Cooperating Teacher as Model and Coach:
What Leads to Student Teachers’ Perceptions of Preparedness?

Kavita Kapadia Matsko, National Louis University
Matthew Ronfeldt, University of Michigan
Hillary Greene Nolan; University of Michigan
Joshua Klugman; Temple University
Michelle Reining; Stanford University
Stacey L. Brockman; University of Michigan

ABSTRACT

Drawing on survey and administrative data on cooperating teachers (CTs) and their preservice student teachers (PSTs) in Chicago Public Schools during 2014-15, this study offers an in-depth look at reports of how CTs engage in their mentoring roles during student teaching, and their influence on PSTs. Our sample includes CTs working with PSTs from across 44 teacher preparation institutions. Central to our analysis is an exploration of CTs as both models of effective instruction and as facilitative coaches on PST development. We find that both CT roles matter—PSTs feel better prepared to teach when their CTs model effective instruction and coach by providing more instructional support, frequent and adequate feedback, collaborative activity, job-search support, and a balance of autonomy and encouragement.

ACKNOWLEDGEMENTS:
We are grateful to the Spencer Foundation for their generous financial support of this research. We are also grateful to the Chicago Public Schools and the University of Chicago Consortium on School Research for their ongoing partnership and contributions, and particularly to Matt Lyons, Christine Murphy, Molly Gordon, Jennie Jiang, Stuart Luppescu, and Elaine Allensworth. All ideas expressed in this article should be attributed only to the authors.

RECOMMENDED CITATION:
INTRODUCTION

Student teaching, a longtime cornerstone and key clinical experience of teacher preparation, has recently become the subject of multiple reform and policy debates (NRC, 2010; NCATE, 2010). Cooperating teachers (CTs) are one of the most acknowledged yet least understood contributors to the student teaching experience (Clift & Brady, 2005; Feiman-Nemser & Parker, 1993; Grossman, 2010; Guyton & McIntyre, 1990; National Research Council, 2010; Zeichner, 1980). Despite being viewed as key partners in teacher preparation, we know little about the kinds of mentoring that CTs provide and its effects. In this study, we take an in depth look at reports of how CTs engage in their mentoring roles during student teaching, and their influence on preservice student teachers (PSTs).

Growing calls for attending to CT quality often assume that being an experienced or effective teacher is a sufficient prerequisite for being an effective mentor. For instance, many states place minimum eligibility requirements on CTs in terms of years of teaching experience or tenure in order to work with a PST. Yet there is little empirical evidence that experienced or effective teachers make better mentors. In fact, it is possible that being an effective teacher of P-12 students is less important to effective mentoring than being able to provide quality feedback or balance between autonomy and support. Thus, this study considers the dual, complex roles held by CTs as both models of effective instruction and coaches who facilitate beginning teacher
development. More specifically, we ask: *What aspects of CT as model and coach are related to PSTs’ self-perceived perceptions of preparedness to teach?*

To answer this question, we draw on unique data about CTs who mentored student teachers across the entire Chicago Public School (CPS) district during the 2014-15 academic year. We surveyed CTs and their PSTs about their mentoring, and linked the survey data to administrative data on CTs and the schools in which they work. These data provide a district-wide perspective on the mentoring practices CTs use, and their intended versus actual impact on PSTs during student teaching.

This study makes progress in conceptualizing and measuring the complex mentoring work in which cooperating teachers engage by providing the only large-scale evidence, of which we are aware, linking measures for CT as models and coaches to PST outcomes. We find evidence that both CT roles—model and coach—matter. Specifically, PSTs feel better prepared in some domains of instruction when: (i) their CTs modeled more effective teaching (as assessed by district evaluators and PSTs) and (ii) their CTs offered coaching in the form of stronger instructional support, more frequent and adequate feedback, a balance of autonomy and encouragement, better collaborative coaching, and higher levels of job-search assistance as reported by PSTs.

**LITERATURE REVIEW AND THEORETICAL FRAMING**

The terms ‘mentor’ and ‘mentoring’ are used frequently in the teacher education literature to refer to various individuals and processes that share the goal of improving a teacher’s practice. One might serve as a mentor to, or engage in the mentoring of, a preservice
teacher, a beginning teacher, or even a more experienced teacher—the terms are often used interchangeably across the continuum of teacher development. But what does the work of mentoring entail, and with what effects?

In this study, we seek to more clearly understand and measure different aspects of mentoring that occur during preservice preparation between CTs and their student teachers. In our review of the literature, we therefore distinguish between CTs as models of exemplary teaching practices and CTs as facilitative coaches of teacher learning. Being a “model” refers to a CT’s capacity to engage in effective instructional practices for P-12 students’ learning; primarily through observation, PSTs benefit from exposure to effective practice. We refer to CTs’ “coaching” moves, on the other hand, as intentionally targeting the learning of PSTs. These two facets of mentorship are far from exhaustive, or even mutually exclusive, but we put them forth as distinct constructs in our analysis because they represent two different ways of approaching the work of mentoring PSTs, and have implications for how cooperating teachers might be recruited and developed.

