

Evidence-Based Practices to Support Equity | A GTL CENTER SNAPSHOT

A Snapshot on Mentoring and Induction

Figure 1. Levels of Evidence

To support the identification and selection of evidence-based interventions, the U.S. Department of Education developed four levels of evidence.



STRONG EVIDENCE

Strong Evidence

Interventions with **strong evidence** have at least one experimental study that shows a statistically significant and positive effect without being overridden by other statistically negative evidence. The study must have a large, multisite sample with overlap in both population and setting.



MODERATE EVIDENCE

Moderate Evidence

Interventions with **moderate evidence** have at least one quasi-experimental study that shows a statistically significant and positive effect without being overridden by other statistically negative evidence. The study must have a large, multisite sample with overlap in either population or setting.



PROMISING EVIDENCE

Promising Evidence

Interventions with **promising evidence** have at least one correlational study that shows a statistically significant and positive effect without being overridden by other statistically negative evidence.



DEMONSTRATES A RATIONALE

Demonstrates a Rationale

Interventions that **demonstrate a rationale** are those with a well-specified logic model informed by research or evaluation where relevant research suggests the likelihood of positive effect and a study of the effects will occur as part of the intervention or is under way elsewhere.

ESSA evidence standards:

<https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseinvestment.pdf>

The 2017 National Assessment of Educational Progress (NAEP) results confirm that the achievement gap remains one of the most persistent and challenging education policy issues of our time (The Nation's Report Card, 2017). One key contributing factor to achievement gaps is the inequities in students' access to diverse, effective teachers (Chetty, Friedman, & Rockoff, 2011; Hanushek, 2014). Schools with high numbers of students living in poverty, students with disabilities, students of color, and English learners are more likely to have teachers who are ineffective, inexperienced, or teaching out-of-field (Goldhaber, Lavery, & Theobald, 2015; Goldhaber, Quince, & Theobald, 2016; Isenberg et al., 2016; Sass, Hannaway, Xu, Figlio, & Feng, 2012). Improving access to a diverse pool of effective educators for disadvantaged students and in low-performing districts and schools is an essential component, and perhaps a condition, for both school improvement and the narrowing of persistent achievement gaps. Mentoring and induction may play a critical role in building the pool of effective educators to improve access and meet this need.

The Every Student Succeeds Act (ESSA) requires that states address disparities where low-income and minority students are taught by ineffective, out-of-field, and inexperienced teachers. ESSA further requires that activities, strategies, and interventions taken by states to address disparities must be based on evidence. ESSA defines the term

“evidence based” as “an activity, strategy or intervention that demonstrates a statistically significant effect on improving student outcomes or other relevant outcomes.” This definition is based on the standards shown in Figure 1 (Every Student Succeeds Act of 2015, 2015).

As the availability of evidence on what works in education continues to grow, this new emphasis on evidence-based information in ESSA is an opportunity for states to invest in programs and strategies with a solid evidence of impact.

WHAT IS THE SNAPSHOT SERIES?

State and district leaders can use the GTL Center’s snapshot series to make informed policy decisions that take into account the evidence base for specific strategies to improve supports for and equitable access to great teachers and leaders. Each snapshot describes a commonly adopted strategy, how states and districts implement the strategy, and the empirical studies and evidence demonstrating the strategy’s effect on educator and student outcomes.

EQUITY STRATEGY: MENTORING AND INDUCTION (M&I)

Providing M&I programs for new teachers is a common strategy that states and districts use to try to address equity gaps. M&I programs offer a set of supports to new teachers to facilitate their transition from pre-service preparation to in-service practice. In M&I, beginning teachers are paired with more experienced teachers who are responsible for providing individual guidance, support, and mentoring. M&I may also include orientation to the school and community, ongoing professional learning and networking opportunities, reduced workload for new teachers, and other practices.

Teachers tend to appreciate the support that M&I programs provide. For example, 68% of teachers who were selected as a National Teacher of the Year ranked mentoring among the top three most important supports for developing their effectiveness (Behrstock-Sherratt, Bassett, Olson, & Jacques, 2014). However, teachers also tend to report inequities in access to M&I programs. For example, teachers in low-income schools and STEM teachers are less likely to report receiving high-quality M&I supports than other teachers (Kardos & Johnson, 2010).

