

Using Data to Enhance the Teacher Residency Model

*Exploring What, How, and Why Data Are Used
Within a National Network of Teacher Residencies*

Carrienne Scheib

National Center for Teacher Residencies

Catherine Snyder

Clarkson University

Marjori Krebs

University of New Mexico

Abstract

This manuscript aims to answer the research question: What data are collected by teacher residency programs and a network of teacher residency programs, and how and why do faculty and NCTR staff use this data to advance both individual programs and the teacher residency model nationally? This paper explores how individual teacher residency programs and a national Network of Teacher Residencies use data for continuous improvement, to make ongoing adjustments to programming, to show impact to external audiences, and to advance the model both locally and nationally.

Keywords: Teacher Residency, Residency, Data, National Network

Carrienne Scheib is director of research and evaluation at the National Center for Teacher Residencies, Chicago, Illinois. Catherine Snyder is a professor and chair of the Department of Education at Clarkson University, Potsdam, New York. Marjori Krebs is a professor and director of residencies in the College of Education and Human Services at the University of New Mexico, Albuquerque, New Mexico. Email addresses: cscheib@nctresidencies.org, csnyder@clarkson.edu, & mkrebs@unm.edu

© 2023 by Caddo Gap Press

Introduction

In this case study, researchers explore how to use data within a network of teacher residency programs and within individual teacher residency programs (Beck, 2020a; Burstein et al., 2023; Mazzye & Duffy, 2021). The teacher residency model, as defined by the National Center for Teacher Residencies, builds on research showing the powerful impact of experiencing an intensive, carefully designed, yearlong apprenticeship with a teacher mentor (Bohra-Mishra et al., n.d.; Boyd et al., 2009; Darling-Hammond, 2006; Dunst et al., 2020; Edward-Groves, 2014; Goldhaber et al., 2018; Hammerness et al., 2005; McDonald et al., 2013), who, along with teacher residents, are recruited using a highly selective process (Sober, 2020; Spooner-Lane, 2017). Unlike most other teacher preparation programs, teacher residents spend an entire year in a teacher mentor's classroom, receiving feedback from course instructors, mentors, principals, and other program staff. Based on evidence that teacher candidates are better prepared when coursework bridges theory and practice (Darling-Hammond, 2014; Sleeter & Owuour, 2012), the coursework in teacher residency programs is also uniquely tailored to the district context, differing from traditional teacher preparation programs (Beck, 2020a; Burstein, Sears, & Wilcoxon, 2023; Mazzye & Duffy, 2021).

This case study examines what data these two teacher residency programs and one national network of teacher residencies collect and the myriad purposes of using these data, from continuous improvement, to showing impact, to enhancing financial sustainability, and for accreditation, among other objectives. Researchers provide real-world examples of how teacher residency programs at Clarkson University (CU) and University of New Mexico (UNM) use data to advance and enhance their programs and how the National Center for Teacher Residencies (NCTR) supports the collection and use of data across a national network of teacher residency programs. These examples and findings support the use of data to enhance teacher residencies, both individually and collectively and support the field of teacher preparation nationally to augment their data collections and explore potential innovative ways of using extant or new data (Beck, 2020b).

Research Question

This manuscript aims to answer the research question: What data are collected by teacher residency programs and a network of teacher residency programs, and how and why do faculty and NCTR staff use this data to advance both individual programs and the teacher residency model nationally?

Methods

This manuscript represents an exploratory case study of two teacher residency programs within the NCTR Network as well as within NCTR, a national network of teacher residency programs. These cases were chosen because they represent two teacher residency programs that regularly use data, and NCTR provides a more national perspective as a point of contrast. Researchers implemented case study methodology because they aim to answer “how” and “why” questions, and an exploratory approach was selected since there were no clear outcomes at the start of the study (Baxter & Jack, 2008, Lucas et al., 2013, Yin, 2017). Per Yin (2017), authors utilized a constructivist approach to learning from these cases and sought to illuminate findings from the different perspectives of the participants studied. The two teacher residency programs examined here were also selected because they offer differing and innovative ways of using data and have divergent backgrounds; one program is offered through a private university in the Northeast which has graduated teacher residents for over 30 years, while the other is partnered with a public university in the Southwest and has been in operation for five years. Thus, these cases help to illuminate alternate uses of data within a teacher residency program. The goal is to explore various ways these three organizations use data within the context of a continuous improvement model, to identify what data they use, and to provide possible lessons that can be applied at other teacher residency programs (Harford & Verdier, 2020). The three organizations in the study reported what data they used, how they used those data, and why. Data were analyzed to identify similar and diverse approaches to using data within teacher residency programs and organizations.

The authors explored three cases, two distinct teacher residency programs and a national network of teacher residencies, to understand their backgrounds and how they compare. Then, concrete examples of data use by all three organizations are explored, indicating in detail what data are used by each organization, how these organizations use data, and for what purposes. The authors conclude with a discussion and summary of the similar and desperate ways teacher residencies use data in practice to advance the residency model and the potential for data use in other teacher residency programs.

NCTR, Clarkson University Residency Program, and Albuquerque Teacher Residency Program

The three cases studied in this report include the National Center for Teacher Residencies (NCTR), Clarkson University Residency Program, and the Albuquerque Teacher Residency Program. Each of these organizations is unique and offers a different perspective in terms of its collection and use of data. Each of these organizations' backgrounds are described below to provide further context.

National Center for Teacher Residencies

Founded in 2007, the National Center for Teacher Residencies partners with local education agencies, institutions of higher education (IHEs), nonprofit organizations, charter management organizations, and state education agencies to support teacher preparation partners in the design, launch, and implementation of teacher residency programs across the U.S. NCTR aims to achieve its mission of disrupting historic educational inequities by supporting high-quality teacher residency programs that prepare effective, diverse, culturally responsive educators. Since NCTR's inception, the organization has contributed in developing more than 100 teacher residency programs located throughout the country, serving high-need, low-income students in urban and rural districts. In 2022-2023, NCTR is working with IHEs and districts to create nine new residencies, and NCTR's Network is providing programming to 47 existing teacher residency programs. NCTR designs programming to support teacher residency programs to meet their own goals for improvement, to center equity in teacher residency design and implementation, and to advance the field towards effective clinical preparation.

In this chapter, the authors highlight Clarkson University and the University of New Mexico as examples of two NCTR Network Partners that have used data purposefully to improve their programs. These two programs have a strong history of growth over time and the use of data to guide this growth.

Clarkson University

One teacher residency program supported by this NCTR programming is available at Clarkson University, a private, national research university on the East Coast and a proven leader in technological education and sustainable economic development. Clarkson University has prepared teachers using the residency model since 1989, gradu-

ating over 650 residents in its long tenure, and offers a breadth of experience and expertise in using data. Clarkson University only started partnering with NCTR in 2019, so its data systems have evolved over time, both before and after the partnership with NCTR. Teacher residents in Clarkson University's Master of Arts in Teaching (MAT) consistently have a success rate of over 90% on the required certification exams and a job placement rate of 100% for the past six years. Clarkson University teacher residents graduate with confidence and hands-on experience in classrooms built during individually selected, full-year, mentored teaching residencies.

University of New Mexico

NCTR also partners with the Albuquerque Teacher Residency Partnership (ATRP), which is a collaboration among the Albuquerque Teachers Federation (ATF), the University of New Mexico (UNM), and the Albuquerque Public Schools (APS) to recruit teacher residency candidates to experience a full academic year with intensive coaching with a co-teacher in a district classroom, while earning a teaching license. ATRP is a relatively newer program and collaborated with NCTR to design and implement its program, offering a distinct perspective in its use of data when compared to Clarkson. Since 2019, ATRP has graduated 48 teacher residents, 97% of whom have been hired into the partner district, APS. Each of the three partners contribute to the partnership to ensure teacher residents are effectively prepared. In February 2022, ATRP received national recognition and was awarded the Billy G. Dixon Distinguished Program in Teacher Education Award from the Association of Teacher Educators.