CTs as Models

A commonly held assumption is that student teaching should provide PSTs ample opportunity to observe exemplary instructional practices in the context of P-12 classrooms. CTs who consider their primary role as model prioritize enacting high-quality instruction to P-12 students; ensuring that PSTs have access to sustained examples of effective practice. PSTs, CTs, and teacher education program faculty alike agree that being a good “modeler of practice” is an important role for a CT (Clarke, Triggs, & Nielsen, 2014; Copas, 1984). Rozelle and Wilson (2012) demonstrate, for example, that PSTs tend to mimic specific actions and statements of
CTs. Consequently, one might expect PSTs to be better prepared when they have opportunities to observe more effective teachers of P-12 students. In their review of over 450 studies, Clarke et al. (2014) identify 11 “categories of participation,” or roles that CTs may play in their work with PSTs. Based on their extensive review of the CT literature, the authors also concluded that: “CTs who have teaching experience, expertise as classroom teachers, and a commitment to professional learning make good mentors” (p. 191). However, these authors do not link CTs’ qualifications, such as years of teaching experience to PSTs’ instructional abilities. In fact, we are aware of no existing large-scale empirical evidence that PSTs felt more prepared to teach when placed with CTs who were more effective teachers. Yet, indicators of teaching effectiveness with a particular emphasis on student performance scores are increasingly assumed to be important pre-requisites in cooperating teacher selection policies (i.e. NCTQ, 2017)

Even where PSTs have an opportunity to observe effective models of teaching practices by their CTs, more explicit support is likely needed for PSTs to successfully implement the observed practices (Becher & Ade, 1982; McIntyre, Byrd, & Foxx, 1996). For example, Anderson and Stillman (2011) found that PSTs rarely observed CTs’ “backstage labor” of planning and reflecting. A PST from their study notes, “At least with the model you know where you want to go. You just have to figure out for yourself how to get there.” (p. 452). One way that

---

1In our analyses, we use measures of instructional effectiveness (e.g., observation ratings) and qualifications (e.g., years of experience, tenure) as proxies for CTs as models of effective instruction. We acknowledge that these measures are likely insufficient for fully capturing being a “model” of effective instruction. Though it is likely necessary to be an instructionally effective teacher in order to be a high-quality model of practice, many mentors understand that learning teachers do not always know where to attend during observations or how to learn from what they observe. Thus, efforts to model often include more than mere demonstration; they can include, for instance, the highlighting of specific aspects of practice or facilitating reflective conversations about what PSTs learned during their observations of practice. These latter pedagogical moves can also be considered aspects of “coaching” (see next section), indicating that the lines between coaching and modeling area also somewhat blurry.
CTs can help PSTs “get there” is to go beyond serving as an effective model of instruction to also provide effective coaching.

**CTs as Coaches**

Coaching practices can take many forms, but they share the goal of facilitating PSTs’ teaching knowledge, skills, and dispositions across multiple instructional domains. Feiman-Nemser’s (2001) work on “educative” mentoring highlights the importance of not only supporting PSTs in improving their teaching practice but also in cultivating their habits and capacities to continue to learn from their own practice throughout their careers.

One coaching practice intended to promote teacher growth is the provision of feedback. Surprisingly, several studies suggest that CTs rarely conduct observations or offer feedback to their PSTs (Borko & Mayfield, 1995; Valencia, Martin, Place & Grossman, 2009). When feedback is offered, the literature often characterizes the quality of feedback as being too descriptive (Guyton & McIntyre, 1990), disproportionately focused on classroom management (McIntyre et al., 1996), more summative rather than formative (Grossman et al., 2012), or overly technical, “emphasizing the what and how rather than the why of practice” (Clarke et al., 2014, p. 175). There is some evidence that training mentors to conduct inquiry-oriented observations and facilitate reflective conversations with PSTs results in more frequent and higher quality feedback (Giebelhaus & Bowman, 2002). However, there does not seem to be consensus in the literature about what constitutes “higher quality” feedback. Further research and greater investments are needed to support CTs in providing quality feedback (Clarke et al., 2014; Grimmett & Ratzlaff, 1986; Grossman et al., 2012; Valencia et al., 2009).
Other coaching practices are in the form of collaborative work between PST and CT. These activities might include co-planning, co-teaching, and sustained inquiry into teaching practices—all of which authentically initiate PSTs into the complexities of teaching and learning. Numerous studies have also emphasized the importance of a coaching context that facilitates trusting relationships (Ronfeldt, Reininger, and Kwok, 2012; p. 326), encourages risk-taking, and balances appropriate support with sufficient autonomy (Yendol-Hoppey, 2007). These aspects of CT coaching, while frequently named as important in the literature, have thin empirical support. None, to our knowledge, have been linked to PSTs’ performance of better teaching or feeling better prepared to teach.

