



What Do Graduate Surveys Tell Us About Teacher Preparation Quality?

Surveys of teacher preparation program (TPP) graduates are becoming an important measure of quality for program evaluation, accreditation, and improvement. As of yet, there is little evidence as to whether graduates' perceptions of their TPPs predict their performance and retention. Therefore, in this policy brief, we assess whether graduate survey responses predict the value-added estimates, evaluation ratings, and retention of early-career teachers. We find that: (1) graduates' perceptions of program quality are strongly related to their opportunities to learn in the program; (2) summative measures of program quality and opportunities to learn predict teacher evaluation ratings and retention; and (3) the construct of Supportive Learning Environments consistently predicts teacher value-added, evaluation ratings, and retention. These results suggest that graduate survey responses can be useful sources of evidence for TPP accountability and improvement.

Introduction

In recent years teacher preparation programs (TPPs) have been under increasing pressure to demonstrate the quality of program components and the effectiveness of program graduates. This pressure is exemplified by new TPP accreditation standards and state-level evaluation systems that require TPPs to track and report a wide range of graduate outcomes for program accountability and evidence-based improvement. While measures of teacher performance often receive the most attention, these TPP accreditation standards and evaluation systems also mandate that TPPs assess graduates' perceptions of program quality through graduate or exit surveys. Relative to measures of teacher performance, these surveys may offer several potential advantages as the survey data are easier for TPPs to collect and analyze, provide more granular and actionable feedback, and capture direct ratings of TPP quality.

Given these potential strengths, surveys of recent TPP graduates may be an important contributor to data-driven program accountability and improvement. As of yet, there is little evidence as to whether graduates' perceptions of TPP quality or their experiences within the TPP go on to predict their performance and retention as early-career teachers. This evidence is crucial, as the validity of survey evidence for TPP accountability and improvement is related to the strength of associations between survey responses and teacher outcomes. Put simply, if graduates' perceptions of TPP quality do not predict their performance and retention as early-career teachers, then states and TPPs should critically examine whether and how they act on the evidence provided by graduate surveys. Therefore, in this policy brief, we assess whether graduates' responses to the North Carolina New Teacher Preparation Survey (NTPS) predict their value-added estimates, evaluation ratings, and retention during their early-career period. These findings can help states and TPPs evaluate the evidence provided by graduate surveys.

Background

In these analyses we examine whether teachers' perceptions of their TPP are related to their performance and retention as early-career teachers. These analyses are based on a straightforward hypothesis: those who feel better prepared to teach or who are offered more opportunities to learn during their preparation program should be more effective and more likely to persist in teaching. To test this, we use teacher responses from the NTPS, a survey developed by the Education Policy Initiative at Carolina (EPIC) in collaboration with teacher education faculty and the North Carolina Department of Public Instruction (NCDPI). Since 2013-14, we have used an online survey platform to administer this survey to first-year teachers across North Carolina during the spring semester.

Our analyses focus on responses to two sections of the NTPS: Quality of Teacher Preparation and Opportunities to Learn (OTL). Specifically, the Quality of Teacher Preparation section is a set of 24 items that start with the survey stem "how well did your teacher preparation program prepare you to..." and ask about specific teaching tasks (e.g. provide purposeful feedback to students to guide their learning). The Opportunities to Learn section is a set of 14 items that start with the survey stem "in your teacher preparation program, how much opportunity did you have with the following..." and ask about specific teacher preparation elements (e.g. create formative and summative student assessments). For the Quality of Teacher Preparation section, we created a summative measure of overall program quality by averaging teachers' responses across all 24 items. Likewise, for the Opportunities to Learn section, we averaged teachers' responses across all 14 items to create a summative measure of opportunities to learn in the program. We performed factor analysis on each of these survey sections and identified three constructs from each section which we have labeled as Instruction, Supportive Learning Environments, and Teaching Diverse Learners.¹ These measures allow us to assess how variation in teachers' perceptions of preparation quality or amount of exposure to preparation elements predicts early-career teacher outcomes.

