentors several times a week	85.38	80.02	80.08	78.73
% Engaging in co-teach assist several times a week	88.18	80.61	82.88	79.25
% Engaging in co-teach team several times a week	53.79	56.75	55.86	50.94
% Engaging in co-teach station several times a week	57.58	50.46	52.70	45.28
% Engaging in co-teach alternative several times a week	50.55	52.12	51.80	49.06
% Engaging in co-teach parallel several times a week	33.20	41.16	31.08	30.94
Effective Teacher Educators				
% Strongly agree about quality of instructor feedback	50.51	54.70	—	—
% Strongly agree about quality of mentor feedback	68.11	71.56	51.31	40.46
% Strongly agree about quality of field supervisor feedback	68.59	61.47	38.80	30.40
% Indicating that all course instructors model effective practice	41.65	45.93	—	—
% Indicating that the mentor teacher is very effective at modeling practice	66.17	68.05	—	—
# of data elements shared with the student teacher	5.01	4.21	4.59	4.13
% Indicating that course instructors influenced development a great deal	37.35	43.02	—	—
% Indicating that the mentor teacher influenced development a great deal	70.86	66.09	—	—
% Indicating that the field supervisor influenced development a great deal	48.52	40.35	—	—
Candidate Efficacy				
% Strongly agree about confidence to carry out instructional tasks	63.30	60.04	—	—
% Strongly agree that the candidate is effective	—	—	51.17	49.95
% Strongly agree that candidate was well-prepared	51.93	41.41	44.59	44.52
Mentor-TPP Interactions				
% Who received mentor training and support from TPP	—	—	78.83	66.41
% Strongly agree that TPP faculty ask for mentor feedback	—	—	31.31	17.36
% Strongly agree that interactions with field supervisor improve mentoring ability	—	—	30.63	17.36
% Strongly agree that interactions with field supervisor improve candidate practice	—	—	29.28	17.74
Total Responses	913	1383	222	265

Note: This table presents descriptive data on the demographics of survey respondents and survey responses. We display this data based on whether the candidate was in a transformed or traditional preparation model. ‘—’ indicates that the item was not asked on the respective survey.

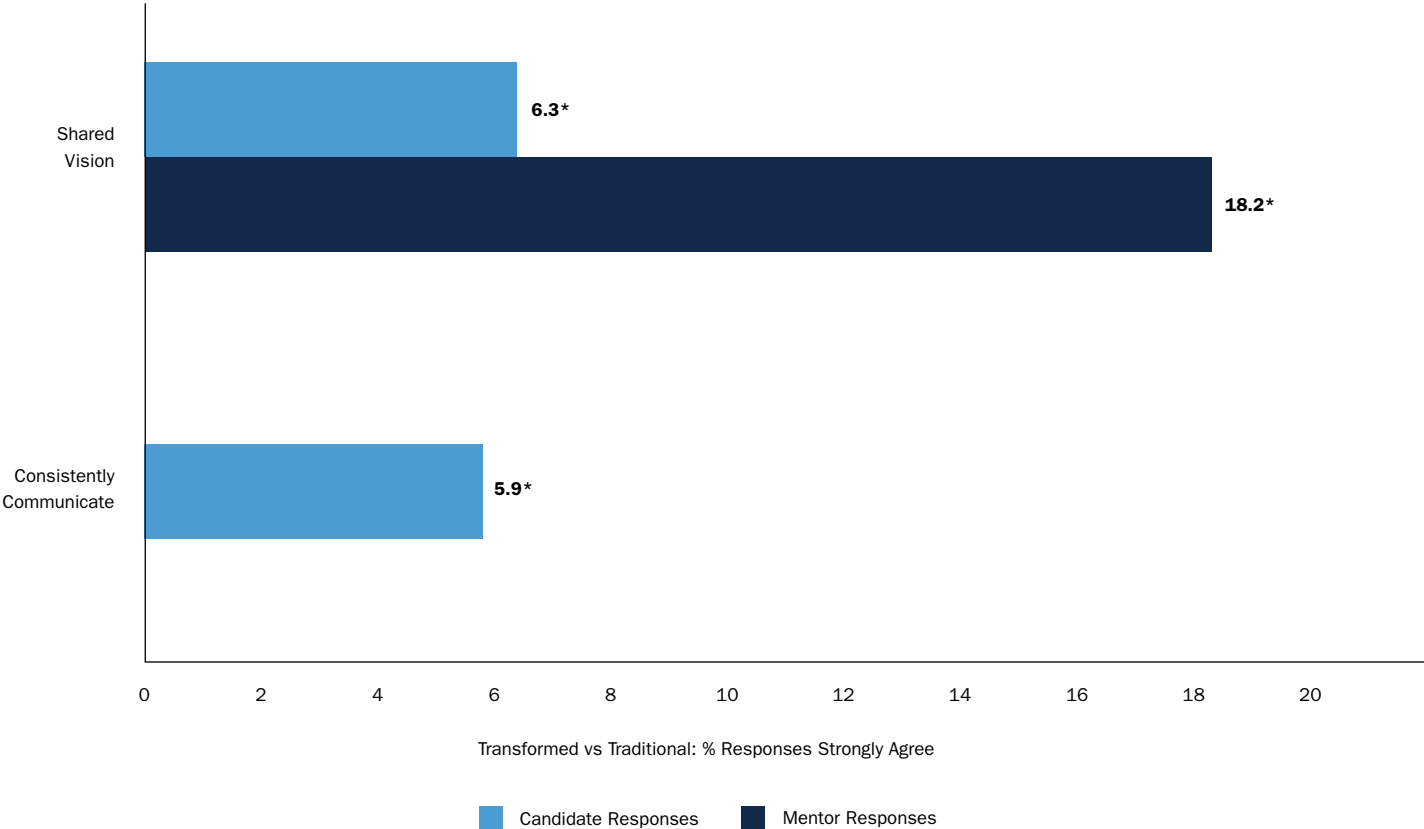
Perceptions of Program Coherence around a Common Understanding of Effective Instruction