**Research Foci**

CTs indeed play a central role in student teaching, but more large-scale research is needed to look across many institutions that prepare teachers to understand, on average, the mentoring CTs engage in, and with what effects. Most existing research on CTs is in the form of individual case studies of particular, and often boutique programs. Thus, we do not know whether these individual cases are representative of programs generally. Additionally, few existing studies systematically link CTs’ characteristics or mentoring to PSTs’ observed or perceived instructional readiness. Our study addresses these gaps.

Looking at CTs working with PSTs that prepare teachers in CPS, we make several contributions to the existing literature. First, we investigate measures of CTs’ instructional effectiveness, including observational evaluations, which have not been considered previously but capture the idea of being a model in our study. Additionally, we describe the perceived amount, kinds, and quality of coaching reported by CTs and their PSTs, affording a unique
perspective of CT coaching practice from multiple perspectives. Connecting measures of CTs as models of exemplary instruction and CTs’ effectiveness as coaches to PSTs’ self-perceived perceptions of instructional preparedness, we use two distinct and measurable constructs as ways to better understand the complex work of mentoring that occurs during the student teaching phase of teacher preparation.

METHODS

Setting

This study is situated in CPS, the third largest school district in the United States. CPS serves approximately 400,000 students who are predominantly Latino and African American. Nearly 50 university-based institutions prepare hundreds of student teachers in the district with the help of over 1,000 cooperating teachers annually. These institutions select CTs in a variety of ways ranging from asking PSTs to locate their own placements and mentors, partnering with schools and their administrators who determine CTs, and/or reaching out directly to CTs with whom they have prior experience or relationships; these selection processes are typically not managed or centralized at the district level. CPS has a mandatory centralized registration process for PSTs, which allows them to maintain records on PSTs, their programs, and their CTs. Recently, CPS instituted a comprehensive teacher evaluation policy that tracks the instructional effectiveness of all CPS teachers, including those who serve as CTs in our sample.

---

2 CPS At a glance (website) http://cps.edu/About_CPS/At-a-glance/Pages/Stats_and_facts.aspx
Data

We administered pre- and post-student teaching surveys to registered PSTs during the 2014-15 school year, and post-student teaching surveys to their CTs. Survey administration timelines and response rates are listed in Table 1. Surveys were sent by the district, via email, as addenda to the CPS online student teaching registration process prior to the start of the fall and spring terms. Toward the end of each term, our research team sent post-student teaching surveys by email to all registered individuals, offering a $25 gift card to survey completers.

Using registration data and additional CT data collected by CPS, we identified the CTs of all PSTs registered to student teach and sent them individualized online surveys with offers of $50 gift cards for completion. We administered CT surveys at the end of the fall and spring terms. We then linked CTs and their survey information to CPS personnel and evaluation data, including information about their schools.

Sample

Of our initial population of 1,066 CTs who worked with student teachers in the 2014-2015 school year, 583 (55%) worked with a student teacher who completed both a pre-and a

---

3 To accommodate multiple start dates and placement lengths for student teachers, which vary by teacher education programs, CPS administered pre-student teaching surveys to PSTs twice during the year to incoming student teachers.
4 Student teachers who had placements that were more than a term in length and with two different mentors received the survey twice.
5 Mentors who worked with multiple student teachers were sent a separate survey for each student teacher.
6 Where PSTs could not be linked to CTs (and their schools) we used registration information to identify their field placement schools; thus, we were able to link some PSTs to CPS and Consortium data on their field placement schools even where mentor information was missing.
post-student teaching survey. Of these 583 CTs who make up our primary analytic sample,⁷ 500 could be linked to district personnel data about CT characteristics and qualifications, and 390 could be linked to CT survey data.⁸ These CTs taught in 204 different placement schools and with PSTs from 44 teacher education institutions.

**CT Characteristics.** Table 2A summarizes the characteristics of CTs and PSTs in our analytic sample. Two-thirds of the CTs were White and nearly 80% were female. CTs were a seasoned group with, on average, almost 12 years of service in CPS. In terms of professional credentials, three-quarters of CTs held an advanced degree (e.g. MA, M.Ed.), 90% were tenured, and 17% had earned National Board Certification.

Appendix Table 1 compares background characteristics of CTs in different subsamples. In the left two columns, we compare CTs in our sample to all other CTs. These two groups of CTs were mostly similar except for a higher percentage of CTs in the sample being White. We also compared CTs who responded to at least one survey to all other CTs (middle two columns). There were no significant differences between CT respondents and non-respondents, with one exception: CT respondents were more likely to have National Board Certification. However, when focusing only on CTs in our sample (right side of table), respondents and non-respondents were statistically similar on all background characteristics.