HIGH-QUALITY MENTORING AND INDUCTION PRACTICES

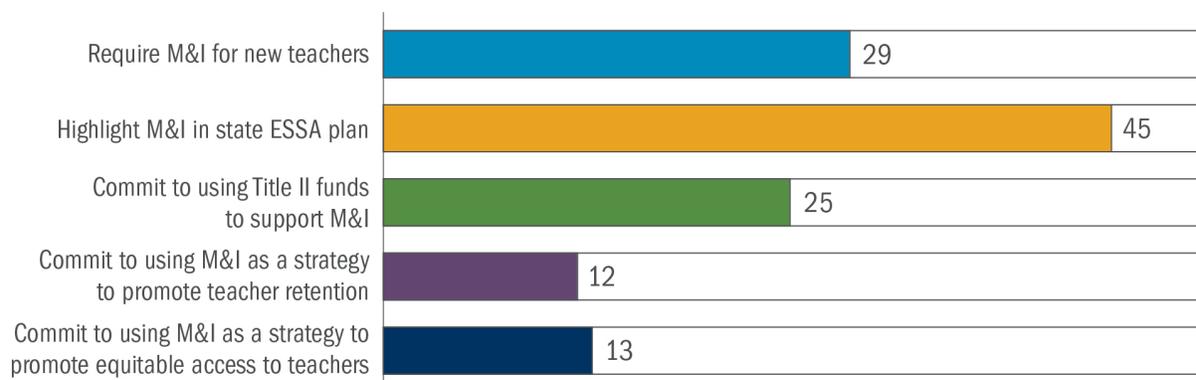
Based on its experience implementing M&I programs, multiple studies from the [New Teacher Center](#) (Schmidt et al., 2017; SRI Education, 2018) suggest that the following M&I implementation practices and structures are likely to be effective:

- Rigorous mentor selection based on the qualities of an effective mentor
- Ongoing professional development and support for mentors
- Sanctioned time for mentor-teacher interactions
- Multi-year mentoring
- Intensive and specific guidance moving teaching practice forward
- Professional teaching standards and data-driven conversations
- Ongoing professional development for beginning teachers
- Clear roles and responsibilities for administrators
- Collaboration with all stakeholders

MENTORING AND INDUCTION STATE-LEVEL POLICIES

M&I in some form is implemented widely in states, with varying intensity, comprehensiveness, and duration (DeCesare, Workman, & McClelland, 2016; Goldrick, 2016). As shown in Figure 2, many states discuss M&I practices in their ESSA plans, either as a means for promoting educator retention and/or ensuring equitable access to effective teachers, and many states are using Title II dollars to support M&I (Lachlan-Haché & Hayes, 2018).

Figure 2: Mentoring and Induction Policies in States



THE CURRENT EVIDENCE FOR MENTORING AND INDUCTION

Table 1 presents available evidence on M&I and whether it is effective in improving new teacher retention and performance. For this review, the GTL M&I team focused on what high-quality research is available and is currently aimed toward using the standards offered by the What Works Clearinghouse. We partnered with our research colleagues to complete a detailed analysis, but in the process recognized the limitations in the research base, as summarized in Table 1. So far, only one experimental study (Glazerman et al., 2010) has been determined to meet What Works Clearinghouse design standards without reservation;¹ the other studies in Table 1 have not yet been evaluated using a systematic review process.

¹ The standards and procedures for WWC reviews of individual studies can be found here: <https://ies.ed.gov/ncee/wwc/Handbooks>.