While all beginning teachers, regardless of their preparation, are eligible to take the NTPS, we limit these analyses to survey respondents in the 2013-14, 2014-15, and 2015-16 school years who were traditionally prepared² at an in-state public (UNC system) or an in-state private university. We focus on graduates of in-state preparation programs because North Carolina provides financial support to these institutions and evaluates them on a range of program and graduate outcomes. Over our study period, we distributed the NTPS to nearly 8,900 first-year teachers who were traditionally prepared at an in-state institution. Our in-state prepared analysis sample includes 3,937 survey respondents—a response rate of nearly 45 percent. Of these in-state prepared respondents, 3,079 were first-year teachers from UNC system institutions and 858 were first-year teachers from in-state private institutions. When comparing in-state prepared respondents to non-respondents, we find that respondents were more likely to be female, were less likely to be a minority, and were more likely to return for a second year of teaching in North Carolina. Respondents and non-respondents had comparable value-added estimates and evaluation ratings and worked in classrooms and schools with similar characteristics.

In analyses, our outcome measures are teachers' EVAAS estimates from the state's End-of-Grade, End-of-Course, final, and early-grades reading exams; evaluation ratings on the state's five professional teaching standards; and retention in the state's teacher workforce. All of our analyses control for teacher demographics and classroom and school characteristics.

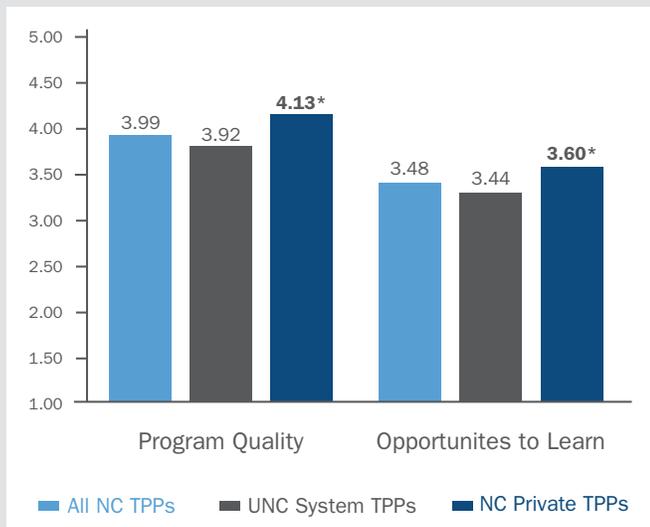
How do first-year teachers feel about their preparation programs?

For all in-state prepared teachers and for graduates of UNC system and NC private institutions, separately, Figure 1 displays the summative rating of first-year teachers on the quality of their preparation program and of their opportunities to learn during that preparation program. Overall, in-state prepared teachers perceived

¹ Example items for these constructs include: develop students' questioning and discussion skills (Instruction), provide meaningful and specific academic feedback to students (Instruction), develop positive and supportive relationships with students (Supportive Learning Environments), develop strategies for establishing classroom procedures (Supportive Learning Environments), teach in ways that support special education students (Teaching Diverse Learners), and develop strategies for teaching students of varying ability (Teaching Diverse Learners).

² Traditionally prepared includes those with an undergraduate education degree or licensure, those with a graduate level education degree resulting in an initial licensure, or those completing their initial licensure through a licensure/certificate only program.

Figure 1: Composite Measures of Preparation Quality and Opportunities to Learn



Note: For all NC prepared respondents, combined, and for UNC system and NC private university respondents, separately, this figure displays first-year teachers' composite ratings for the quality of their teacher preparation programs and the opportunities to learn in their teacher preparation programs. Responses to the program quality items were on a 1-5 scale ('not addressed' to 'very well'); responses to the opportunities to learn items were on a 1-5 scale ('no opportunity' to 'extensive opportunities'). ** indicates statistically significant differences between NC Private university TPPs and UNC system TPPs at the 0.05 level.

their programs to be relatively high in quality, with an average rating of 4 ('well') on a 1-5 scale ('not addressed' to 'very well'). Regarding opportunities to learn, the average response for in-state prepared teachers was approximately 3.50—halfway between 'some opportunities' and 'many opportunities'. Figure 1 also shows that NC private university respondents rated the quality of their preparation programs and their opportunities to learn in those preparation programs significantly higher than respondents from UNC system institutions.