As of fall 2022, UNM teacher residencies expanded from one district to six, with 65 UNM teacher residents. These six school districts and charter schools host residents who receive a \$35,000 stipend for their residency year. Co-teachers, also known as teacher mentors, and hosting school principals receive a \$2,000 stipend for their mentoring and support. These stipends are funded by the State of New Mexico Public Education Department. Districts and charter schools agree to hire these teacher residents the following academic year, and the teacher residents agree to remain as teachers-of-record for these districts and charter schools for a minimum of three years.

The authors will now discuss the potential for effective collection and use of data by residency programs and feature specific examples of how these three organizations have used data in practice to support the teacher residency movement.

Collecting and Using Data in the Teacher Residency Model

Optimally, teacher residencies are designed with the intent to regularly collect, analyze, share, and discuss data among key partners (Beck, 2020a). As briefly outlined in NCTR's *Levers for Equitable Teacher Residencies* (NCTR, 2022b), effective programs strategically and systematically use a variety of qualitative and quantitative data namely to enable:

- ◆ strategic data collection to measure and report impact, and
- ◆ cycles of continuous improvement, with attention to identifying and analyzing disproportionalities and inequities.

Ideally, what this looks like in practice is that a teacher residency program establishes a data-sharing agreement with their partners to determine to what extent their residency graduates are effective and serve the local community's needs and to assist programmatic improvements on an ongoing basis. At the start of the teacher residency design process, partners set up impact goals, collect data to measure program impact and identify disproportionalities, and monitor progress toward these goals. After the teacher residency is launched, partners have the information needed to engage in a regular cycle of (1) identifying data to collect, (2) collecting those data, (3) analyzing those data, and (4) using those data internally and externally to enhance and advance the program. These data can be used to identify any inequities or disproportionalities across historically marginalized groups (e.g., program satisfaction of Black and Latinx residents compared to White residents). Eventually, as a program matures and has longitudinal data, including formative assessments, induction year data, and student voices, programs use the data for continuous improvement and enable links between pre-service and in-service data.

National Teacher Residency Network Data: What and Why

NCTR collects a variety of data from and with the teacher residency programs in the organization's national Network and for myriad purposes. At the end of each school year, NCTR directly surveys key constituents, including teacher residents, teacher mentors, graduates, hiring principals, and hosting principals. These surveys aim to understand how participants have experienced the program and specific programming components, in addition to outcomes such as to what extent teacher residents are prepared and overall satisfaction of all participants. Furthermore, NCTR collects data from programs regarding applicant, resident, mentor, and graduate demographics, and program-

matic components such as the number of partner districts and training sites, high-need preparation licensure or certification areas, and key outcome data such as retention and hiring rates of graduates. NCTR regularly conducts focus groups and interviews to gather qualitative data, and partner programs provide NCTR with external evaluations that help to demonstrate the effectiveness of the model. NCTR provides visualizations of these data for both Network partners and internal consultants, so that programs can compare themselves against national norms. NCTR consultants identify trends across its national network of teacher residencies to inform programming. Ultimately, these data allow NCTR to be able to:

- ◆ Demonstrate impact: Teacher residents are diverse, effective teachers who reflect their communities, are hired into those communities, and stay in those communities.
- ◆ Document scale: The teacher residency movement is growing, and teacher residency graduates have an impact on hundreds of thousands of students across a growing number of states and programs.
- ◆ Show the positive externalities and ancillary benefits of the teacher residency model: Teacher mentors report they've grown as leaders and practitioners, and principals report that teacher residents positively impact the school culture and student achievement.
- ◆ Develop a system for continuous improvement (Depka, 2006): NCTR uses the data to help individual teacher residencies strengthen their programming and make mid-program adjustments, as well as to tailor its own programming and consulting.
- ◆ Advance the movement: NCTR's External Relations Department has dedicated staff to engage with policymakers for the purpose of advancing the teacher residency movement. These data are used to highlight the effectiveness of the model to external audiences to promote the teacher residency model at local, state, and national levels.
- ◆ Elevate the voices of historically marginalized communities: Utilizing a decolonizing approach to research (Smith, 2012), NCTR conducts qualitative research with—rather than on—teacher residency programs and their participants and asks open-ended questions on surveys that are disaggregated by race, ethnicity, gender, and other identities. NCTR specifically aims to understand those most impacted by its work: effective, diverse, and culturally responsive educators and students in under resourced schools.

Each year, NCTR produces an annual report that combines multiple quantitative and qualitative measures to demonstrate the collective power of the teacher residency programs in its Network and the overall

impact of the teacher residency model. Teacher residencies, particularly emerging ones, can use the report to show external collaborators the research that supports the teacher residency model and how their particular program is impacting teaching and learning in their community. They also use these data for programmatic improvement.

NCTR provides this service in recognition of the fact that too few teacher residency programs have the staff capacity to collect data, analyze it, and ultimately, publish and present the findings. Also, the ability to compare data across teacher residency programs is beneficial. Ultimately, NCTR uses aggregate data to continue to demonstrate and document the impact of the teacher residency model nationally.

Studying the Effectiveness of the Teacher Residency Model Using Student and Teacher Data

Student and teacher data have been utilized by NCTR to show the effectiveness of the teacher residency model. These data and evaluations have typically been conducted by external entities, such as independent evaluators and state departments of education. Impact data from the Memphis Teacher Residency (MTR) shows that MTR-trained teachers had higher student achievement gains than non-MTR-trained teachers. A 2019 report by Shelby County Schools (SCS) found that MTR trained teachers in their first three years of teaching outperformed their non-MTR counterparts by significant margins on four very different measures of teaching effectiveness: student growth on achievement tests, observation of practice, professionalism, and student perceptions (SCS, 2019).

Another Tennessee-based NCTR partner, Nashville Teacher Residency's (NTR) graduates also outperform novice teachers prepared through other pathways in Tennessee, in licensure exam pass rates, classroom observations, and student achievement according to the state report card (Tennessee State Board of Education, 2019). Most notably, NTR graduates outperformed other novice teachers on student growth measures, with 81.3% achieving a "3-At Expectations" or better on the TVAAS, compared to 59.5% of all novice teachers across the state and 50% achieving a "4- Above Expectations" or better, compared to 25.2% across the state - double the statewide average.

Similarly, Rockman, et al., (2018) has shown that graduates of New York City's New Visions-Hunter College teacher residency have a statistically significant positive impact on student achievement on the New York State Regents Exam compared to peers trained through other pathways. These teachers demonstrated stronger gains over time,

such that the positive impact was strongest for the most veteran teachers studied. Furthermore, students of graduates demonstrated higher attendance rates and more credits earned compared to other novice teachers, and these benefits were also predictive for Black and Hispanic students (Rockman et al., 2018).

How Residencies Use Data

NCTR teacher residency programs have used these data to show their impact to partners and external audiences, as well as to make enhancements to their models (Harford & Verdier, 2020). Limited literature has explored how and why teacher residencies have used data, highlighting the importance of this case study. One study analyzed the use of the Danielson (2007) “Framework for Professional Practice” to rate resident performance in one teacher preparation program, finding wide discrepancies across raters and highlighting the potential drawbacks to using the framework to evaluate teachers (Roegman et al., 2016). In *The Teacher Residency Model: Core Components for High Impact on Student Achievement*, Harford and Verdier (2020) explore how one teacher residency program, New Visions for Public Schools, uses data in myriad ways across constituents. New Visions builds and develops systems to track meaningful data for programmatic improvement, such as gateway assessment data aligned to the district evaluation framework, resident coursework scores, and certification exam pass rates. The teacher residency program partners with the New York City Department of Education to track student data of graduates to ensure graduates are meeting district needs and are effective teachers. Finally, the program developed systems to share data across constituents, including being able to share data with residents, mentors, coaches, and the program design team to engage in regular cycles of data analysis. The sections below explore concrete examples of how Clarkson University and the University of New Mexico use NCTR data to show impact and for continuous improvement.