Table 1. Summary of Recent Evidence on Mentoring and Induction

Outcome	Studies detecting statistically significant and positive effects for M&I	Studies detecting no statistically significant effects for M&I	Studies detecting statistically significant and negative effects of M&I
Retention	<p>Ronfeldt & McQueen (2017): Correlational study using national survey data across multiple years found that teachers receiving multiple M&I supports were more likely to stay in their school and in teaching even 5 years later.</p> <p>Kang & Berliner (2012): Correlational study using national survey data found that new teachers receiving particular induction supports—seminars, common planning time, and extra classroom assistance—were less likely to leave their school or district for avoidable reasons.</p> <p>Rockoff (2008): Correlational study of newly hired teachers in a large city district found that inexperienced teachers who received mentoring were more likely to stay in their school for their full first year compared with new teachers in previous years receiving no mentoring. Among those receiving mentoring, teachers receiving more hours of mentoring or whose mentor taught in their school were more likely to stay in their school for the full year.²</p>	<p>Schmidt, Young, Cassidy, Wang, & Laguarda (2017): Experimental study found no significant differences in teacher retention after 1 year between comprehensive M&I and business-as-usual M&I.</p> <p>Wechsler et al. (2012): Quasi-experimental study of statewide M&I program found no differences in retention between new teachers who received no M&I supports and those who received M&I supports regardless of measured levels of intensity or content.</p> <p>Glazerman et al. (2010): Experimental study that meets WWC standards with no reservations found no differences in teachers’ retention over 3 years between teachers receiving 2 years of comprehensive M&I and teachers receiving business-as-usual M&I.</p> <p>Hahs-Vaughn & Scherff (2008): Correlational study using national survey data found no differences in retention between new English teachers who engaged in M&I activities versus those that didn’t.³</p>	

² Three descriptive studies found statistically significant positive associations with teacher retention (Gray & Taie, 2015; Huling, Resta, & Yeargain, 2012; Humphrey et al., 2008).

³ One descriptive study found no statistically significant positive association between M&I and retention between teachers receiving district-based versus university-based M&I supports (Davis & Higdon, 2008).

Outcome	Studies detecting statistically significant and positive effects for M&I	Studies detecting no statistically significant effects for M&I	Studies detecting statistically significant and negative effects of M&I
Teaching Practice	<p>SRI Education (2018): Experimental study found significant differences in teacher classroom practices after 2 years of teachers participating in a comprehensive M&I program compared to business-as-usual.</p> <p>Stanulis & Floden (2009): Quasi-experimental study found teachers receiving intensive mentoring scored higher on a measure of teaching practice than teachers who received business-as-usual M&I.⁴</p>	<p>Schmidt et al. (2017): Experimental study found no significant differences in teacher practices after 1 year between comprehensive M&I and business-as-usual M&I.</p> <p>Glazerman et al. (2010): Experimental study that meets WWC standards with no reservations found no differences in teaching practice between teachers receiving 2 years of comprehensive M&I and teachers receiving business-as-usual M&I.</p>	

⁴ In their descriptive study, Davis & Higdon (2008) found a statistically significant positive association between university-based M&I and teaching practice using the Assessment of Practices in Early Elementary Classrooms instrument as compared with district-based M&I supports.

Outcome	Studies detecting statistically significant and positive effects for M&I	Studies detecting no statistically significant effects for M&I	Studies detecting statistically significant and negative effects of M&I
Student reading achievement	<p>Schmidt et al. (2017): Experimental study found students in Grades 4–8 of teachers who received 2 years of the treatment outperformed students of control teachers, representing the equivalent of 2 to 3.5 additional months of learning on large-scale English language arts assessments depending on the student’s grade level.</p> <p>Glazerman et al. (2010): Experimental study meeting WWC standards with no reservations found a lagged effect on student learning in reading among students in Grades 2–5 of teachers participating in 2 years of comprehensive M&I, but not among teachers participating in only 1 year of comprehensive induction. The positive effect represented the equivalent of moving the average student from the 50th percentile up 4 percentile points.</p> <p>Fletcher, Strong, & Villar (2008): Correlational study comparing groups of new teachers receiving different M&I supports. Teachers who were assigned selected mentors and met with them regularly had students who achieved at higher levels.</p>	<p>Rockoff (2008): Correlational study of newly hired teachers in a large city district found no differences in reading achievement among inexperienced teachers who received mentoring compared with newly hired teachers in previous years receiving no mentoring. However, it did find that students of teachers receiving more hours of mentoring had higher mathematics achievement than teachers with fewer hours of mentoring</p>	

Outcome	Studies detecting statistically significant and positive effects for M&I	Studies detecting no statistically significant effects for M&I	Studies detecting statistically significant and negative effects of M&I
Student mathematics achievement	<p>SRI Education (2018): Experimental study found a positive impact on student achievement in mathematics after 2 years of teachers participating in a comprehensive M&I program compared to business-as-usual.</p> <p>Glazerman et al. (2010): Experimental study detected a lagged effect in mathematics among students in Grades 2–5 of teachers participating in 2 years of comprehensive M&I, but not among teachers participating in only 1 year of comprehensive induction. The positive effect represented the equivalent of moving the average student from the 50th percentile up 8 percentile points.⁵</p>	<p>Wechsler et al. (2012): Quasi-experimental study found no differences in student learning in math between teachers with M&I supports versus no M&I supports, regardless of content or intensity.</p> <p>Rockoff (2008): Correlational study of newly hired teachers in a large city district found no differences in mathematics achievement among inexperienced teachers who received mentoring compared with newly hired teachers in previous years receiving no mentoring. However, it did find that students of teachers receiving more hours of mentoring had higher mathematics achievement than teachers with fewer hours of mentoring.</p>	