The survey items in this section focus on TPPs having a shared vision for effective instruction and TPPs consistently communicating what effective instruction looks like. Relative to candidates in a traditional model, Figure 1 shows that candidates in the transformed model are more likely to strongly agree that their TPP has a shared vision for effective instruction and consistently communicates about effective instruction. For example, candidates in the transformed model are 6.3 percentage points more likely to strongly agree that their TPP has a shared vision. Likewise, mentor teachers supervising a candidate in the transformed model are 18 percentage points more likely — than mentors supervising a candidate in a traditional model — to strongly agree that the TPP has a shared vision for effective instruction.

Perceptions of Candidates’ Opportunities to Practice

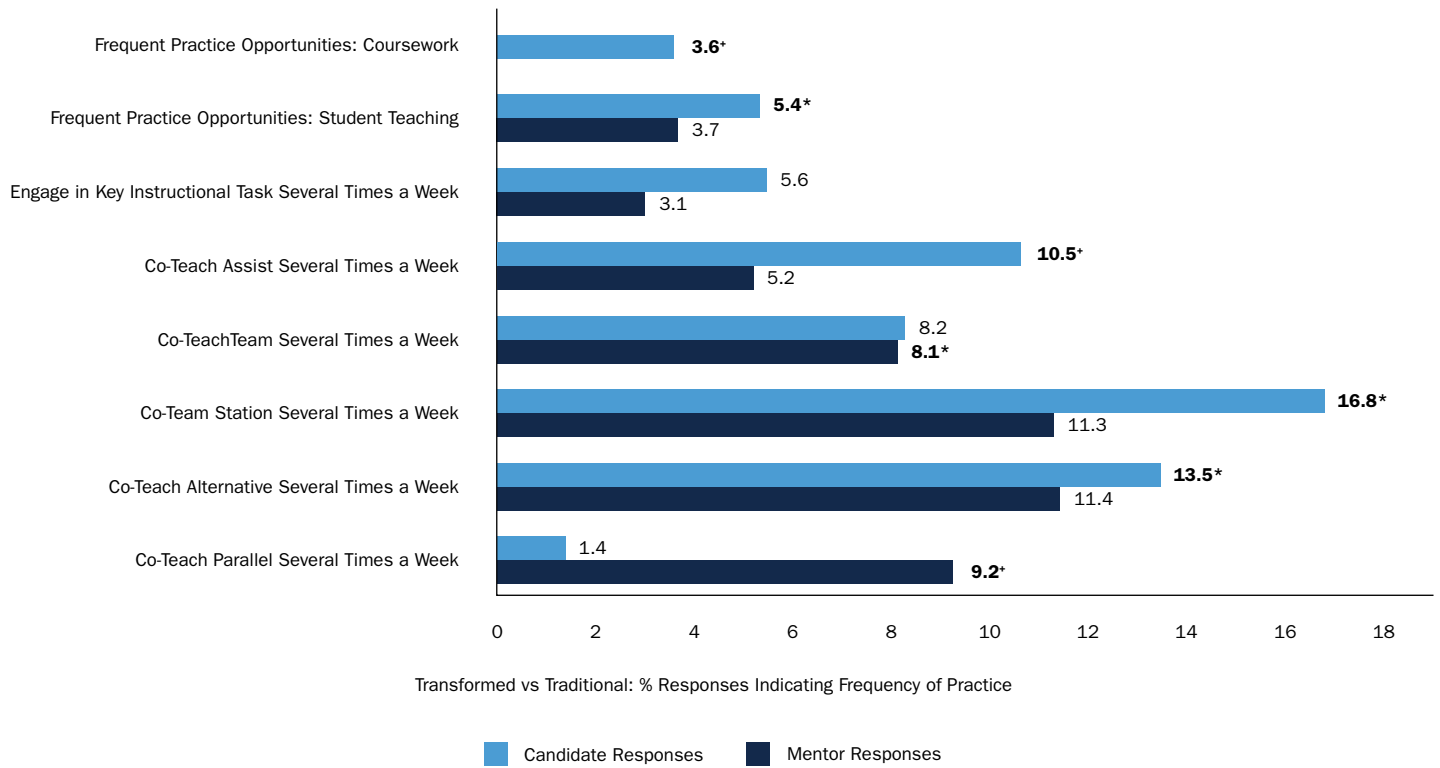
The survey items in this section focus on the extent to which teacher candidates engage in instructional practice on a regular basis. This includes instructional practice during coursework and student teaching and opportunities to co-teach and engage in key instructional tasks with mentor teachers. Relative to their peers in a traditional model, Figure 2 (pg. 5) shows that candidates in the transformed model report that they have more frequent opportunities to practice. Specifically, transformed model candidates are more likely to indicate that they have frequent opportunities to practice during coursework and student teaching and are more likely to indicate that they engage in several co-teaching strategies with their mentors. For example, transformed model candidates report that they are nearly 17 percentage points more likely to station co-teach with their mentors several times a week. Results from the mentor