Using Data to Show Impact and Continuous Improvement

The Albuquerque Teacher Residency Partnership (ATRP) effectively used NCTR-collected data with their strategic planning team. Partners, including ATRP principals, co-teachers, residents, and resident alumni, as well as the Albuquerque Public Schools (APS) school board members, the Albuquerque Teachers Federation (ATF) representatives, and state legislators reviewed the admissions and acceptance data, diversity data, and particularly the alumni feedback to im-

prove ATRP to better meet the needs of its constituents. For example, co-teachers commented that they would have liked to have had more extensive mentor training, so the program added a spring orientation, a summer orientation, and monthly co-teacher meetings with university supervisors to assist in developing co-teacher mentoring skills. (See the Appendix for more information about House Bill 13 and recent policy work in this state.)

Similarly, Clarkson University collects its own data throughout program implementation to foster a system of continuous improvement and provide ongoing feedback for teacher resident support (Depka, 2006). Two examples of this ongoing feedback are the professional dispositions exercise, a mock interview process, and their work with constituent boards.

Several years ago, the Clarkson University education faculty conducted a study to evaluate the main reasons why teacher residents did not successfully complete the Master of Arts in Teaching (MAT) program. Interestingly, the results of that study revealed that in more than 50% of the cases, teacher residents were separated from the program for professional disposition reasons (Lang & Wilkerson, 2007; Wilkerson & Lang, 2007). Examples of dispositional infractions include persistent tardiness, not meeting residency obligations, and not comporting oneself in a collegial manner (Snyder, 2021). As a result of that study, the faculty began to systematically implement a professional dispositions program into the Master of Arts in Teaching. This program starts with a Dispositions, Attributes, and Proficiencies (DAP) exercise in the first week of the teacher residents' first semester. In this exercise, between four to seven new residents work together through a series of challenging questions during which they are asked to reach consensus within specific time frames. The exercise is conducted using a fishbowl format with three raters sitting outside the circle of residents. The raters evaluate the residents in four broad areas: critical thinking, oral communication, human interaction, and leadership. Following the exercise, the raters collaborate on establishing scores for the teacher residents in the four categories and summarizing feedback for the teacher residents that will help them improve their dispositional skills. Teacher residents then meet with one of the raters for a short conference where the qualitative results are shared (the teacher residents do not receive their quantitative scores). This process is based on the work of Dr. Sally Ingles and is a validated proprietary instrument (Ingles, 2010, 2014). The MAT program then extends this initial benchmark into the teacher residency year. At the midway point in the teacher residency program, teacher residents revisit their DAP

results and reflect on their progress. They then commit to new dispositional goals for the second semester. At the end of their residency, teacher residents again reflect on their growth and establish new goals for their first year of teaching. This process provides the teacher residents with a continual reminder of the importance of professional dispositions in their long-term career success.

The program shares the quantitative data with the teacher residents' advisors and university supervisors so they may work with the teacher residents to grow. This data is also used by the program to provide additional support to teacher residents who demonstrate the need for more explicit instruction and modeling. Finally, these data are used at a macro level by the program to adjust curricula to support the evolving needs of the teacher residents. This data analysis and application model reflects the Plan, Do, Study, Act model outlined by Bryk et al. (2015), reflecting a continuous improvement science approach. Particularly in this post-pandemic era, teacher residents need clear instruction, examples, and modeling of professional dispositions in order to be successful in their teacher residency programs and careers.

Since that initial study was conducted in 2018, the program attrition rate has gone from a volatile 10 to 25% annually to a steady and reasonable 0 to 5% annually. While other factors in program continual improvement may also have played a role, the faculty attribute the attention paid to professional dispositions as key to their success. This intervention also had the positive effect of reducing disruptive behavior or interactions that jeopardize teacher residents' success and constituent engagement.

Another example of how Clarkson University uses data to inform its decision making is the interaction with constituent boards. The program has two boards: the MAT programs' Advisory Board and the Alumni Council. The Advisory Board consists of school administrators, retired university supervisors, experienced alumni, and community organization members. It meets formally twice per year, once in the fall semester and once in the spring semester. In addition to those formal meetings, the chair reaches out to specific board members frequently during the year to learn their perspectives on specific questions. The program also starts with the Advisory Board roster when there is need for an ad hoc constituent committee. Board members recommend individuals in their districts for the program's committees. An example of this is the Teacher Preparation Assessment (TPA) committee. Recently, the State Education Department (SED) decided to discontinue the edTPA requirement, but asked education programs to create their own TPAs. This task, as prescribed by SED, required the formation of a

constituent committee. By reaching out to the Advisory Board and the Alumni Council, the program quickly assembled a team which consists of an assistant superintendent, a school principal, a school department chair, two teachers, and three alumni. The committee has met twice and is on track to pilot a new instrument with this year's cohort in spring 2023.

Typical Advisory Board meetings consist of programmatic updates including enrollment data, curricula changes, program development updates, grants overviews, and updates on changes from the state. The program also shares data from the field, including briefs from NCTR, regarding the effectiveness and impact of full-year residency programs. This data sharing reinforces the board's trust in the residency programs' teacher residents, making them more likely to consider hosting and hiring the teacher residents.

The majority of each meeting is spent listening to the challenges and opportunities the board is facing. Faculty, the director of clinical education, and the chair attend the meetings. The qualitative data that results from the biannual meetings informs larger decisions that keep the programs and curriculum current and meets the needs of the constituents. For example, several years ago, a few members of the board indicated that their business and marketing faculty were near retirement and that there were no education programs regionally certifying in this area. Clarkson University fast-tracked a new MAT in Business and Marketing to meet that constituent need. Today, the program has five graduates with more students enrolled. That responsiveness not only meets market needs but also builds trust in the program with the constituents.

Clarkson University's second constituent group is the Alumni Council. The Alumni Council is made up of alumni who have graduated in the last five years and also meets biannually. Like its Advisory Board, the chair often reaches out to subsets of the Alumni Council during the year for advice on particularly timely issues. Their job is to inform the faculty of ways the program is meeting the needs of new teachers in the field and gaps in the curriculum and support. Alumni from the past five years are invited to sit on the council to capture the thoughts of the most recent alumni, and because research indicates that three to five years after graduating, the impact of the teacher education program is substantially mitigated by the teaching environment. Conversations in the Alumni Council are much more micro in focus. The council discusses specific courses, assignments, activities, and ways the program can better prepare the newest cohort of residents for the field. This group also serves as the *farm team* for future mentors and the Advisory Board.

An example of a change made as a result of feedback from the Alumni Council is the annual retreat. Prior to the pandemic, and for 30 years, the teacher residents went on a two-day camping retreat where they participated in group activities, leadership challenges, and generally got to know each other well. The purpose of this retreat was to solidify cohort relationships so the residents would trust and support each other throughout the teacher residency year (and beyond). The retreat was suspended during the pandemic, but reinstated immediately afterwards with the 2022 graduating class. It was the 2022 cohort that caused the faculty to bring the retreat to the Alumni Council for discussion. Several members of the cohort refused to attend (approximately 20%), or participated only marginally (another 10%). This was a change from previous years when more than 95% of teacher residents attended.

The Alumni Council asked the faculty to consider a new format in lieu of the two-day retreat. They explained that many individuals might be uncomfortable with the two-day retreat: being away from home overnight, sleeping in a cabin with strangers, and engaging with others for an extended period with no down time. Instead, they suggested a one-day retreat with the same team and trust-building goals, followed by a Day of Service. The purpose of the Day of Service would be to continue opportunities for the teacher residents to get to know each other outside the classroom, but also to contribute back to the community in which they would likely be teaching.

This plan was implemented with the Class of 2023 and worked very well. The one-day retreat took place during the first week of the program as was traditional. The Day of Service was scheduled for about a month later, at a time when the teacher residents could use a break from the intensive summer program. The cohort has come together extraordinarily well. On their own, they plan informal social events (game night, holiday parties) in the MAT learning space, and support each other with the challenges they are facing in their residencies. The data that the Alumni Council provides is often qualitative and extremely valuable. They challenge the program to continually adapt to the changing culture of the teacher residents and the needs of the PK-12 partners.