It should be noted that most of the studies included in Table 1 do not compare outcomes for teachers receiving M&I with teachers not receiving M&I. Instead, these studies compare more intensive versions of M&I with “business-as-usual” M&I routines that tend to vary widely. Results from a preliminary study of the New Teacher Center (NTC) model (not yet determined to meet What Works Clearinghouse design standards without reservation) suggest that while teachers receiving “business-as-usual” mentoring report similar levels of support and time with their mentors, teachers working with a trained NTC mentor spent more time on lesson planning, assessing student learning, and creating an optimal learning environment. Teachers mentored using the NTC model had greater gains in student achievement in mathematics and had greater impacts on students through greater engagement in learning and teachers’ use of assessment in instruction.

Despite these promising results, our team further recognizes the small research base as well as the significant limitations to the research base with regard to how M&I programs address issues of equity. There is very little research focused on examining the impact of M&I programs on low-performing schools, students of color, teachers of color, and teachers and students in rural settings.

⁵ One additional study, Fletcher & Strong (2009), found students of teachers with a full-release mentor demonstrated greater achievement gains in mathematics than students of teachers with part-time mentors. However, their methods are not clear from their paper to categorize the study appropriately.

Because high-quality comparisons are slowly emerging in the research literature, at this time, the GTL Center is unable to determine the relative strength of the evidence using the criteria described in Figure 1. However, the Center aims to update this Snapshot once additional evidence has been thoroughly vetted to provide solid guidance to the field. Until then, we continue to support states and districts in the early steps of building comprehensive induction programs outlined through best practices and in the research.

EVIDENCE OF IMPACT FOR DISADVANTAGED SCHOOLS, TEACHERS, AND STUDENTS

Practitioners should consider not only the level or strength of the evidence, but also whether a study specifically points to evidence of positive impacts for disadvantaged students and for students and educators from a minority background. Studies that report average gains that are not disaggregated by different student populations may overlook disparate results for disadvantaged or minority students. For example, programs that demonstrate improved student achievement overall may not be closing the achievement gap, especially if they are not designed to work in disadvantaged schools. Programs that demonstrated an impact on improving teacher practice may have different results for teachers in high-need schools (where teachers of color are more likely to teach). States using M&I as a strategy for improving equitable access to effective educators should prioritize evidence from studies that measure and report outcomes specifically for disadvantaged or minority students, and studies that include outcomes such as narrowing the achievement gap and diversifying the educator workforce.

In the case of M&I, more rigorous research is needed to determine the extent to which high-quality M&I affects

1. the retention of teachers of color *in particular*,
2. the achievement of low-income students, and students of color *in particular*,
3. the impact on students and teachers in urban versus rural settings *in particular*, and
4. other important equity outcomes such as teacher and student absenteeism, disparity in discipline or special education referrals, and school climate in high-need schools, *in particular*.

Nevertheless, the studies summarized in Table 1 provide at least a rationale for education policy makers seeking to enhance student learning and equitable access to effective teachers to support further implementation and testing of high-quality M&I programs for new teachers serving low-income students and students of color. Although not every study found positive effects on important teacher and student outcomes, the research demonstrates that intensive and comprehensive M&I programs are more likely to be effective than prevailing, short-term M&I programs. Given the available research, the GTL Center has supported states and districts in the early steps of [building comprehensive induction programs](#) that align to best practices outlined in the research.

BUILDING THE EVIDENCE BASE

More large-scale, multi-site experimental research is needed. However, there is much to be gained from practitioners building and sharing their own evidence of what works for them through rigorous continuous improvement cycles (Bryk et al., 2015). Opportunities for developing and deepening research-practice partnerships should be leveraged where possible to understand and improve the design and implementation of M&I programs and other interventions that are likely to improve access to effective instruction.