Figure 1. Differences in Perceptions of Program Coherence Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of program coherence for the transformed model relative to the traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. * Indicates statistically significant differences between the transformed and traditional models at the 0.05 level.

Figure 2. Differences in Perceptions of Candidates’ Opportunities to Practice Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of candidate opportunities to practice for the transformed model relative to the traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. + and * indicate statistically significant differences between the transformed and traditional models at the 0.10 and 0.05 level, respectively.

teacher survey suggest that co-teaching is also more frequent for transformed versus traditional model candidates. In particular, mentors of transformed model candidates are 8.1 and 9.2 percentage points more likely to report engaging in team co-teaching and parallel co-teaching several times a week. These results align with US PREP’s emphasis on a year-long student teaching experience and frequent co-teaching between the mentor teacher and candidate.

Perceptions of Teacher Educator Effectiveness

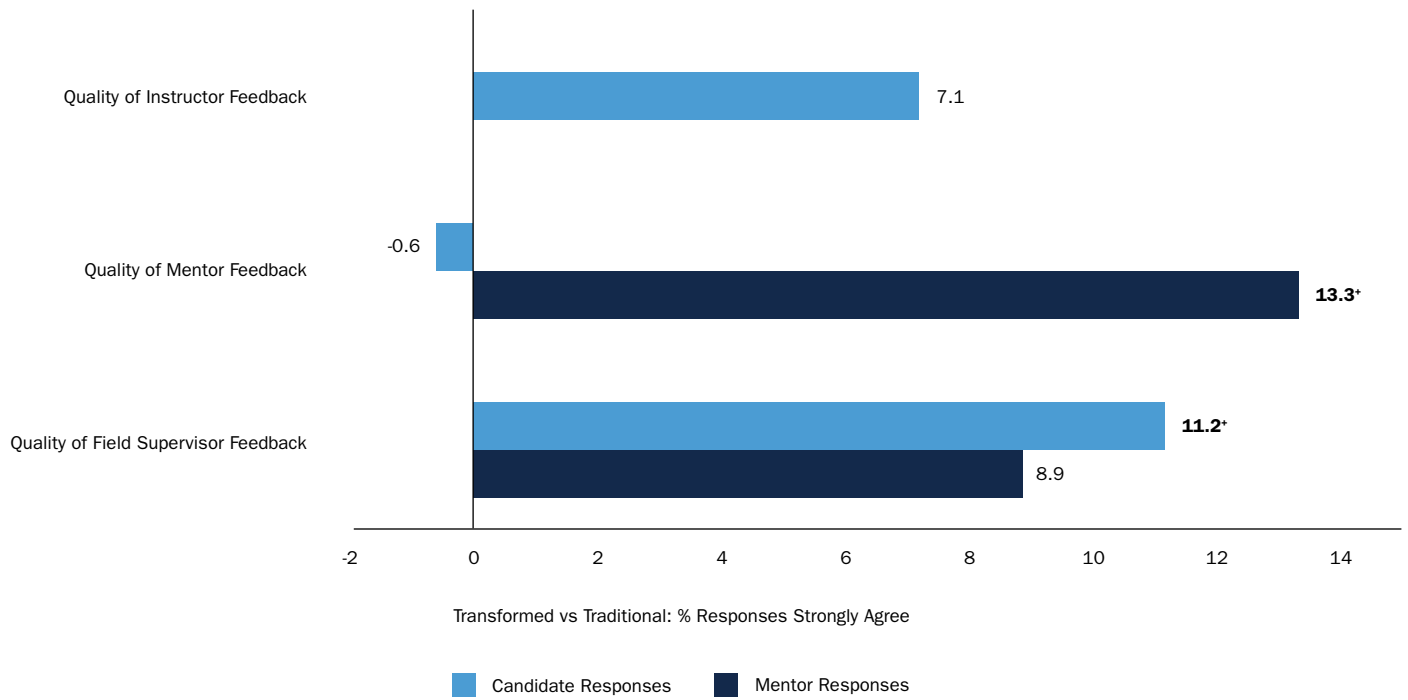
The survey items in this section focus on the effectiveness of teacher educators, including the quality of the feedback they provide candidates, the data they share with candidates, and the extent to which teacher educators model effective practice and influence candidate development.