---

⁷ All analyses focus on this analytic sample of CTs (n=583) except when we compare CTs to non-CTs in the district (See Appendix Table 5). To ensure the latter analysis was as representative as possible, we used the full population of CTs that could be linked to CT personnel data (n=956) and compared them to all other teachers in CPS (n=17,184).

⁸ When PSTs worked with multiple CTs in the same semester, they were asked to respond to the survey with just one CT in mind (the one with whom they had worked most closely). When we found that more than one CT was associated with a PST over the course of a year, we linked the PST to whichever CT had completed a survey in the same term in which the PST had completed pre and post surveys.
**PST Characteristics.** Reflective of teachers nationally, just over three-quarters of PSTs in our sample were female and the majority were White (63%). 11% were parents or guardians, and over 40% were at least 25 years old. While 20% of PSTs graduated from CPS, 35% graduated from suburban Chicago schools. PSTs’ average undergraduate GPA was the equivalent of an A-. About three in ten PSTs said they already had experience teaching or substitute-teaching. Among PST-CT pairs, over half (52%) were the same race and over three-quarters (77%) were the same gender as one another.

Compared to PSTs outside our sample, a higher percentage of PSTs in the sample were female and White (See Appendix Table 2). This is a limitation of our study, as it suggests that results may not be generalizable to the full population of student teachers in the district.

**Placement School Characteristics.** Table 2B describes the field placement schools in which PSTs completed student teaching. On average, placement schools served mostly Latino (50%) and African-American (26%) students, with 80% qualifying for free or reduced priced lunch, and 15% receiving special education services. Just over one-quarter of placement schools were at the 9-12 level. When compared to other CPS schools (see Appendix Table 3), field placement schools had, on average, more students who were Latino, Asian, and White and fewer students who were African-American, eligible for free or reduced priced lunch, and receiving special education services.

**Measures**

In this section, we describe the focal outcome measures used in this study: PSTs’ perceptions of preparedness to teach across different instructional domains (Table 3). We then describe measures of coaching used as focal predictors (Table 4). Rasch analyses were used to
construct most of the measures.\textsuperscript{9} Where minimum thresholds for reliability (0.7) could not be met, we used individual survey items as predictors in our models (See Table 4 for details on which measures did not reach thresholds of reliability).

**Perceptions of Preparedness.** The focal outcomes in this analysis were based on PSTs’ self-perceptions of preparedness to teach in their own classrooms by the end of student teaching. Although these measures are based on self-reports, they provide us with a critical perspective on preparedness: that of the individual closest to the preparation process—the student teacher. Though program leaders and scholars commonly use survey-based measures of PSTs’ feelings of preparedness to teach for program assessment and research purposes, we are aware of no published studies linking PSTs’ feelings of preparedness to observable measures of their instructional effectiveness (e.g., observation ratings or VAMs) after becoming teachers of record. That said, scholars have found PSTs’ feelings of preparedness to be related to teachers’ self-efficacy (Darling-Hammond et al., 2002) which, in turn, has been linked to student achievement (Armor et al., 1976). Additionally, using a nationally representative sample of teachers, (Ronfeldt, Schwartz, and Jacob, 2014) found teachers who felt better prepared were more likely to remain in teaching.

On both the pre- and post-student teaching surveys, we asked PSTs a series of similar survey questions about their readiness to assume teaching responsibilities in four domains of

\textsuperscript{9} The Rasch model is a member of the family of item-response latent-trait models. Using a set of carefully selected survey items (questions), it produces an interval scale that determines item difficulties and person measures. The items are arranged on the scale according to how likely they are to be endorsed (item difficulty). The scale is then used to show person measure, a quantitative measure of a person’s attitude on a unidimensional scale. In other words, the items are used to define the measure’s scale, and people are then placed on this scale based on their responses to the items in the measure. The scale units are logits (log odds units), which are linear and therefore suitable for use in simple and complex statistical procedures. For additional information see https://consortium.uchicago.edu/downloads/9585ccsr_rasch_analysis_primer.pdf and Wright and Masters, 1982.
instruction aligned with CPS’s teacher evaluation system: (1) planning and preparation, (2) classroom environment, (3) instruction, and (4) professional responsibilities. We added questions related to two additional domains: preparedness to teach (5) in urban schools and (6) using the Common Core. We submitted the post-student teaching surveys to Rasch analysis and used the results to anchor the responses on the pre-student teaching surveys, so as to obtain comparable measures of PSTs’ sense of preparedness before and after student teaching; parallel survey items were asked on the CT survey and used to construct similar measures.\(^\text{10}\)

**CT as Model.** We used various measures as indicators for the quality of instruction modeled by CTs. First, we created a Rasch measure based upon a set of PST survey items that asked PSTs how instructionally effective they thought their CTs were in various domains of instruction and teaching in urban schools.\(^\text{11}\) We refer to this measure as PST-Perceived Domain-Specific Effectiveness (PST reliability = 0.88).