WANT TO KNOW MORE?

For additional information on this topic or for technical assistance support, e-mail gtlcenter@air.org or contact our content experts:

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REFERENCES

- Behrstock-Sherratt, E., Bassett, K., Olson, D., & Jacques, C. (2014). *From good to great: Exemplary teachers share perspectives on increasing teacher effectiveness across the career continuum*. Washington, DC: Center on Great Teachers and Leaders.
- Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.
- Chetty, R., Friedman, J. N., & Rockoff, J. E. (2011). *The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood* (No. w17699). National Bureau of Economic Research.
- Davis, B., & Higdon, K. (2008). The effects of mentoring/induction support on beginning teachers. *Journal of Research in Childhood Education*, 22, 261–274.
- DeCesare, D., Workman, S., & McClelland, A. (2016). *How do school districts mentor new teachers?* (REL 2016-125). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. Retrieved from <https://files.eric.ed.gov/fulltext/ED565612.pdf>
- Every Student Succeeds Act of 2015, 20 USC §. 8101(21) (2015).
- Fletcher, S. H., & Strong, M. (2009). Full-release and site-based mentoring of elementary grade new teachers: An analysis of changes in student achievement. *New Educator*, 5, 329–341.
- Fletcher, S. H., Strong, M., & Villar, A. (2008). An investigation of the effects of variations in mentor-based induction on the performance of students in California. *Teachers College Record*, 110, 2271–2289.
- Glazerman, S., Isenberg, E., Dolfin, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus, M. (2010). *Impacts of comprehensive teacher induction: Final results from a randomized controlled study*. Mathematica Policy Research. Retrieved from <https://www.mathematica-mpr.com/our-publications-and-findings/publications/impacts-of-comprehensive-teacher-induction-final-results-from-a-randomized-controlled-study>
- Goldhaber, D., Lavery, L., & Theobald, R. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher*, 44(5), 293–307.
- Goldhaber, D., Quince, V., & Theobald, R. (2016). *Reconciling different estimates of teacher quality gaps based on value-added*. Washington, DC: National Center for the Analysis of Longitudinal Data in Education Research (CALDER), American Institutes for Research.
- Goldrick, L. (2016). *Support from the start: A 50 state review of policies on new educator induction and mentoring*. Santa Cruz, CA: New Teacher Center.
- Gray, L., & Taie, S. (2015). *Public school teacher attrition and mobility in the first five years: Results from the first through fifth waves of the 2007-08 Beginning Teacher Longitudinal Study. First look* (NCES 2015-337). National Center for Education Statistics. Retrieved from <https://nces.ed.gov/pubs2015/2015337.pdf>
- Hahs-Vaughn, D., & Scherff, L. (2008). Beginning English teacher attrition, mobility, and retention. *Journal of Experimental Education*, 77(1), 21–53.
- Hanushek, E. A. (2014). Boosting teacher effectiveness. What lies ahead for America's children and their schools (pp. 23–35). In C. E. Finn Jr. & R. Sousa (Eds.), *What lies ahead for America's children and their schools*. Stanford, CA: Hoover Institution Press.