Figure 3 (pg. 6) presents perceptions of the quality of feedback provided to teacher candidates. Relative to their peers in

a traditional model, transformed model candidates are 11 percentage points more likely to strongly agree that their university field supervisor provides high quality feedback. This result connects to a focus of US PREP’s technical assistance, in which field supervisors receive targeted training in providing frequent and actionable feedback to candidates. Candidate responses regarding the quality of course instructor and mentor feedback are not significantly different between the transformed versus traditional model. Turning to the mentor survey, results show that mentors of transformed model candidates perceive the feedback they provide as higher quality than mentors of traditional model candidates perceive their feedback. This result requires on-going scrutiny, since transformed model candidates did not rate their mentor’s feedback higher than candidates in the traditional model.

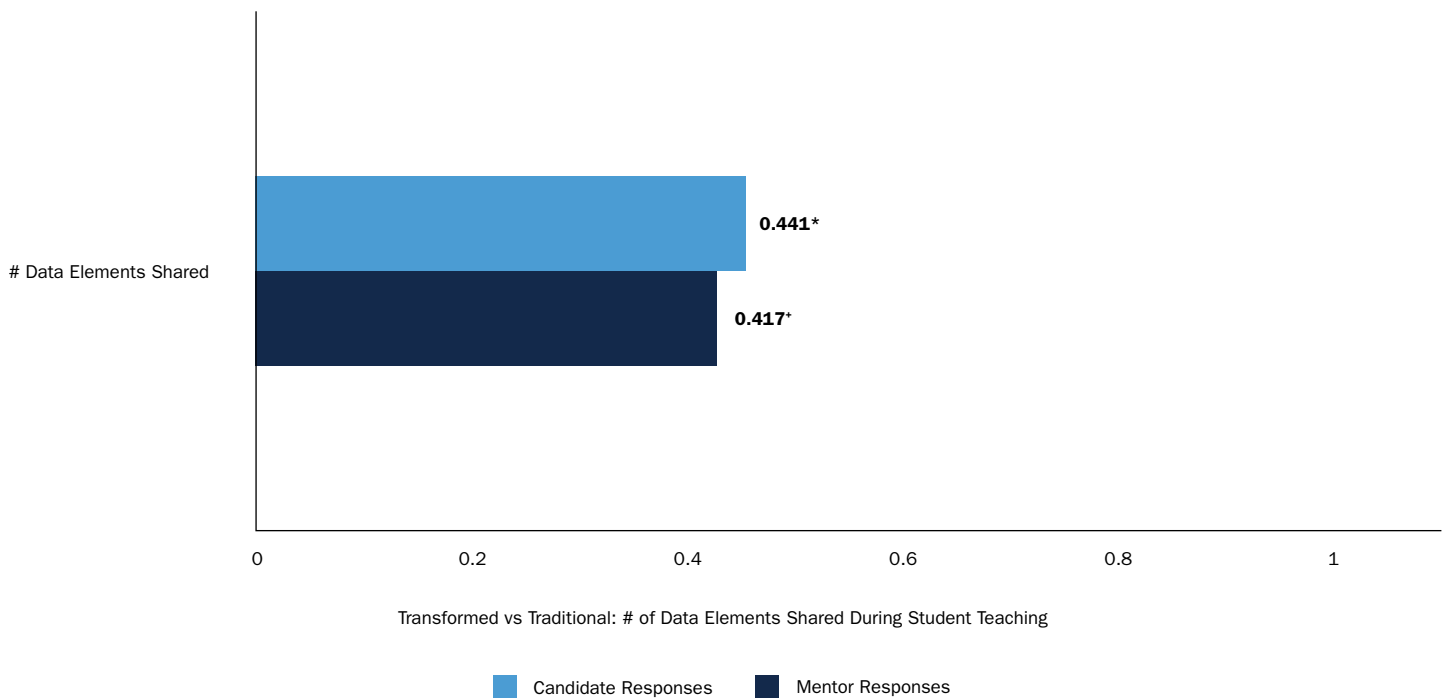
Another focus of US PREP’s technical assistance is the sharing and use of data to inform practice. This data sharing can occur during governance meetings between TPP and K–12 personnel and with candidates during student teaching. Figure 4 (pg. 6) shows the extent to which data is shared with candidates — by mentors or field supervisors — during student teaching.