University of New Mexico Data for Policy and Advocacy to Advance the Movement

The Albuquerque Teacher Residency Partnership (ATRP) has data in very unique ways to advocate for the teacher residency model to its state legislators. Compared to Clarkson University, UNM's teach-

er residency, ATRP, is a relatively new teacher residency and thus is still building its program. Accordingly, ATRP has used data to not only help grow its program, by scaling from 40 residents in its first year to 75 in 2022, but advocated for the model so as to open and expand other teacher residencies across New Mexico. ATRP has partnered with NCTR for data collection since its inception in 2017. The NCTR data system collects mid-point and end-of-year survey data from ATRP teacher residents, co-teachers, ATRP graduates, and principals who have both hosted ATRP residents and hired ATRP residents. The surveys collect quantitative and qualitative data and evaluate ATRP from recruitment of residents and co-teachers to the hiring of residents as teachers-of-record and many areas in between. NCTR provides information that compares ATRP data with other programs who are members of NCTR.

The overall data analysis indicates that ATRP survey respondents report that residents are prepared to be highly competent teachers-of-record and Co-Teachers report to be supported in their roles in order to mentor Residents to become successful teachers. For the first two years of its data collection, ATRP focused on the resident experience, as it was learning to implement a comprehensive teacher residency program. For example, in 2019, to the question asking residents if the university coursework was relevant to their school context and classroom, residents rated the experience 2.5/4.0. ATRP then used these data to enhance the experience for residents by working with course instructors and co-teachers to better connect theory and practice in teacher preparation, as described in more detail below. In 2023, residents gave this response a 3.5/4.0.

One of ATRP's strategies to improve this rating was a "Curriculum Listening Session" that ATRP held with its residency co-teachers and UNM faculty. Co-teachers shared that they wanted to be more informed of the syllabi and course requirements for the university methodology courses so they could be more directly supportive of the residents' coursework. ATRP made this communication a priority and its ratings in this area have improved substantially. In addition, ATRP added this conversation to its co-teacher and resident orientations, to help co-teaching dyads purposefully engage in conversations connecting university curriculum and P-12 classroom experiences.

One of the strongest data points ATRP has been able to use to recruit additional schools to participate in the teacher residency is the strength of its principal survey responses over time. Since 2020, principal responses are the following:

- ◆ 100% of Principals responded that they “agree” or “strongly agree” that participation in ATRP has “positively impacted school culture.”
- ◆ 100% of Principals responded that they “agree” that participation in ATRP “improves student learning and achievement at school.”
- ◆ 100% of Principals responded that they “agree” or “strongly agree” that ATRP “graduates positively impact school culture.”

ATRP recently created a District Partner Advisory Board. The heart of this first meeting, held in spring 2023, was a review of data regarding the teacher residency. Partners discussed the data in light of the importance of the district’s role in recruiting, interviewing, admitting, and supporting its teacher residents over the residency year through their induction year as teachers-of-record.

In 2022, the State of New Mexico created a statewide teacher residency program, using ATRP’s program as a model. The NCTR data highlighted above was instrumental in expanding teacher residencies from ATRP throughout the entire state by showing the efficacy of the teacher residency model in preparing diverse, effective teachers.

Further, NCTR has partnered with ATRP for a more in-depth program evaluation, extending the data collection from the annual surveys. In early 2022, NCTR completed a comprehensive review of ATRP. Funded by the Thornburg Foundation, ATRP used this external evaluation for considering long-term programmatic evaluation, making comparisons to other teacher residencies across the country, and providing analyzed data and related policy recommendations to state legislators. The NCTR evaluation proved to be invaluable to state legislators who have committed significant funding to expand teacher residencies across the state.

NCTR analyzed three years of extant quantitative survey data collected from a variety of participants: current teacher residents, teacher residency graduates, teacher mentors, residency principals, and principals who hired teacher residents for full-time teaching positions in their schools. NCTR also collected and analyzed interview and focus group data from these same groups of participants, and program staff and program participants (e.g. the local union president, program director). As a teacher residency program, ATRP used this report in a variety of ways. First, ATRP shared this comprehensive program evaluation with various constituents: the provost of the University of New Mexico (UNM), the dean and associate deans of the UNM College of Education and Human Sciences, the Albuquerque school district superintendent and school board members, and state legislators.

In fall 2022, the UNM Director of Residencies, presented these

findings and the policy recommendations to the State Legislative Education Study Committee (LESC). Members of this legislative committee include representatives and senators from across the state, along with the secretary of the Department of Public Education, and other department leaders. The findings of this evaluation assured legislators that their investment to-date has reaped positive results.

The Director also shared the policy recommendations outlined in the report, which included, but were not limited to:

1. Providing recurring teacher residency funding to ensure sustainable and predictable growth,
2. Building a learning network at the state-level to further develop teacher residencies across New Mexico's colleges of education,
3. Convening a state teacher policy and practice advisory committee to bolster teacher preparation, and
4. Regularly evaluate teacher residencies across the state.

The continual NCTR data collection and analysis allowed ATRP to regularly monitor, evaluate, and make ongoing improvements to the teacher residency program, and to lobby state legislators for continual funding, with the data to back up the claims of effectiveness and a positive return on investment of state funding.

Use of Data to Expand Financial Sustainability

Clarkson University's Master of Arts in Teaching (MAT) program offers an example of a creative and sustainable funding program, enhanced by systematic data collection and analysis. The MAT program is home to a full-year residency model with a focus on secondary disciplines. Residents can complete the program in one or two years at their Capital Region Campus. In 2019, the program coordinators fundraised \$250,000 to support an Income Share Agreement (ISA). An ISA is a financial instrument which allows teacher residents to defer a portion of their tuition and pay it back once they begin their teaching career. While it functions much like a loan, it is, in fact, not a loan. The real advantage of an ISA is that as teacher residents graduate, and begin to pay back the deferred tuition, those funds are "re-used" to support another teacher resident. Teacher residents presented with this funding option are consistently pleased that their tuition repayment will go to support another MAT teacher resident, and another, in perpetuity.

In order for this type of funding instrument to work, certain economic indicators must be known: the average starting salary, the

average program loan default rate, the job placement rate, and any anticipated tuition increases. Those indices need to be factored into the constraints of the model. For example, the Clarkson University program has had a 100% job placement rate since 2016, and a near zero loan default rate. This allowed the financial model to incorporate a high degree of confidence in alumni repayment. Also, the program typically increases tuition by approximately 1% to 2% every other year. These factors were considered when building the financial model to ensure its long-term sustainability.

A specific example is helpful to illustrate how the ISA functions. The Clarkson University ISA supports the deferment of up to \$60,000 annually with a fund of \$200,000. Teacher residents who qualify for this program may choose to defer between \$5,000 and \$10,000 across one academic year. In doing so, they agree to pay the deferred tuition back starting six months after graduation, and they have six years to pay the tuition back. The amount they pay back is based on the terms of the ISA. In this case, the teacher residents pay back 4% of their annual income for six years. This means that a typical teacher resident who earns an average salary of \$55,000 over the first six years of their career, and who defers \$10,000, will pay back \$12,000. If the teacher resident's earnings are higher, they will pay more; if the teacher resident's earnings are lower, they will pay less. The total payback amount is capped at no more than 2.5% of what the teacher resident deferred. The intention of the instrument is to have slightly more returned than was deferred. In that way, the financial model remains solvent over the long term. There is no interest calculation involved in this financial instrument. Teacher residents are provided with options to defer for short periods of time, and if a teacher resident's salary ever drops below \$30,000, their payments go into deferment.

The final aspect of this model that needs to be understood is the maintenance. In Clarkson University's case, they contracted with an external firm to manage the ISA. It is estimated that this costs approximately \$5,000 annually to manage the MAT ISA as well as another program's ISA. Given the impact this fund has had on recruitment, there is no doubt that it is worth the maintenance cost.