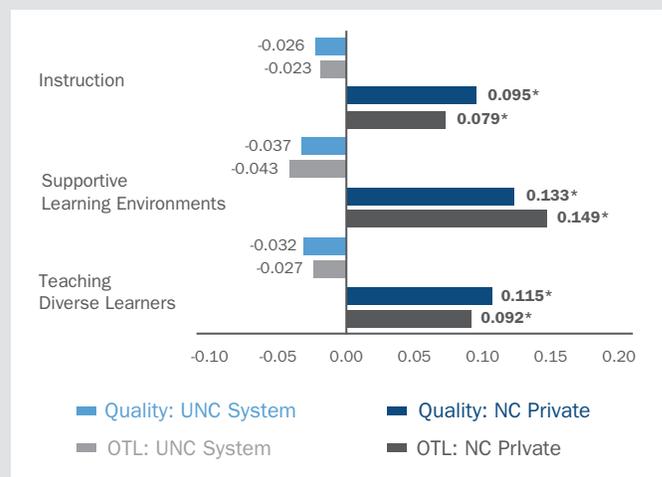
In Figure 2 we display graduates' ratings of the quality of their TPPs and their opportunities to learn within their programs broken down by constructs—Instruction, Supportive Learning Environments, and Teaching Diverse Learners. These values are standardized to have a mean of 0 for our sample of in-state prepared respondents. Consistent with Figure 1, we see that, across constructs, NC private university respondents rated the quality of their preparation and their opportunities to learn significantly higher than their UNC system peers. As suggested by the results in Figure 2, there is a strong positive correlation between ratings of preparation quality and opportunities to learn. For example, across all in-state prepared respondents, there

is a correlation of 0.59 between the Instruction factors for program quality and opportunities to learn. This coherence in ratings suggests that quality of preparation is related to opportunities to practice and develop knowledge and skills. Lastly (data not presented), when examining the quality and opportunity to learn values across and within individual preparation programs, we see that graduates perceive some aspects of their preparation as better than others. This variation suggests that institutions have different strengths and weaknesses in their preparation of teachers.

Do perceptions of the teacher preparation program predict value-added estimates?

There are two possible ways that practitioners and policymakers can use graduates' perceptions of preparation programs. One approach is for institutions to self-assess ways in which they prepare graduates well and ways in which they could prepare graduates better. The other approach is for a state and/or accreditation agency to hold institutions accountable for graduates' perceptions. The former approach may be best-served with individual-level responses of graduates, while the latter approach is often informed by using an aggregate measure across all of a program's graduates. Therefore, we explore the predictive validity of the NTPS by examining how teachers' own responses to the survey

Figure 2: Perceptions of Program Quality and Opportunities to Learn (OTL)



Note: For the Quality of Preparation and Opportunities to Learn (OTL) sections of the NTPS, this figure displays standardized values for UNC system and NC Private university respondents based on factor analysis results. ** indicates statistically significant differences between NC Private university TPPs and UNC system TPPs at the 0.05 level.

items predict their performance and retention and by examining how the average (aggregate) response for each institution predicts the performance and retention of its graduates.

For our summative measure of program quality, the top panel of Table 1 indicates that the aggregate program rating—rather than an individual teacher’s own rating of their program—is significantly associated with first-year teachers’ EVAAS estimates. School-level analyses find that these positive results are concentrated in elementary and high school grades. The middle panels of Table 1 present results for the three program quality constructs. These results show that perceptions of program quality in preparing candidates to create supportive and well-managed classroom environments predicts first-year teachers’ EVAAS estimates. Likewise, the bottom panels of Table 1 indicate that individuals’ perceptions of their

opportunities to learn about supportive and well-managed classroom environments predicts significantly higher EVAAS estimates. These significant results for Supportive Learning Environments are strongest in high school grades. To put the magnitude of these EVAAS results into perspective, we note that during our study period the average effectiveness difference between first and second-year teachers was approximately 12 percent of a standard deviation. As such, the significant results in Table 1 represent 33 to 60 percent of the average effectiveness difference between first and second-year teachers. Finally, to assess the persistence of these results, we examined relationships between perceptions of programs and the EVAAS estimates from survey respondents’ second-year of teaching. Many of the Supportive Learning Environment results remained statistically significant for second-year teachers.