- Huling, L., Resta, V., & Yeargain, P. (2012). Supporting and retaining novice teachers. *Kappa Delta Pi Record*, 48(3), 140–143.
- Humphrey, D. C., Wechsler, M. E., Bosetti, K. R., Park, J., & Tiffany-Morales, J. (2008). *Teacher induction in Illinois and Ohio: Findings and recommendations*. Menlo Park, CA: SRI International.
- Isenberg, E., Max, J., Gleason, P., Johnson, M., Deutsch, J., & Hansen, M. (2016). *Do low-income students have equal access to effective teachers? Evidence from 26 districts* (NCEE 2017-4007). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Kang, S., & Berliner, D. C. (2012). Characteristics of teacher induction programs and turnover rates of beginning teachers. *The Teacher Educator*, 47(4), 268-282.
- Kardos, S. M., & Johnson, S. M. (2010). New teachers' experiences of mentoring: The good, the bad, and the inequity. *Journal of Educational Change*, 11(1), 23–44.
- Lachlan-Haché, L. & Hayes, L. (2018). *An Introduction to the Mentoring and Induction Toolkit: A webinar for state education agencies, districts and regional comprehensive centers*. Retrieved from <https://gtlcenter.org/products-resources/mentoring-and-induction-toolkit>
- New Teacher Center. (2016). *Induction resource: High-quality mentoring and induction practices*. Retrieved from https://newteachercenter.org/wp-content/uploads/high-quality-mentoring_induction-resource.pdf
- Rockoff, J. E. (2008). *Does mentoring reduce turnover and improve skills of new employees? Evidence from teachers in New York City* (Working Paper 13868). Cambridge, MA: National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w13868>
- Ronfeldt, M., & McQueen, K. (2017). Does new teacher induction really improve retention? *Journal of Teacher Education*, 68(4), 394–410.
- Sass, T. R., Hannaway, J., Xu, Z., Figlio, D. N., & Feng, L. (2012). Value added of teachers in high-poverty schools and lower poverty schools. *Journal of Urban Economics*, 72(2), 104–122.
- Schmidt, R., Young, V., Cassidy, L., Wang, H., & Laguarda, K. (2017). *Impact of the New Teacher Center's new teacher induction model on teachers and students*. Menlo Park, CA: SRI International. Retrieved from https://www.sri.com/sites/default/files/publications/ntc_i3_validation_eval_brief.pdf
- SRI Education. (2018). *Evaluation of the New Teacher Center (NTC) i3 scale-up grant: Cohort 1 preliminary teacher and student impact*. Retrieved from https://www.sri.com/sites/default/files/brochures/preliminary_cohort_1_achievement_and_observation_results_evaluation_update_1.pdf
- Stanulis, R. N., & Floden, R. E. (2009). Intensive mentoring as a way to help beginning teachers develop balanced instruction. *Journal of Teacher Education*, 60, 112–122.
- The Nation's Report Card. (2017). 2017 NAEP Mathematics & Reading Assessments: Highlighted Results at Grades 4 and 8 for the Nation, States, and Districts. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress. Retrieved from https://www.nationsreportcard.gov/reading_math_2017_highlights/
- Wechsler, M. E., Caspary, K., Humphrey, D. C., & Matsko, K. K. (2012). Examining the effects of new teacher induction. *Yearbook of the National Society for the Study of Education*, 111(2), 387–416. Retrieved from <https://eric.ed.gov/?id=EJ991009>

APPENDIX: LIST OF STUDIES PROVIDING EVIDENCE ON MENTORING AND INDUCTION

Study	Findings
<p>Schmidt et al. (2017). <i>Impact of the New Teacher Center's new teacher induction model on teachers and students.</i></p> <p>Randomized controlled trial that assessed the impact of an M&I intervention with the following characteristics: (1) centralized supports including principal engagement and program standards and assessment tools; (2) full-time mentors who were carefully selected and mentored no more than 15 teachers; (3) intensive mentor training including a week-long mentor academy, shadowing, and peer coaching among other supports; and (4) dedicated time for mentor-teacher interactions. Mentors met one-on-one with teachers for 60–90 minutes three to four times a month using a formative assessment system, focusing on instructional practices, equity, and universal access issues. Mentors also documented reflections on their mentoring work with new teachers using an online platform.</p>	<ul style="list-style-type: none"> ▪ No significant differences in teacher retention or teacher practices between the treatment group (new teachers receiving the New Teacher Center's M&I model) and control group (new teachers receiving business-as-usual M&I) were detected. ▪ Students in Grades 4–8 of teachers who received 2 years of the treatment outperformed students of control teachers, representing the equivalent of 2 to 3.5 additional months of learning on large-scale English language arts assessments and 2.4 to 4.5 additional months of learning in mathematics depending on the student's grade level.
<p>Wechsler et al. (2012) <i>Examining the effects of new teacher induction.</i> Quasi-experimental study of a statewide induction program in Illinois. M&I programs varied in terms of their organization and levels of support provided to teachers across the districts studied. State guidelines for M&I required that all first- and second-year teachers receive: (1) mentorship from an experienced teacher who has received mentor training; (2) professional development; and (3) formative assessment aligned with relevant content-area standards and the state professional teaching standards. Mentors were required to meet at least 1.5 hours per week with their mentees. M&I programs were further guided by state program standards.</p>	<ul style="list-style-type: none"> ▪ Induction experiences of new teachers varied considerably relative to the frequency of mentoring and the included activities, the availability of additional induction supports, and the overall content of induction. For example, fewer than half of new teachers who were assigned a mentor reported meeting with their mentors for the required 1.5 hours per week. ▪ No significant differences in retention or student learning were found between new teachers who received no M&I supports and those who received M&I supports regardless of measured levels of intensity or content. ▪ Teachers who received strong M&I supports (those characterized by intense mentoring, a strong focus on instruction, and a variety of supports) reported higher levels of self-efficacy and professional growth.