Figure 3. Differences in Perceptions of the Quality of Teacher Educator Feedback Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of the quality of feedback provided to candidates in the transformed model relative to the traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. + indicates statistically significant differences between the transformed and traditional models at the 0.10 level.

Figure 4: Differences in Perceptions of Data Sharing Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing the number of data elements shared with student teachers in the transformed model relative to those shared with student teachers in the traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. + and * indicate statistically significant differences between the transformed and traditional models at the 0.10 and 0.05 levels, respectively.

Among eight unique types of data — e.g. observation ratings, student assessments, student perceptions of instruction — both candidates and mentors report that more data is shared with those in the transformed model than those in a traditional model. For example, during student teaching, transformed model candidates report receiving nearly 0.50 more data elements, on average, than their traditional model peers. In particular, relative to candidates in a traditional model, those in a transformed model are more likely to receive student perception data (e.g. surveys) and data from informal walkthroughs by the field supervisor. These are both data elements emphasized in the transformed model.

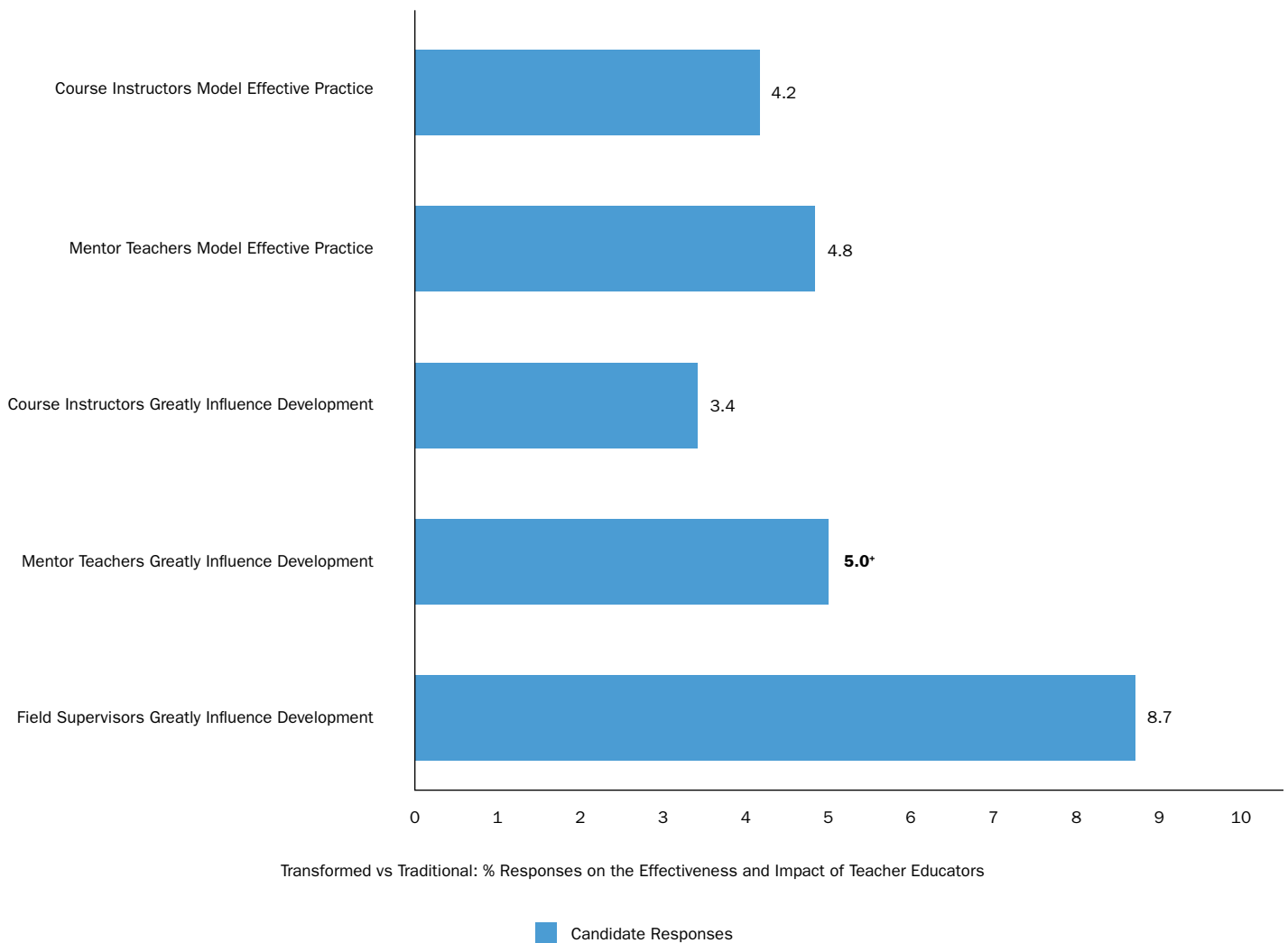
Figure 5 displays candidates’ perceptions of the effectiveness and impact of their teacher educators. Here, there is only one statistically significant result. Relative to peers in a traditional