Table 1: Perceptions of Teacher Preparation Programs and First-Year Teachers’ Value-Added

NTPS Focal Measures	EVAAS: All Subjects
Summative Measure of Program Quality	
Individual Teacher Rating	0.026
Aggregate Program Rating	0.041*
Summative Measure of Opportunities to Learn	
Individual Teacher Rating	0.032
Aggregate Program Rating	0.034
Program Quality: Individual Teacher Ratings	
Instruction	0.015
Supportive Learning Environments	0.048*
Teaching Diverse Learners	-0.011
Program Quality: Aggregate Program Ratings	
Instruction	0.022
Supportive Learning Environments	0.047*
Teaching Diverse Learners	-0.021
Opportunities to Learn: Individual Teacher Ratings	
Instruction	0.033
Supportive Learning Environments	0.073**
Teaching Diverse Learners	-0.029
Opportunities to Learn: Aggregate Program Ratings	
Instruction	0.035
Supportive Learning Environments	0.038
Teaching Diverse Learners	-0.026

Note: This table presents associations between our focal survey measures and first-year teachers’ EVAAS estimates. ‘+’, ‘*’, and ‘***’ indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Do perceptions of the teacher preparation program predict evaluation ratings?

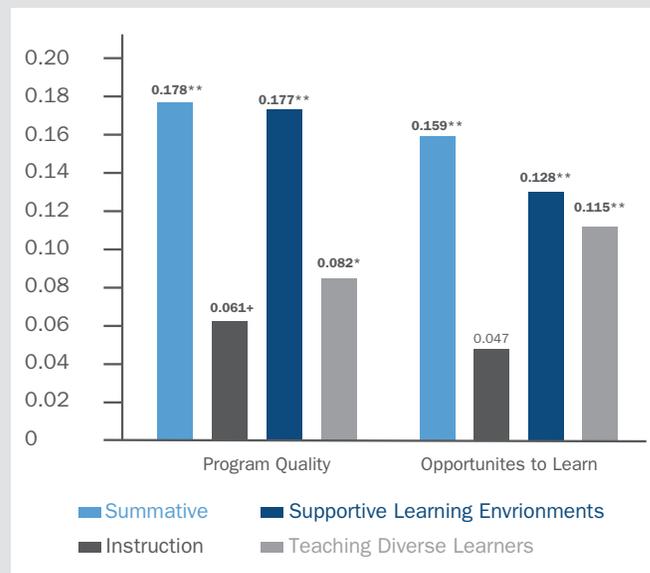
To complement the EVAAS results, we assessed how graduates' perceptions of their preparation program predict their evaluation ratings as first-year teachers. For these analyses, our primary outcome measure is a composite evaluation score created by summing teachers' evaluation ratings on standards 1-5 of the North Carolina Educator Evaluation System (NCEES). Figure 3 displays the associations between graduates' ratings of their preparation quality and opportunities to learn and their composite evaluation score. These results show that graduates' own ratings of their preparation program significantly predict higher evaluation ratings as first-year teachers. Specifically, all four measures of program quality—the summative rating and each of the three quality constructs—predict higher evaluation ratings. For opportunities to learn, the summative rating and the constructs of Supportive Learning Environments and Teaching Diverse Learners also predict higher evaluation ratings. Notably, many of these significant evaluation results, particularly for the Supportive Learning Environment construct, persist into the second-year of teaching. To put the magnitude of these evaluation results into perspective, we note that the average difference in this evaluation composite between first and second-year teachers is 0.50 points. As such, the significant results in Figure 3 represent 12 to 35 percent of the average evaluation rating difference between first and second-year teachers.

While teachers' own ratings of their preparation program are associated with their evaluation ratings, Figure 4 indicates that aggregate, university-level ratings are weakly related to beginning teachers' evaluation ratings. Specifically, the quality measure for Supportive Learning Environments and the opportunity to learn measure for Instruction are the only two measures significantly associated with teachers' composite evaluation score.

Do perceptions of the teacher preparation program predict retention?