As additional proxies for quality of instruction modeled by CTs, we used two measures from the REACH district teacher evaluation data system:\(^\text{12}\) classroom observation scores\(^\text{13}\) and

---

\(^{\text{10}}\) For more details about the Rasch measures please go to: (website link forthcoming)

\(^{\text{11}}\) This set of questions asked “How effectively did your mentor teacher…” and response categories were on a 4-point scale: 1=not at all effectively; 2=somewhat effectively; 3=effectively; 4=very effectively. PSTs perceived CTs as slightly more effective in the domains of delivering instruction, modeling professional responsibilities, and creating and maintaining a positive classroom environment (all with means of 3.6), followed by planning and preparation (3.5) and teaching in urban schools (3.4).

\(^{\text{12}}\) CPS has a teacher evaluation system (REACH) in place that includes teacher observation ratings, VA scores when available, and scores from teacher created performance tasks for students. The observation protocol domains align with Charlotte Danielson’s Framework for Teaching. CPS provided our research team the means of ratings in four domains of practice from at least two observations, which were typically conducted by either the principal or an assistant principal.

\(^{\text{13}}\) Throughout this paper we focus on unweighted observation scores – the mean of the various observation category domain scores. In separate models we used weighted observation scores (D1 .25; D2 .25; D3 .40; D4 .1) which were calculated. Results were virtually identical so we report only unweighted scores. Also, in models using observation scores, we drop teachers who do not have complete observation information or who work in alternative school settings. Among CTs in our analytic sample, 485 CTs across 185 schools meet these criteria.
value-added to student achievement measures (VAMs) for teachers in grades 3-8, based on reading and math NWEA MAP tests available for a subset of teachers.\textsuperscript{14}

**CT as Coach.** We asked CTs about a number of experiences with their PSTs in order to understand perceptions of their coaching practices. We used these CT self-reported data to create Rasch measures. Wherever possible, we asked PSTs similar questions to make the items parallel\textsuperscript{15} and create comparable measures. Measures were created about domain-specific instructional support which is coaching support provided in specific instructional areas (including those evaluated on the district observation rubric), frequency of feedback, adequacy of feedback, degree of autonomy and encouragement, frequency of collaborative coaching, and assistance with the job search. Where we could not construct reliable measures for both CTs and PSTs, we used individual survey items in analyses. See Table 4 for details about measures.

**Analytic Method**

To estimate PSTs’ perceptions of preparedness to teach as a function of CTs’ background characteristics and qualifications and PSTs’ and CTs’ perceptions of modeling and coaching, we used 2-level hierarchical linear models with PSTs at level 1 and teacher education program (TEP) at level 2. We use this nested structure because we assume that the kinds of preparation of PSTs enrolled in the same TEP experience will not be independent; additionally, we assume that there is likely sorting of certain kinds of PSTs into the same TEPs. The general form of the model is summarized in Equation 1:

\textsuperscript{14} For more information, see CPS evaluator handbook (http://www.ctunet.com/rights-at-work/teacher-evaluation/text/CPS-REACH-Educator-Evaluation-Handbook-FINAL.pdf)

\textsuperscript{15} Regarding the latter, we asked PSTs to evaluate the quality of their CTs’ instruction in each of the instructional domains. On the mentor survey, we asked CTs “how effective were you in mentoring” PSTs. The fact that the CT and PST measures are not entirely parallel is a limitation of our study.
\[ Y_{\text{post, } ij} = \gamma_{00} + \gamma_{10}X_{ij} + \gamma_{20}Y_{\text{pre, } ij} + \gamma Z + u_{0j} + r_{ij} \]  

(Equation 1)

where the post-student teaching perception of preparedness to teach \( Y_{\text{post}} \) of PST \( i \) in program \( j \) is a function of an intercept \( (\gamma_{00}) \), focal predictor \( X_{ij} \) (measures of CTs’ background characteristics/qualifications, CTs’ selection/training, or PSTs’/CTs’ perceptions of modeling/coaching), her pre-student teaching report \( Y_{\text{pre}} \), a program random effect \( u_{0j} \), and a PST-level residual, \( r_{ij} \). Since we are interested specifically in the contributions of features of student teaching (and especially mentoring) to PSTs’ instructional readiness, adjusting for pre-scores is essential; otherwise, observed relationships could be explained by preparation that occurred prior to student teaching.