model, transformed model candidates are five percentage points more likely to report that their mentor teacher greatly influenced their development. Congruent with US PREP’s focus on the field supervisor role, the estimate for field supervisors greatly influencing candidate development is large in magnitude (though it is not statistically significant).

Perceptions of Mentor and TPP Interactions

The mentor teacher survey included a series of items regarding mentors’ interactions with the TPP. These items focus on whether the mentor received training/support from the TPP,

Figure 5: Differences in Perceptions of Teacher Educator Quality Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of the effectiveness of teacher educators for candidates in the transformed model relative to candidates in a traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. + indicates statistically significant differences between the transformed and traditional models at the 0.10 level.

whether TPP faculty ask the mentor for feedback about the program, and the extent to which mentor-field supervisor interactions are beneficial. Figure 6 shows that mentors supervising a transformed model candidate are nearly 16 percentage points more likely than those supervising a traditional model candidate to report receiving training from the TPP. This is consistent with the transformed model emphasizing deeper relationships between TPPs and districts and the more intentional selection and training of mentors. The remaining estimates are positive for the transformed model but statistically insignificant.

Perceptions of Candidate Efficacy

Lastly, the survey items in this section focus on perceptions of candidate efficacy/effectiveness and the extent to which candidates are well prepared by their program. Relative to their peers in a traditional model, Figure 7 (pg. 9) shows that transformed model candidates are more likely to strongly agree that they were well prepared and to report feeling confident

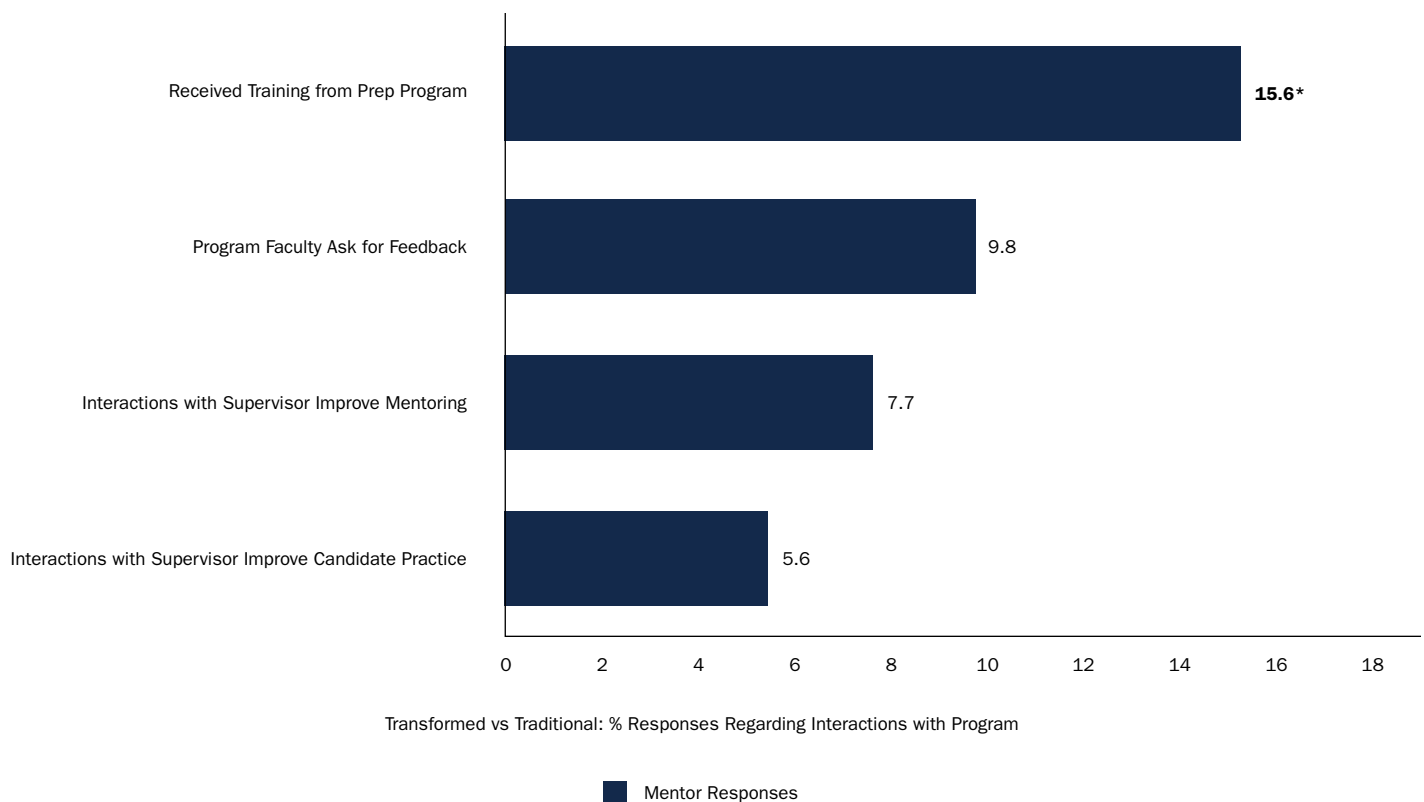
in their instructional ability. For example, transformed model candidates are nearly 15 percentage points more likely than traditional model candidates to strongly agree that they were well prepared to teach. The differences in mentors' perceptions of TPP quality and candidate effectiveness between the two models are positive but statistically insignificant for the transformed model.