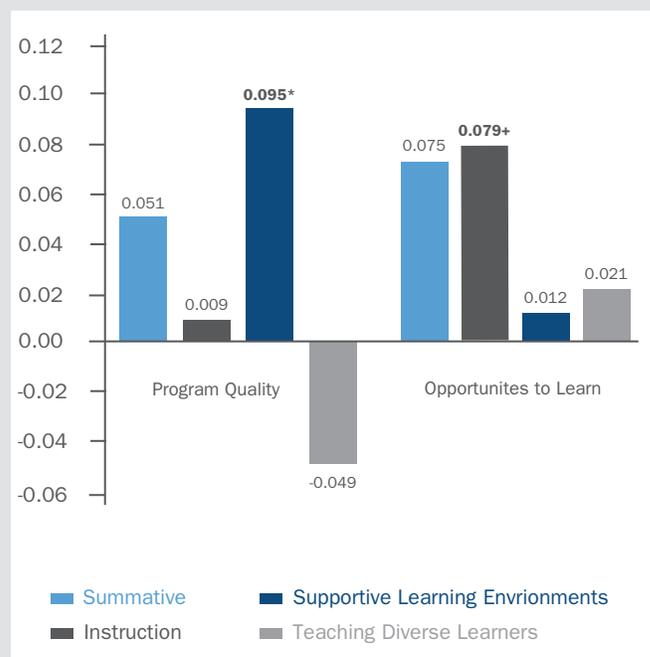
Beyond performance, TPPs also want to produce teachers who persist in the teaching profession. Therefore, we examine the associations between graduates' perceptions of program quality and their opportunities to learn and whether they return for a second-year of teaching in

Figure 3: Graduates' Own Ratings of Preparation Programs and Their Evaluation Ratings



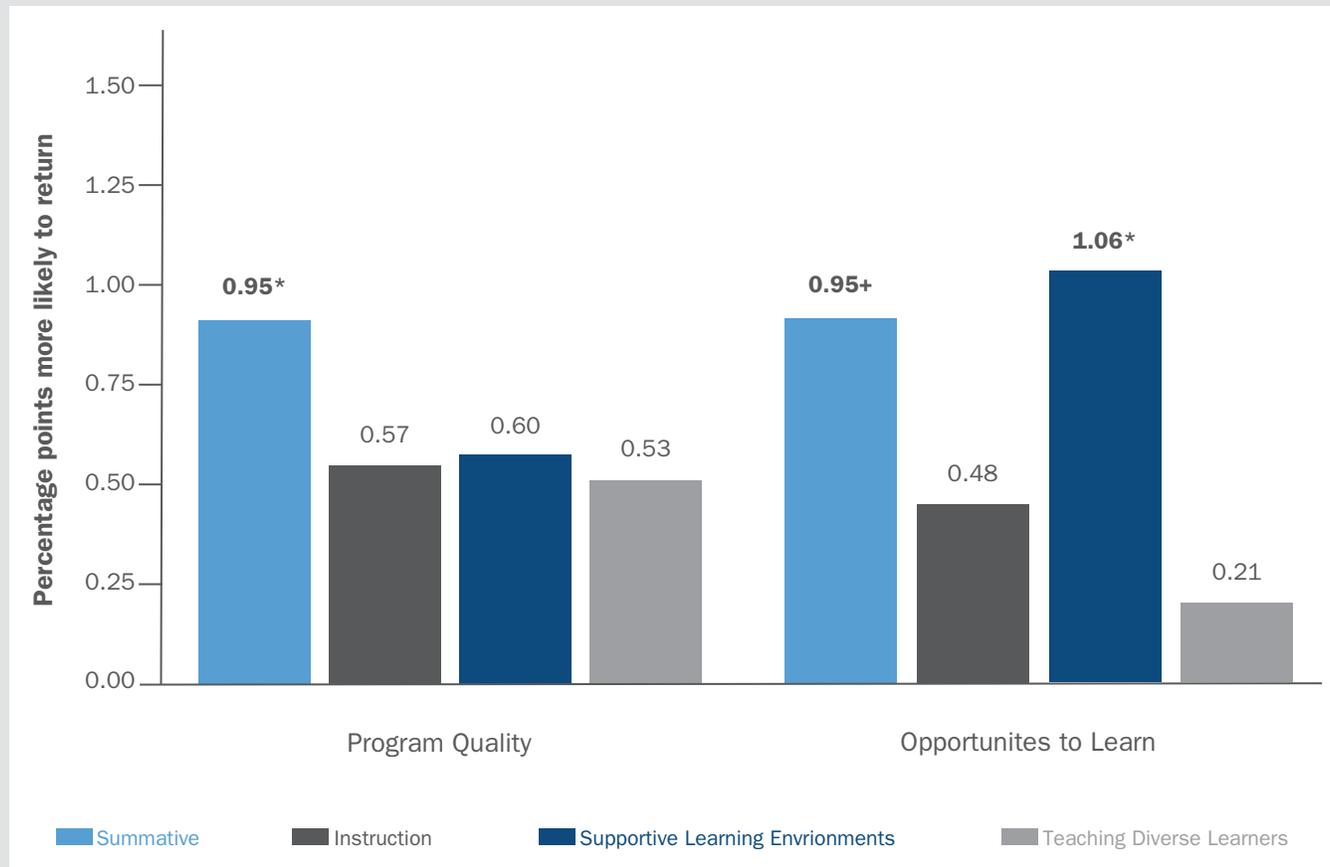
Note: This figure displays the associations between graduates' own ratings of their preparation quality and opportunities to learn and their composite evaluation rating (sum of all 5 evaluation standards). '+', '*', and '**' indicates statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Figure 4: Aggregate Ratings of Preparation Programs and Graduates' Evaluation Ratings