Perhaps the most exciting aspect of this sustainable funding option is the fundraising itself. Funders are very willing to contribute to a fund that would create a legacy for their investment, allowing teacher residents to benefit from their charitable donation for years to come. When talking with funders, two graphs are presented. The first, Diagram 1, shows a one-time donation of \$250,000 with a two year drawdown to support 25 teacher residents with scholarships of \$10,000

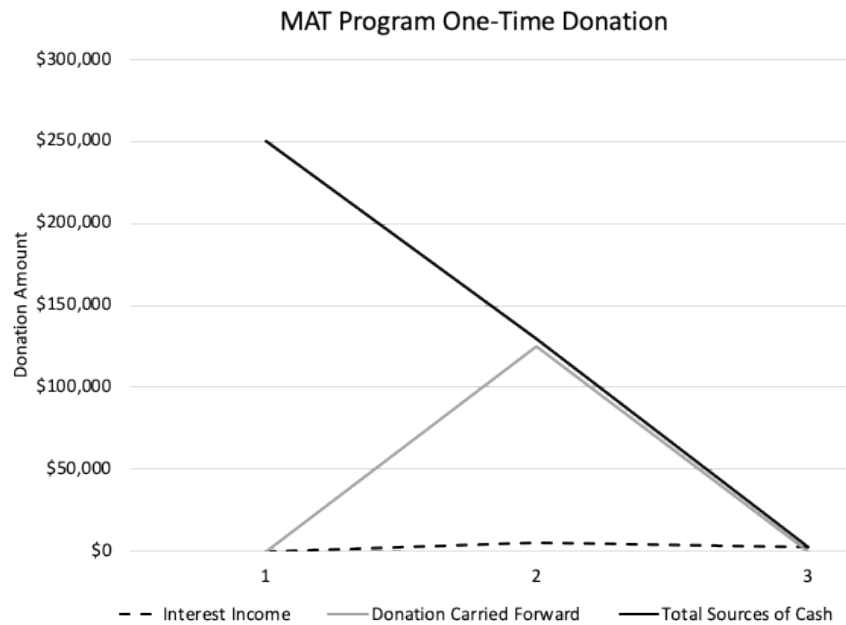
each. At the end of the three years, the donor’s money is almost exhausted. The only funding left is a small amount of interest that might have been earned on the initial donation (interest income).

In contrast, a \$250,000 donation to an ISA fund, could support funding \$50,000 in tuition deferment annually in perpetuity (see Diagram 2 for the graph depicting the ISA model.) In this model, the initial donation is used to provide tuition deferment to the first set of students in year one. The remaining donation earns interest (interest income represented by the black dotted line in diagram 2), which is then added to the year two funds. By year three, alumni begin paying back into the fund. This is represented by the dotted gray line labeled *Payback* in Diagram 2. By year six, enough alumni are paying back into the fund to allow it to begin to grow, and continue growing, in perpetuity. This is represented by the Total Sources of Cash line, in black, in Diagram 2.

While fundraising is never easy, this model was very appealing to the program’s donors. It is also appealing to alumni, who gain satisfaction from knowing they are supporting the next generation of teacher residents as they pay back their deferred tuition.

Diagram 1

Typical Donation of \$250,000 with 25 \$10,000 Scholarships (Snyder, 2019)

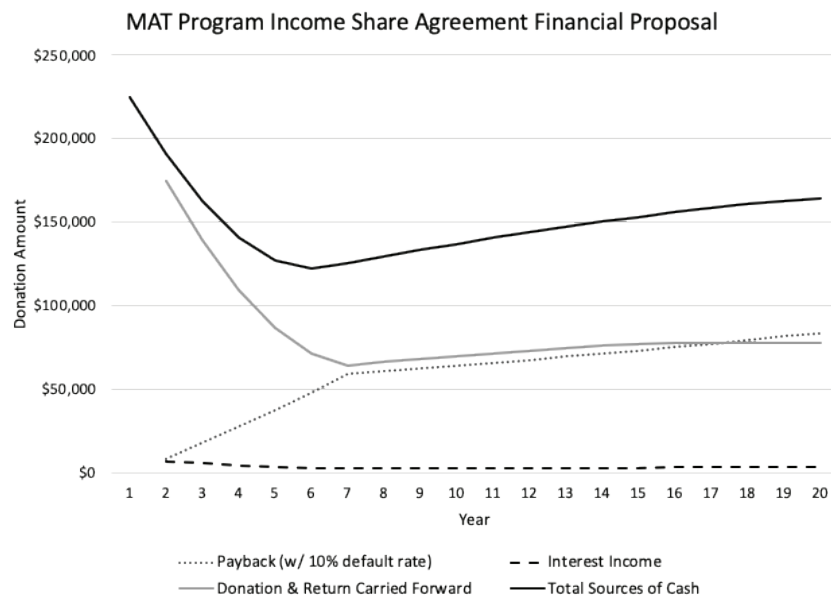


Use of Data for Program Accreditation

Clarkson University’s MAT program is accredited by the Association for Advancing Quality in Educator Preparation (AAQEP) and the State Education Department. Clarkson University was last accredited in 2018 with no stipulations and is in preparation for its next site visit in 2026. As part of the accreditation process, the program gathers several forms of data on employer satisfaction and alumni success as measures of teacher residency program quality. First, the program sends out two surveys broadly to the alumni (roughly 700 individuals) and top alumni employers (roughly 450 individuals).

The employer satisfaction survey asks administrators some general information about their school setting and their role in the school. These questions are followed by questions that are tied to the AAQEP standards. For instance, the survey asks administrators if the graduates of the residency program engage in the local school and cultural community, foster relationships with families, engage in culturally responsive pedagogy, create productive learning environments, support teacher resident growth and international perspectives, collaborate with colleagues, and establish goals for professional

Diagram 2
Income Share Agreement Revenue and Expenditures Diagram (Snyder, 2019)



growth. Participants score these categories on a five-point Likert scale.

The alumni survey asks the same questions tied to AAQEP standards with a different set of demographic questions. Alumni demographic questions include specifics regarding their degree program, year, teaching setting, whether they are still in the classroom, whether they have sought National Board certification, received tenure, scores on their annual performance evaluations, and other roles they fill.

In addition to these two surveys, the program participates in annual data gathering through NCTR, which developed a survey specifically focused on the impact of teacher residency programs and teacher residents. Clarkson University sends this survey to school administrators, residency teacher mentors, teacher residents, and alumni. The different constituencies respond to essentially the same questions, providing multi-angled perspectives on topics such as program residency support, effectiveness in high-priority teaching practices, cultural responsiveness of teacher residents, program satisfaction, teacher resident preparedness, teacher mentor support, and alignment of clinical and coursework experiences. These data are then compared to other teacher residency programs in the NCTR Network, providing the program with comparative data on constituent support and satisfaction. For example, the NCTR Network survey provides data on teacher mentor satisfaction with the teacher residency program and the teacher residents' preparedness. These data allow the program to gauge how well the mentors are supported and whether there is a need to dig deeper into the teacher mentors' role and current levels of support.

Combined, these surveys provide data to support the program's accreditation process. Specifically, the survey data support the claims in all four of AAQEP's standards: Standard 1: Candidate and Completer Performance, Standard 2: Completer Professional Competence and Growth, Standard 3: Quality Program Practices, and Standard 4: Program Engagement in System Improvement. The survey data provide continual feedback loops which allow the leaders of the teacher residency program to engage in improvement science by examining their practices on an ongoing basis (Byrk, 2014).

There are challenges, with reliance on these survey data: achieving a strong response rate, and maintaining an up-to-date database of administrators and alumni. The solutions to these challenges require time and dedicated attention and more importantly, resources to maintain contact with the alumni and constituents.

The University of New Mexico also relied on NCTR survey data for their Council for the Accreditation of Educator Preparation (CAEP)

process, using the same data above. The NCTR survey data served to triangulate the data collected by UNM through their other surveys of employers, cooperating teachers, and students. The NCTR survey data was much more in-depth and provided a longitudinal look at UNM's teacher preparation program, enabling continuous improvement in several areas, including, but not limited to, more preparation for teacher mentors, and a more detailed process for teacher mentor selection. Principals who both hosted residents and hired residents shared a very positive view of UNM's teacher residency program.

Contributing to the Research Base and Advancing Research in the Teacher Preparation Field More Broadly

In addition to collecting, analyzing, and reporting data for its Network residency programs, NCTR partners with a number of external research institutions to be able to expand and strengthen the research base focused on the teacher residency model. This effort is in addition to conducting, publishing, and presenting its own research on equitable, effective teacher residencies. These external-facing reports are intended to heighten the awareness of the teacher residency model within the larger teacher preparation and research field and to help advance conversation around the effectiveness of teacher residencies.