Discussion

In this research brief, we used data from stakeholder surveys to assess whether teacher candidates and mentor teachers in the transformed model — brought about through TPP action and engagement with US PREP's technical assistance — perceive their program as more effective than those in a traditional preparation experience.

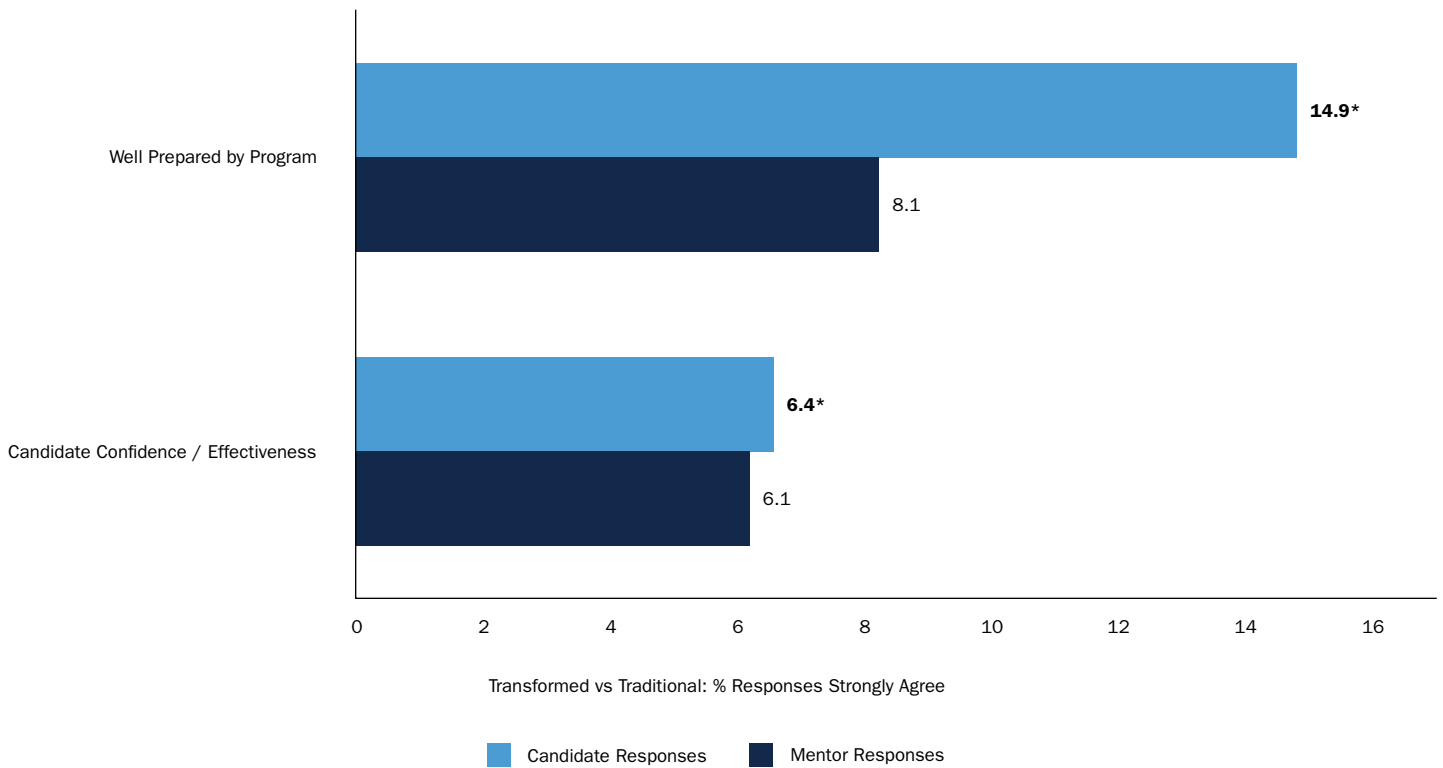
Overall, survey evidence indicates that teacher candidates and mentor teachers in the transformed model have more positive views of preparation quality than those in a traditional

Figure 6: Differences in Perceptions of Interactions with the TPP Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of mentors supervising a transformed model candidate relative to mentors supervising a traditional model candidate. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. * Indicates statistically significant differences between the transformed and traditional models at the 0.05 level.