We enter focal predictors \( (X_{ij}) \) independently in separate regression models.\(^{16}\) In a second model specification, we also control for \( Z \), a vector of characteristics of the PST, her TEP, and the characteristics of her placement school. Covariates included PST characteristics (race/ethnicity, gender, prior teaching experience, undergraduate GPA, whether a parent, whether over 25 during student teaching, and whether a CPS graduate), TEP characteristics (number of methods courses taken before student teaching, total hours of student teaching, whether primarily lead teacher during student teaching, PST-perceived alignment between coursework and field work, who PST perceived chose the placement school (e.g. the TEP, the PST herself), and placement school characteristics (school proportion gender, race, free lunch,

---

\(^{16}\) Ideally, we would have reduced the survey-based predictors to a few uncorrelated Rasch measures that could have been entered into models simultaneously. However, there were a number of cases (see Table 4, in parentheses) where we were unable to reliably construct Rasch measures on either the CT or PST surveys; in these cases, we used individual survey items for both PST and CT predictors in order to maintain consistency and conceptual clarity across analyses. Because these survey-based items were often highly correlated with one another (e.g., could be included in same Rasch measure) it did not make sense to enter them simultaneously in regression models. Where justified (e.g., predictors were from personnel data or survey-based Rasch measures), we ran separate models where we entered predictors simultaneously and results were similar.
special education, prior achievement, and grade levels). As a sensitivity check, in separate models we used difference scores \((Y_{\text{post}} - Y_{\text{pre}})\) as the dependent variable, thus omitting \(Y_{\text{pre}}\) on the right-hand side of the equation; results were similar so, for brevity, we report only on estimates from Equation 1.

Our main analyses revealed that PST perceptions of the coaching they received were predictive of how well prepared they felt but CT perceptions of the coaching they provided were not. This led us to want to examine how PST and CT perceptions of coaching differed. To do this, we converted ordinal survey items on both surveys about coaching into binary items (see Table 4 for summary of response options for each item and Table 8 for the cut-point we chose for converting to binary items). Because the assumption of equal distance between categories does not hold for ordinal data, we felt it inappropriate to calculate mean scores for these ordinal measures. Thus we converted all to binary measures instead and compared PST and CT response distributions using chi-square analyses.

**RESULTS**

In this section, we investigate whether, and in what ways, CTs as models of exemplary teaching and CTs as coaches predicted PSTs’ self-perceived preparedness to teach.\(^{17}\) First we examine the degree to which CTs’ qualifications and instructional effectiveness, which we use as proxies for CTs capacity to model effective instruction, are related to PSTs’ perceptions of

\(^{17}\) Instead of assuming a priori that student teaching improves PSTs perceptions of preparedness, we used t-tests to compare the mean of Rasch preparedness scores pre-student teaching with the mean of Rasch preparedness scores post-student teaching (see Appendix Table 4). After student teaching, PSTs felt significantly more prepared across domains.
preparedness. Next, we explore the kinds of coaching that CTs reported providing and that PSTs reported receiving, and test whether either are associated with PSTs’ feelings of preparedness.

**Do PSTs feel better prepared when their CTs model effective instruction?**

Our proxies for the degree to which CTs serve as models of effective instruction included CPS REACH teacher evaluation measures (observation ratings and VAM scores), professional qualifications (e.g., National Board certification), and a Rasch measure based on PST survey items about the degree to which PSTs thought their CTs modeled effective instructional domains (as aligned with observation categories in REACH) plus urban teaching. The results, summarized in Table 5, suggest that PSTs’ feelings of preparedness were mostly unrelated to our proxies for the quality of instruction modeled by CTs, with a few notable exceptions.

In terms of CTs’ observation ratings, we investigated both overall (aggregate) scores and domain scores. Across outcome measures (PSTs’ feelings of preparedness in different domains), coefficients for CTs’ observation ratings trended positive (except Planning and Preparation) but were mostly non-significant. Only in the case of PSTs’ feelings of preparedness for classroom environment were CTs’ observation ratings significant predictors.\(^{18}\) Specifically, PSTs felt better prepared for classroom environment when their CTs received stronger observation ratings overall, in instruction, and in classroom environment. We also found that the more favorably PSTs perceived the instruction modeled by their CTs, the better prepared they felt to take on the responsibilities of teaching themselves (bottom of Table 5). PSTs’ perceptions of preparedness

---

\(^{18}\) For models where CTs’ observation scores predicted PSTs’ preparedness, R-squared values ranged from 0.12-0.28 in the specifications without covariates, and from 0.21-0.35 in the models with covariates.
were unrelated to other proxies for their CTs’ instructional effectiveness as signaled by VAMs,\(^\text{19}\) years of experience, post-baccalaureate degrees, tenure, or National Board Certification.

**Coaching (CT perspective): Do the kinds of coaching that CTs report providing predict PSTs’ perceptions of preparedness to teach?**

We expected that CTs’ perceptions of the kinds and quality of mentoring they provided PSTs would be related to how prepared PSTs felt. However, as summarized in Table 6, this was generally not the case. If we constrain our focus specifically to coaching measures that were significant predictors across model specifications, we found no evidence that Domain-Specific Instructional support, Frequency of Feedback, or Collaborative Coaching that CTs reported providing predicted how prepared PSTs felt to take on their own classrooms.