Recently, NCTR conducted and published its own research on the effectiveness of racial and ethnic matching between mentors and teacher residents of color on the resident experience and the preparation of the teacher resident. Researchers found mentors of color perceived teacher residents who shared a racial or ethnic background to be better prepared compared to teacher mentors of color who did not share a racial or ethnic background with their teacher residents. Teacher residents of color were more likely to recommend the program if their teacher mentors shared a racial or ethnic background (LeVay & Scheib, 2022). Using available participant surveys, researchers aimed to highlight one component of the residency model—resident and mentor matching—and how purposeful matching can impact the lived experiences of teacher residents of color. As part of NCTR's mission to disrupt historical inequities in education and recruit, prepare, and retain diverse, effective teachers, knowing how to better support the preparation of these teachers strengthens the research base not only in the teacher preparation field but also the teacher residency movement.

Similarly, NCTR recently partnered with the Center for Public Research and Leadership (CPRL) at Columbia University to conduct an external evaluation of NCTR's Black Educators Initiative (BEI).

With support from the W. Clement and Jessie V. Stone Foundation, CPRL examined both quantitative and qualitative extant data from NCTR and conducted additional interviews with participants in the BEI initiative (Madhani et al., 2022). The CPRL researchers reached a number of conclusions and provided recommendations to inform future BEI work, and to demonstrate that BEI is having a positive impact on Black teacher residents.

First, funding from NCTR's BEI positively impacted the recruitment of Black teacher residents. Being an original BEI grantee since its launch in 2019 is associated with a 16% higher share of Black teacher residents, compared with non-BEI teacher residency programs, to a statistically significant degree. CPRL concluded that "BEI teacher residency programs are consistently successful at attracting both larger numbers and proportions of Black teacher residents," (Madhani et al., 2022, pg. 41) indicating that this initiative is effectively recruiting Black teachers into the workforce.

Second, CPRL found three promising strategies that accounted for the increase in recruitment of Black candidates:

- (1) Partnering with organizations, such as local community schools and HBCUs, with high-potential, diverse membership;
- (2) Emphasizing the financial benefits, such as stipends; and
- (3) Using high-touch, culturally responsive recruitment practices.

Third, when asked about what attracted them to the program, Black teacher residents and graduates cited four main motivating factors:

- (1) Shared demographics with recruiters;
- (2) Social justice or antiracist orientations of programs;
- (3) Commitment to the community being served; and
- (4) Financial support.

Of these, financial support was viewed to be one of the most critical motivations. In fact, for every \$10,000 increase in teacher resident stipends, programs achieved a four-percentage point increase in the share of Black teacher residents, which is considered a "large effect" (Madhani et al., 2022, pg. 10).

Finally, perhaps most significantly, not only do programs participating in BEI promote recruitment for Black educators, but they are also improving graduation and hiring rates to a significant degree. BEI has increased the number of Black graduates per teacher residency to an average of about 21 Black teachers per program. BEI also has a

large and significant impact on the hiring rates of Black teacher residents. About 14 additional BEI graduates, on average, were hired in Title I schools and about 24 additional graduates were hired in partner districts after BEI was implemented (Madhani et al., 2022). These findings are critical to the teacher preparation field in general to demonstrate effective and proven strategies to diversify the teacher pipeline.

Contributing to the research field more broadly, NCTR partnered with CPRL to co-present and publish these findings, including at the 2022 International Conference on Urban Education. NCTR has also presented these findings from the CPRL report as a “Problem of Practice” at the 2022 Black Men Educators Convening in Philadelphia. The presentation was intended to affirm the lived experiences of Black educators, for whom financial and culturally responsive supports may have played a considerable role in them entering the teaching profession. Furthermore, NCTR staff gathered feedback from attendees to help them improve efforts to better recruit Black men into teacher residencies. While the CPRL report concluded that the BEI initiative is enhancing the recruitment of Black educators in general, only 7% of residents in BEI programs are Black men, and NCTR is using these findings to help rebuild the Black educator pipeline and inform its own programming with a focus on Black men educators.

In addition, NCTR collaborated with GlassFrog Solutions on research regarding the ancillary impact of the teacher residency experience on teacher mentors. Through funding from the Overdeck Family Foundation, NCTR worked with GlassFrog Solutions over a number of months to inform the research agenda, develop the research questions, contribute data, and understand the findings and their implications. While some potential teacher mentors feared that hosting a teacher resident might hurt their evaluation ratings in part because of the added responsibility (Ronfeldt et al., 2019), GlassFrog Solutions researchers found that for teacher residency programs that select highly qualified teacher mentors, serving as teacher mentors actually enhanced their classroom practice throughout their experience and that hosting a teacher resident is associated with a higher effectiveness score for the teacher mentor. A program that lacked a rigorous selection process for teacher mentors did not demonstrate the same benefits (Bohra-Mishra et al., n.d.), indicating that recruiting and selecting high-quality teacher mentors matters, further confirming the research base supporting the *Levers for Equitable Teacher Residencies* (NCTR, 2022b). NCTR and GlassFrog Solutions co-presented this research and published reports for the 2021 American Education Research Association’s annual conference, thereby publicizing the benefits of the teacher residency model to a national audience.

All of these data-based publications and presentations support NCTR's mission to advance the teacher residency movement and to gain momentum for all high-quality teacher residencies across the nation. What is notable is that external funders have generously funded these publications and research reports and have a shared mission to improve the educational inequities in the United States.

Of importance is that while policymakers and funders rightfully desire evidence that the teacher residency model is effective, the harsh reality is that securing funding for research requires additional staff and time, and many outside partners are reluctant to spend their limited resources on research, rather than directly creating and supporting teacher residency programming. This tension limits research efforts, particularly for individual programs, and often without large federal grants or donors who recognize the importance of data, research, and evaluation, a single teacher residency program might not be able to conduct and share such research. Still, the partnerships NCTR has secured have helped to clearly establish the research base for the teacher residency model and position both individual residencies and networks of teacher residencies, as well as the strategies they utilize, as proven disruptors, impacting the field of teacher preparation. Ultimately, NCTR pursues this research—on its own and by collaborating with external evaluators—to develop and expand upon the research base showing the effectiveness of the teacher residency model and being able to get proof points for funders, policymakers, districts, and teacher preparation providers across the country.

Discussion

Each organization collects a variety of data and uses these data for a range of purposes. Much of the data collected are based on constituent perception surveys, hiring and retention rates of graduates, resident preparedness and effectiveness measures, and formative feedback on programming from constituents. Notably, none of these programs rely entirely on teacher evaluation or student data. Instead, they regularly collect data from and about their constituents, such as residents and graduates.

As this study indicates, teacher residency programs do not need multitudinous data sources and instead can use the same data for an assortment of purposes. For example, both Albuquerque Teacher Residency Partnership (ATRP) and Clarkson University use NCTR's constituent survey data for accreditation and to show satisfaction with the program. NCTR uses these same data to show impact in its annu-

al report. Both these teacher residency programs also use hiring and retention data but in distinct ways; Clarkson University used their hiring data to develop an Income Sharing Agreement to increase financial sustainability, while ATRP used their hiring and retention data to lobby legislators to expand funding across the state. ATRP also presents residency data to their Advisory Council as a backdrop for discussions around continuous program improvement. NCTR has used their national constituent survey data to show the efficacy of the model to funders, policymakers and decisionmakers, and potential new residencies, showing that the same data can be used for multiple purposes.

Additionally, both teacher residency programs used myriad data for continuous improvement, sometimes collecting their own data while other times relying upon constituent survey data administered by NCTR. NCTR uses those same constituent surveys to enhance and inform its own programming each year, to better serve its network of residency programs.

Furthermore, each organization uses data for different audiences. Some data are shared with district and union partners; other data are examined internally within programs or the organization. These organizations used data to appeal to local, state, and national audiences, as well as funders and policymakers.

Therefore, each organization uses data in distinct ways, indicating the robust opportunities for data use within residency programs. Since this is an exploratory case study, additional research can examine other ways residency programs might use data, for example during the recruitment and selection processes to ensure high potential, diverse candidates actually enroll in the program. This study offers a glimpse into some of the possibilities, and this topic can be further examined, especially in light of the limited extant literature.