Figure 7: Differences in Perceptions of Candidate and Program Performance Between the Transformed and Traditional Models



Note: This figure displays results from regression analyses comparing perceptions of overall program quality and candidate efficacy for the transformed model relative to the traditional model. Models control for respondent demographics and the in-person status of student teaching and include a TPP fixed effect. * Indicates statistically significant differences between the transformed and traditional models at the 0.05 level.

preparation experience. These perceptions are particularly strong for program coherence and opportunities to practice instruction during coursework and student teaching. This connects to US PREP’s emphasis on a year-long residency and co-teaching with mentors. The results are positive but less robust for perceptions of teacher educator effectiveness. This may suggest opportunities for the transformed model to further enhance teacher educator practices. Here, it is important to note that estimates of differences in effectiveness are often larger for field supervisors of transformed model candidates than for other teacher educators. This is consistent with US PREP’s focus on the field supervisor as the key connector between the TPP, candidate, mentor teacher, and the K–12 district.

Results suggest that mentors for transformed model candidates have more meaningful interactions with the TPP than their peers supervising traditional model candidates. With only one administration of the mentor survey to date, further data and analysis are needed to support this conclusion. There will be more power to detect differences in the perceptions of mentors with more iterations of that survey. Lastly, candidates in the transformed model are more confident about their own teaching practice and feel better prepared than their peers in the

traditional model. While these candidate perceptions suggest that the transformed model benefits candidates’ readiness to teach, results from comparable items on the mentor teacher survey are not statistically significant (although they are positive). More work is needed to fully determine whether there are differences between the models in perceptions of candidate readiness and preparation quality.

As with any analysis, there are limitations to this work. These limitations include the subjectivity of perception data, questions about response rates, and concerns regarding the generalizability of those who choose to respond to the survey. As such, these survey analyses are an initial step in determining whether engagement with US PREP impacts preparation quality. As a next step, EPIC is partnering with stakeholders in Texas to build a statewide teacher preparation data system. This work connects TPP completer data to statewide K–12 administrative data on schools, teachers, and students. With this data system, we plan to further assess the impact of technical assistance and the transformed model by examining student teaching placements and the employment, performance, and retention outcomes of program completers.

For More on This Topic

Bastian, K.C., Sun, M., & Lynn, H. (2021). What do surveys of program completers tell us about teacher preparation quality? *Journal of Teacher Education*, 72(1), 11-26.

Comperatore, A.N., Bastian, K.C., Rana, R., Anderson, R., Steidinger, B., Holly, C., & Marks, J.T. (2020). Bringing an implementation science lens to program transformation: Stakeholders' perceptions of US PREP's technical assistance for inaugural sites. *Education Policy Initiative at Carolina*. Available from: epic.unc.edu/wp-content/uploads/sites/1268/2021/10/Bringing-an-Implementation-Science-Lens-to-Program-Transformation-Stakeholders-Perceptions-of-US-PR-EPs-Technical-Assistance-for-Inaugural-Sites.pdf

Guha, R., Hyler, M.E., Darling-Hammond, L. (2016). The teacher residency: An innovative model for preparing teachers. *Learning Policy Institute*. Available from: files.eric.ed.gov/fulltext/ED606443.pdf

Matsko, K.K., Ronfeldt, M., & Nolan, H.G. (2021). How different are they? Comparing teacher preparation offered by traditional, alternative, and residency pathways. In press, *Journal of Teacher Education*.

Mourlam, D.J. De Jong, D., Shudak, N.J., & Baron, M. (2019). A phenomenological case study of teacher candidate experiences during a yearlong teacher residency program. *The Teacher Educator*, 59(4), 397-419.



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EPIC is an interdisciplinary team that conducts rigorous research and evaluation to inform education policy and practice. We produce evidence to guide data-driven decision-making using qualitative and quantitative methodologies tailored to the target audience. By serving multiple stakeholders, including policy-makers, administrators in districts and institutions of higher education, and program implementers we strengthen the growing body of research on what works and in which context. Our work is ultimately driven by a vision of high quality and equitable education experiences for all students, and particularly students in North Carolina.

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