CTs’ perception of the Adequacy of Feedback and Autonomy and Encouragement they provided were also mostly unrelated to PSTs’ feelings of preparedness, with a few exceptions. Namely, PSTs felt more prepared for Planning and Preparation when CTs evaluated their own feedback as helpful. Regarding Autonomy and Encouragement, PSTs felt better prepared for Environment when CTs reported being available to them when they struggled with teaching. PSTs also felt better prepared for Professional Responsibilities when CTs reported making their PSTs feel comfortable taking instructional risks. Unexpectedly, we found some evidence that PSTs felt less prepared in Instruction the more that CTs reported allowing PSTs to make their own instructional decisions. One possible explanation is that some CTs may have turned over teaching responsibilities to PSTs too often or too soon, without offering adequate support.

\(^{19}\) Given that many CTs teach in untested grades and subjects, we were able to link only 147 CTs to VAM information. As a result, standard errors are quite large and estimates may be imprecise.
Coaching (PST perspective): Do the kinds of coaching that PSTs report receiving predict PSTs’ perceptions of preparedness to teach?

Though CTs’ reports about the coaching they provided PSTs were mostly unrelated to PSTs’ self-perceived preparedness, PSTs’ reports of the coaching they received were consistently positively and significantly predictive (see Table 7). The more positively that PSTs perceived their CTs’ coaching practices—in terms of Domain-Specific Instructional Support, Frequency and Adequacy of Feedback, Autonomy and Encouragement, Collaborative Coaching, and Job Assistance—the better prepared they felt to teach across instructional domains.

Given that we found PSTs’ feelings of preparedness to be generally related to their own perceptions of the kinds/quality of coaching they received but not to CTs’ perceptions of the kinds/quality of coaching they felt they provided, we decided to investigate the matter further. Specifically, we investigated whether there was agreement between how PSTs and CTs perceived the kinds/quality of coaching present during student teaching. Table 8 summarizes parallel measures of coaching from the PST and CT surveys, as well comparisons (chi-squared) between distributions in terms of the proportion of respondents rating coaching in the highest categories (typically the top two out of four response options). Overall, the results suggest that both CTs and PSTs have quite favorable ratings of the quality and amount of coaching they perceived, though CTs tended to have significantly more favorable ratings. We elaborate below.

Over 95% of CTs considered the mentoring they provided to their PSTs to be effective or very effective (the top two out of four response options) in all domains except planning and preparation—which was still high at 90%. While 95% or more CTs said they gave feedback about concrete suggestions, general observations, and areas of strengths “often” or “all the time”,

19
relatively fewer CTs reported posing reflective questions (88%) or giving feedback on areas for improvement (81%). Virtually all CTs perceived their feedback to be helpful (99%) and frequent enough (97%). They also reported providing PSTs extremely high levels of autonomy and encouragement (98-99%). In terms of frequency, most CTs reported that at least once a week, they co-designed (84%) and co-taught (72%) lessons with their PSTs, reviewed student work together (86%), or asked PSTs to observe their own teaching (75%). Of job-search related mentoring, CTs felt they most frequently provided advice about types of jobs to pursue (61%), while assistance with resume development (29%) and interview preparation (30%) occurred much less often.

Like CTs, PSTs also found the coaching they received to be both frequent and strong (Table 8, continued). Of particular interest, however, is that their evaluations tended to be slightly less favorable than the self-evaluations offered by CTs about their own coaching practices. In terms of Domain-Specific Instructional Support, PSTs generally perceived the mentoring conversations they had with their CTs less favorably than CTs, with significant differences in four domains: urban or culturally responsive teaching, professional responsibilities, classroom environment, and delivering instruction. PSTs reported receiving the most instructional support from their CTs in the area of instructional delivery, and least in urban or culturally responsive teaching. PSTs felt they received less frequent feedback than their CTs reported giving. PSTs and CTs also disagreed somewhat about which forms of feedback occurred most and least frequently. Interestingly, PSTs and CTs agreed that referring to areas for improvement and posing reflective questions were the least common form of feedback. In the area of Autonomy and Encouragement, only 87% of PSTs agreed or strongly agreed that they
felt comfortable taking instructional risks. There was also notable disagreement between PSTs and CTs in how frequently they thought Collaborative Coaching activities occurred. Though PSTs reported less frequent coaching than CTs in most areas, the reverse was true in terms of Job Assistance.

**DISCUSSION AND IMPLICATIONS**

As the role of cooperating teacher continues to gain prominence as a key feature of teacher preparation, so do the calls for more research about the kinds of mentoring provided by CTs to their PSTs during student teaching and with what effects. In this study, we take a district-wide look at the type of mentoring CTs provide through the lenses of being an exemplary model of instruction for PK-12 students and being a coach who is intentionally targeting the growth and ongoing development of the PST. In doing so, we begin to advance measurable conceptions of two key roles of a CT -- as a model of effective teaching and a coach who is attending to the growth and development of their PST. In the end, we find evidence that aspects of both roles contribute positively to PSTs feelings of preparedness to teach at the end of their preparation.