Study	Findings
<p>Glazerman et al. (2010). <i>Impacts of comprehensive teacher induction.</i> Randomized controlled trial that assessed the impact of one- and two-year comprehensive M&I interventions with the following characteristics: (1) centralized supports including principal engagement and program standards; (2) selected and trained mentors; (3) regular professional development for new teachers based on professional teaching standards including study groups and an end-of-year colloquia; (4) weekly mentor-teacher meetings lasting up to 2 hours; and (5) one or two observations of experienced teachers.</p>	<ul style="list-style-type: none"> ▪ No significant differences in teacher retention, teacher practices, teacher satisfaction, or feelings of preparedness between the treatment group (new teachers receiving the comprehensive M&I model for 1 or 2 years) and control groups (new teachers receiving business-as-usual M&I) were detected. ▪ A lagged effect on student learning in reading and mathematics was detected among students in Grades 2–5 of teachers participating in 2 years of comprehensive M&I, but not among teachers participating in only 1 year of comprehensive induction. The positive effect occurred in teachers' third year of teaching—1 year after the M&I ended—and represented the equivalent of moving the average student from the 50th percentile up 4 percentile points in reading and 8 percentile points in math.
<p>Fletcher & Strong (2009). <i>Full-release and site-based mentoring of elementary grade new teachers.</i> Quasi-experimental study which looked at fourth- and fifth-grade teachers in a large, urban, East Coast school district. One group had support from a full-release mentor, whereas teachers in the other group were assigned a site-based mentor. The mentors received the same training, but they differed in caseload and release time.</p>	<ul style="list-style-type: none"> ▪ Teachers who received the support of a full-time mentor tended to have more low-achieving and low-income students than did teachers in the other group. Despite this, students of teachers in the full-release mentor group showed greater achievement gains after 1 year. However, the opportunity to draw causal conclusions was again limited by the small sample size and a design that conflates potential teacher and school effects.
<p>Stanulis & Floden (2009). <i>Intensive mentoring as a way to help beginning teachers develop balanced instruction.</i> Examined the effects of receiving the existing district induction program (which entailed mentoring, orientation, and seminars) compared to receiving intensive mentoring provided through a school–university partnership.</p>	<ul style="list-style-type: none"> ▪ Teachers receiving intensive mentoring scored higher on a measure of teaching practice than teachers who received business-as-usual M&I.
<p>Humphrey et al. (2008). <i>Teacher induction in Illinois and Ohio.</i> Quasi-experimental study comparing teacher survey results from teachers who received strong induction supports versus weak induction supports.</p>	

Study	Findings
<p>Rockoff (2008). <i>Does mentoring reduce turnover and improve skills of new employees? Evidence from teachers in New York City.</i> Quasi-experimental study of an M&I program in New York City. The study compared beginning teachers to other newly hired teachers who had prior teaching experience and hence were not eligible for mentoring. Some of the latter may have had mentoring in prior schools, hence the comparison has limitations. However, within the group receiving mentoring, Rockoff compared those who received more time with a mentor to those who received less time.</p>	<ul style="list-style-type: none"> ▪ Overall, the study found no differences in student achievement gains between newly hired inexperienced teachers who received mentoring and newly hired experienced teachers who did not receive mentoring. This is not unexpected. ▪ However, the study did find that teachers who received more hours of mentoring had higher student achievement score gains, in both math and reading, than those who had fewer hours of mentoring.
<p>Fletcher, Strong, & Villar (2008). An investigation of the effects of variations in mentor-based induction on the performance of students in California. Correlational study comparing groups of new teachers receiving different M&I supports.</p>	<ul style="list-style-type: none"> ▪ Teachers who were assigned selected mentors and met with them regularly had students who achieved at higher levels.
<p>Davis & Higdon (2008). The effects of mentoring/induction support on beginning teachers.</p>	
<p>Hahs-Vaughn & Scherff (2008). Beginning English teacher attrition, mobility, and retention.</p>	