Note: This figure displays the associations of aggregate university-level ratings of preparation quality and opportunities to learn with graduates' composite evaluation rating (sum of all 5 evaluation standards). '+', '*', and '**' indicates statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Figure 5: Graduates' Own Ratings of Preparation Programs and Their Retention in NCPS



Note: This figure displays the associations between graduates' own ratings of their preparation quality and opportunities to learn and whether they return for a second-year of teaching in NCPS. '+', '*', and '**' indicates statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

North Carolina public schools (NCPS). Generally, our results are consistent with previous research which shows a significant relationship between ratings of preparation programs and teacher retention. Specifically, Figure 5 indicates that teachers' summative ratings of program quality and opportunities to learn predict returning to teach; opportunities to learn about Supportive Learning Environments also predict retention in NCPS. For example, a one standard deviation increase in teachers' summative rating of their program quality is associated with a one percentage point increase in returning to NCPS. To put this result in perspective, we note that nearly 93 percent of these beginning teachers returned for a second-year of teaching in NCPS. For the aggregate, university-level survey measures (results not displayed), only the Instruction construct for opportunities to learn predicts retention.

Discussion

As states and accreditation agencies emphasize the role of graduate surveys in TPP evaluation systems, it is vital that policymakers and teacher educators better understand the evidence that survey responses provide for program accountability and improvement. With this motivation, we assessed whether graduates' perceptions of their program quality and their opportunities to learn predicted their performance and retention in NCPS. These analyses made several important contributions.

Primarily, results show that graduates' perceptions of preparation programs are significantly associated with their early-career workforce outcomes. This is particularly true for respondents' summative measures of program quality and opportunities to learn and for the Supportive Learning Environments construct. These Supportive Learning Environments results suggest that TPPs should consider ways to enhance the quality of preparation and candidates'

opportunities to learn about classroom management, building relationships with students, and investing students in learning. More broadly, these significant results indicate that graduate survey responses can be a valid source of evidence for program accountability and improvement and confirm the hypothesis that, on average, those who feel better prepared to teach are more effective and more likely to persist.

These analyses also document strong relationships between respondents' perceptions of program quality and their opportunities to learn in the program. This finding bolsters the face validity of survey responses and suggests one mechanism—more opportunities to learn—by which programs can enhance quality. For states who have already created or who are considering TPP report cards, this study also provides a template for how to display graduate survey data. Specifically, we recommend that states report summative program measures and more granular data, on specific teaching constructs, to differentiate strengths and weaknesses of TPPs.

Lastly, we acknowledge a potential limitation of this work: given that we administer this survey late in graduates' first-year of teaching, perceptions of the preparation program may be influenced by how successful graduates feel in teaching. That is, those who feel more successful as first-year teachers may then rate their programs higher irrespective of the actual quality of the program. While this may be a concern, we contend that states and TPPs want to gather these data after graduates have some experience so graduates can better assess the contributions of their preparation program to their teaching. This limitation may also be less of a concern since graduates' survey responses went on to predict their performance as second-year teachers.

For more research on this topic

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