Most surprising, perhaps, in our findings, is that frequently called upon qualifications such as CTs’ tenure, years of teaching experience, National Board Certification, and degree status, as well as VAM scores, were unrelated to PSTs’ feelings of preparedness. These findings are in stark contrast to most current policies being advocated for CT selection. That said, observation-based, more direct measures (PSTs’ perceptions of CTs’ instructional effectiveness and CT observation ratings) were associated with PSTs’ perceptions of readiness. To our knowledge, this is the first direct evidence suggesting that PSTs feel better prepared when their CTs are rated as exemplary instructors using observational data. Fortunately for preparation
programs in CPS, it appears that – despite variation in how they recruit CTs – the teachers they selected to serve as CTs had significantly stronger observation ratings than other teachers in the district (by more than half a standard deviation – see Appendix Table 5 for details). Compared to non-CTs, CTs also had significantly higher rates of tenure and National Board certification and stronger reading value-added scores.

As with the CT as model analyses, we find that whether or not CT coaching predicts PSTs’ perceptions of preparedness depended upon the measure used. Rather than varying based on a given facet of coaching, what mattered most seemed to be whose perspective was represented; specifically, PSTs’ feelings of preparedness were positively related to their own perceptions of the coaching they received but were mostly unrelated to CTs’ perceptions of the coaching they reported providing. PSTs felt better prepared across instructional domains when they reported that their CTs provided stronger domain-specific instructional support, more frequent and adequate feedback, higher levels of autonomy and encouragement, stronger collaborative coaching, and better job assistance. On the other hand, CTs’ self-perceptions of many of these same facets of coaching were mostly unrelated to PSTs’ feelings of preparedness.

There are several possible explanations for these discrepant findings. First, regardless of the quality of coaching that a CT feels she provides, PSTs’ subjective experiences of that mentoring is likely what ultimately matters, especially when the outcome is also subjective (self-reported). Related, it is possible that CTs’ perspectives are not predictive of PSTs’ readiness to teach because CTs are less able or less willing to discriminate the quality of their own coaching practice. The fact that we find CTs to over-estimate the quality and frequency of coaching when compared PSTs’ perspectives seems to support this point; though it is important to underscore
that both PSTs and CTs felt the quality of coaching provided by CTs, on average, to be quite strong. Related, given that CTs tended to rate the coaching they provided so favorably (see Table 8), there may not have been enough variation in the CT coaching measures to be able to detect a relationship with PSTs’ feelings of preparedness. Finally, rather than better mentoring causing teachers to be better prepared, it is possible that feeling better prepared causes PSTs to evaluate their CTs more favorably. In other words, PSTs’ positive feelings of preparedness may be driving their positive perceptions of mentorship and preparation quality rather than the other way around.

An important limitation of our study is that the outcome measure – perceptions of preparedness to teach – is self-reported and represents the perspective of PSTs and not CTs or other outside evaluators. We are not aware of any existing published literature that has demonstrated, for example, that PSTs who feel better prepared are actually more instructionally effective as teacher of record as measured by outside evaluators or student achievement gains. Even where PSTs feel prepared, CTs or outside observers may feel otherwise. Thus, the fact that coaching and modeling measures based upon PSTs’ perceptions tended to be the strongest predictors of their own feelings of preparedness raises some concern that these results may be endogenous or reflect survey response biases. In future work, we will use other outcome measures that are not self-reported, including PSTs’ teacher evaluation scores, as measured by REACH observational and VAM scores, after they have completed their preparation and become teachers of record, to test whether or not results are similar. Another limitation of this study is that White CTs, White PSTs, and female PSTs were overrepresented in our analytic sample,
calling into question whether results from these analyses are generalizable to full population of CTs and PSTs in the district.

Assuming for now our results represent true effects, a central implication is that efforts to recruit CTs who can model effective teaching and who are effective coaches both have some merit. However, individuals who are responsible for recruiting CTs should be discriminating about the criteria they use. When identifying CTs who can serve as effective models, they should consider more direct, observation-based measures of CTs’ instructional quality as opposed to professional qualifications or VAM scores alone. When identifying effective coaches, they should consider PSTs’ evaluations more than CTs’ self-evaluations. Aspects of both CT as model and coach matter.

Our work also has implications for state policies related to standards for teachers to serve as CTs. Typically, these policies focus on requirements related to CTs being models of effective instruction – e.g., teachers must have a minimum number of years of teaching experience or minimum scores on state/district evaluation rubrics. While our results provide some evidence in support of these policies, they also suggest that policymakers consider setting minimum standards for how skilled teachers are in coaching other teachers.

This study advances two ways of conceptualizing mentoring in an effort to begin to name and measure the kind of work in which CTs engage regularly. We hope future research builds upon and refines these and other mentoring constructs to deepen our understanding about how best to enhance PST perceptions of preparedness for their own classrooms.
REFERENCES


National Council for Accreditation of Teacher Education. (2010). *Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers*.