Conclusion and Future Work

Teacher residencies, when operating most effectively, collect, analyze, share, and use data in a variety of ways, supporting their individual teacher residency programs as well as a network of teacher residency programs. Qualitative and quantitative data are proven to help teacher residency programs to:

- ◆ understand the experiences of their participants;
- ◆ show impact and effectiveness of the teacher residency model, particularly to external audiences such as funders, policymakers, board of education, etc.;

- ◆ identify mid-program adjustments as part of a continuous improvement cycle;
- ◆ add to the value proposition and financial sustainability of teacher residency programs;
- ◆ elevate the voices of historically marginalized communities;
- ◆ advance policy and advocacy efforts in support of the teacher residency movement;
- ◆ contribute to the research base on the teacher residency model
- ◆ support the accreditation process for IHEs; and
- ◆ ultimately, gain and share lessons learned with other teacher residency programs to further advance the national teacher residency movement.

Data can also be thought of in terms of local, state, and national scopes of reference, based upon the audience, and within this manuscript, the authors have demonstrated the myriad ways data can be used at these varying levels.

Looking forward, NCTR plans to continue strengthening the research base supporting the teacher residency model. NCTR is currently engaged in a three-year Supporting Effective Educator Development program (SEED) grant, in which it will collect teacher effectiveness and student outcomes data through an external evaluator, as well as survey and interview data. In addition, NCTR is engaged in an evaluation of another teacher residency program in its Network, utilizing Equity Meets Design and decolonizing approaches (Ortiz Guzman, 2019; Smith, 2012) by designing at the margins and engaging a dynamic research process in which research is done with the teacher residency program, and not to or on the subjects, but rather gathering input from participants about what they would like to know and how they want research conducted. Ultimately, NCTR will produce policy recommendations for state legislators based upon the research findings, utilizing data to support evidence-based policy decisions.

NCTR aims to be a national leader in equitable research, such that data is in service to those most impacted by its work—the teacher residents, graduates, and mentor teachers of teacher residency programs and their PK-12 students. In doing so, NCTR’s research and evaluation efforts are aimed to champion the organization’s mission: to disrupt historic educational inequities by advancing the teacher residency movement to prepare effective, diverse, culturally responsive educators. NCTR believes that the future of teacher residencies hinges

on effective data collections—advancing the teacher residency model, supporting individual teacher residencies, and informing its own programming and consulting—as it continues its resourceful work in support of equity in education, with the growth and well-being of our nation’s students at the core.

References

- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, *13*(4), 544-559.
- Beck, J. S. (2020a). “Speak truth to power ourselves”: Teaching social justice in a teacher residency program. *Teacher Education Quarterly*, *47*(3), 75–95.
- Beck, J. S. (2020b). Investigating the third space: A new agenda for teacher educational research. *Journal of Teacher Education*, *71*(4), 379–391.
- Bohra-Mishra, P., Casciano, R., & Puma, J. (n.d.). (rep.). *Exploring the ancillary benefits of residency and differential staffing programs*. Glass Frog Solutions. https://nctresidencies.org/wp-content/uploads/2021/01/Ancillary-Benefits-Report-GlassFrog_Overdeck-Family-Foundaiton_-Deidentified_July2020-FINAL.pdf.
- Boren, R. B. (2021). *2021 New Mexico Educator Vacancy Report*. SOAR: Southwest Outreach Academic Research Evaluation & Policy Center. <https://alliance.nmsu.edu/publications/2021-New-Mexico-Educator-Vacancy-Report.pdf>
- Boyd, D. J., Grossman, P. L., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement. *Educational Evaluation and Policy Analysis*, *31*(4), 416–440. <https://doi.org/10.3102/0162373709353129>
- Bryk, A. S., Gomez, L. M., Grunow, A. G., LeMahieu, P. G. (2015). *How America’s schools can get better at getting better*. Harvard Education Press.
- Burstein, N., Sears, S., & Wilcoxon, A. (2023). Examining the effectiveness of a special educational residency program in increasing the recruitment and retention of teachers in urban schools. *Teacher Education Quarterly*, *50*(1), 1–28.
- Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, *57*(3), 300–314.
- Darling-Hammond, L. (2014). Strengthening clinical preparation: The holy grail of teacher education. *Peabody Journal of Education*, *89*(4), 547–561. doi: 10.1080/0161956x.2014.939009
- Depka, E. (2006). *The data guidebook for teachers and leaders: Tools for continuous improvement*. Corwin Press.
- Dunst, C. J., Hamby, D. W., Howse, R. B., Wilkie, H., & Annas, K. (2020). Research synthesis of meta-Analyses of preservice teacher preparation practices in higher education. *Higher Education Studies*, *10*(1), 29–47.
- Edwards-Groves, C. J. (2014). Learning Teaching Practices: the Role of Critical Mentoring Conversations in Teacher Education. *Journal of Education and Training Studies*, *2*(2), 151–166. <https://files.eric.ed.gov/fulltext/>

- EJ1055399.pdf
- Goldhaber, D., Krieg, J., & Theobald, R. (2018). *The costs of mentorship? Exploring student teaching placements and their impact on student achievement* (CALDER Working Paper). National Center for Analysis of Longitudinal Data in Education Research. <https://caldercenter.org/sites/default/files/WP%20187.pdf>
- Guha, R., Hyler, M. E., & Darling-Hammond, L. (2017). The teacher residency: A practical path to recruitment and retention. *American Educator*, 41(1), 31–34.
- Harford, M. & Verdier, R. (2020). Evaluating and Continuously Improving Program Quality in the Teacher Residency. In C. Torrez & M. Krebs (Eds.), *The teacher residency model: Core components for high impact on student achievement* (pp. 153-186). Lexington Books.
- House Bill 13. (2022). *Teacher Residency Changes*. New Mexico Regular Session. <https://www.NewMexicolegis.gov/Legislation/Legislation?Chamber=H&Leg- Type=B&LegNo=13&year=22> [Editors: Link is inactive due to deidentification of the link]
- Ingles, S. A. (2010). *A study of the group assessment procedure for the selection of teacher education candidates at a small, private university in the midwest* (3419232) [Doctoral dissertation, Capella University]. ProQuest Dissertations Publishing.
- Ingles, S. A. (2014). The group assessment procedure: Predicting student teaching performance. *Journal of Scholastic Inquiry: Education*, 1(1), 120–133.
- Lang, W. S., & Wilkerson, J. R. (2007). Dispositions: How do you know it when you see it? Paper presented at the *American Association of College of Teacher Education*, New York.
- Levay, K., & Scheib, C. (2022). Effects of racial and ethnic matching of teacher candidates of color with mentors. In B. Zugelder, & M. L'Esperance (Ed.), *Handbook of research on the educator continuum and development of teachers* (pp. 99-119). IGI Global. <https://doi.org/10.4018/978-1-6684-3848-0.ch006>
- LiBetti, A., & Trinidad, J. (2018). *Trading coursework for the classroom: Realizing the potential of teacher residencies*. Bellwether Education Partners. <https://files.eric.ed.gov/fulltext/ED585919.pdf>
- Lucas, P., Fleming, J., & Bhosale, J. (2018). The utility of case study as a methodology for work-integrated learning research. *International Journal of Work-Integrated Learning*, 19(3), 215-222.
- Madhani, N., Shand, R., Austin, K., Connolly, C., Milinkovich, N., O'Neill, C., Oseni, P., Pisceone, J., & Popoola, E. (2022). *Recruitment and retention of Black educators: Promising strategies at U.S. Teacher Residencies* [manuscript submitted for publication]. Chicago, Illinois: National Center for Teacher Residencies.
- Mazzye, D. L. & Duffy, M. A. (2021). Student teachers of literacy in different preparation models: does a teacher residency provide an advantage? *Critical Questions in Education*, 12(1), 56–80.
- McDonald, M. A., Bowman, M. & Brayko, K. (2013). Learning to see students:

- Opportunities to develop relational practices of teaching through community-based placements in teacher education. *Teachers College Record*, 115(4), 1–35.
- National Center for Teacher Residencies. (2022a). *Annual report*. Chicago: National Center for Teacher Residencies.
- National Center for Teacher Residencies. (2022b, January 9). *Levers for equitable residencies*. National Center for Teacher Residencies.
- Roegman, R., Goodwin, A. L., Reed, R., & Scott-McLaughlin, R. M. (2016). Unpacking the data: an analysis of the use of Danielson's (2007) Framework for Professional Practice in a teaching residency program. *Educational Assessment, Evaluation and Accountability*, 28, 111-137.
- Ronfeldt, M., Bardelli, E., Brockman, S. L., & Mullman, H. (2020). Will mentoring a student teacher harm my evaluation scores? Effects of serving as a cooperating teacher on evaluation metrics. *American Educational Research Journal*, 57(3), 1392–1437. <https://doi.org/10.3102/0002831219872952>
- Sleeter, C. E. & Owuour, J. (2012). Research on the impact of teacher preparation to teach diverse students: The research we have and the research we need. *Action in Teacher Education*, 33(5-6), 525–536.
- Snyder, C. (2019). *Master of Arts in Teaching Income Share Project*. [Unpublished manuscript]. Department of Education, Clarkson University.
- Snyder, C. (2021). Admitting smarter: Refining the admission process through professional dispositions. In W. B. James, C. Cobanoglu, & M. Cavusoglu (Eds.), *Advances in global education and research*, 4, pp. 1-15. USF M3 Publishing. <https://www.doi.org/10.5038/9781955833042>
- Sober, T. L. (2020). Identifying and recruiting quality mentor teachers. In C. A. Torrez & M. Krebs (Eds.), *The teacher residency model: Core components for high impact on student achievement* (pp. 31–59). Lexington Books.
- Spooner-Lane, R. (2017). Mentoring beginning teachers in primary schools: Research review. *Professional Development in Education*, 43(2), 253–273. <https://doi.org/10.1080/19415257.2016.1148624>
- Teach Plus. (2016). *Ready for day one: Teachers weigh in on teacher preparation*. https://teachplus.org/sites/default/files/publication/pdf/ready_for_day_one_1.pdf
- Think Impact. (2022). *How many teachers are there in the U.S.?* <https://www.thinkimpact.com/how-many-teachers-in-the-us/#2-number-of-public-school-teachers-and-instructional-staff-by-state-2019-2020-table>
- U.S. Department of Education, Institute of Educational Services, National Center for Education Statistics. (2019). *Status and trends in the education of racial and ethnic groups. Spotlight A: Characteristics of public school teachers by race/ethnicity*. https://nces.ed.gov/programs/raceindicators/spotlight_a.asp
- Wilkerson, J. R. & Lang, W. S. (2007). *Measuring teacher dispositions SOS—Safety, outcomes, and standards*. Paper presented at the American Association of Colleges of Teacher Education, New York.
- Yin, R. K. (2017). *Case study research and applications* (6th ed.). SAGE Publications.

Appendix

Statewide Expansion of Residencies from Isolated Residencies to Statewide Funding

Statewide Teacher Residency

Teacher residencies, including ATRP, were strengthened and expanded in 2022 through passage of House Bill 13 (HB 13) (New Mexico, 2022), increasing minimum stipends for residents to \$35,000, provided through a one-time \$15.5 million appropriation. This funding was divided among eight institutions of higher education.

History

Prior to the passage of HB 13, statewide sponsorship for teacher residencies began in 2019 by providing one-time grant funding for teacher residencies totaling \$1 million. The state selected four institutions of higher education to receive this funding to implement teacher residencies. The state provided this \$1 million funding to various teacher preparation institutions over the next three years.

In year four, significant pressure was put on the state legislature by teachers' unions, school districts, and institutions of higher education to fully fund teacher residencies across the state. In February 2022, this legislative lobbying resulted in the passage of HB 13.

There was one main focus for this state teacher residency funding: to help alleviate teacher vacancies in the state. In 2021, there were 1,048 classroom teacher vacancies in this southwestern state. While this number may not seem high at first glance, according to Think Impact, there are currently only 20,820 teachers in New Mexico, compared to a neighboring Arizona with 62,000 teachers (Think Impact, 2022). New Mexico has a 5% vacancy rate. With this vacancy rate, that leaves 24,104 K-12 children in this state without a permanent, well-prepared teacher.

HB 13 Legislation

House Bill 13 provided \$3,340,000 to fund teacher residencies, requiring partnerships between each teacher preparation institution or tribal college and one or more school districts or charter schools. These partners are required to co-administer the teacher residency, with the district agreeing to employ the teacher residents the following academic year. The teacher preparation institution residencies must meet the following requirements:

- (a) ensure teacher residents are prepared to earn a teaching license at the end of the program,
- (b) provide a full year of preparation coursework and a full year of "guided apprenticeship" with a level two or level three teacher [typically with more than three years of experience], and
- (c) ensure supervisors visit sites a minimum of once per month.

In addition, each teacher residency program across the state is required to meet these administrative and implementation requirements:

- (a) hold competitive admissions,

- (b) implement a rigorous teacher preparation program,
- (c) provide a full year of field experience,
- (d) implement co-teaching as the mentoring framework,
- (e) implement selection criteria for the co-teachers,
- (f) provide ongoing training and coaching, and
- (g) group teacher residents into cohorts to provide high-quality learning experiences.

Residency Funding

The funding model provided in HB 13 provides a \$35,000 stipend per year for each resident, \$2,000 per year for each co-teacher and \$2,000 per year for each residency-hosting school principal. To support the implementation of teacher residencies at the institution of higher education, HB 13 provides \$50,000 for program support and coordination.

Expectations Following Residency Completion

Following completion of the teacher residency, each teacher resident agrees to teach in their residency district or charter school for a minimum of three years, and the teacher resident has an “expectation of employment” from the district or charter school. The institution of higher education also agrees to support the teacher residents in their induction year through mentoring, professional development, and networking. In addition, the district or charter school must have an integral role in the partnership.

Required Program Evaluation Data

Finally, evaluation data is outlined in HB 13 to be provided by the teacher preparation program including a variety of data points:

- (a) program entrance and exit requirements,
- (b) credit hours required for completion,
- (c) number and percentage of teacher residents completing the program,
- (d) number and types of teaching licenses residents obtain including endorsements,
- (e) the co-teacher evaluation rating during their time as a mentor,
- (f) number and percentage of teacher residents who continue to teach in the state from one to five years,
- (g) percentage of teacher residents who are diverse candidates who reflect the diversity of the state,
- (h) academic performance of students in teacher residency graduate classrooms compared to the performance of those taught by other-prepared teachers,
- (i) principal perception surveys of teacher resident effectiveness, and
- (j) teacher residency graduate achievement determined by first-time pass rate on PRAXIS tests.

Implementation of Statewide Teacher Residency by UNM

This institution of higher education signed a contract with the state to work to recruit 86 teacher residents. UNM successfully recruited 68 teacher

residents who are in their first year of teacher residency during the 2022-2023 school year. Because UNM had implemented ATRP teacher residency with Albuquerque Public Schools for the past four years, the dean appointed Dr. Christopher M. Goodrich, the leader of ATRP as the Director of Teacher Residencies to design, implement, and evaluate its district partner residencies.

The Director of Residencies, along with other department chairs, coordinators, field experience staff, evaluation staff, and website staff created a recruiting website, recruiting video, and online application process for both teacher residents and the legislative-required role of Co-Teacher. The Director also met with program faculty and leadership in all licensure areas to explain the requirements and assist programs to modify their coursework and field experiences to meet these requirements. For example, programs needed to modify course offerings, moving them to one day per week in the fall semester so residents could serve in their field experience schools four full days per week.

To recruit students, the Director, assisted by other faculty and staff, held informational recruiting forums, and directed potential teacher residents to the website to learn detailed information and to apply. To recruit districts and charter schools, the coordinator communicated with 10 area districts and five charter schools to determine interest in hosting teacher residents and the licensure areas they were interested in hiring the following academic year. ATRP currently has teacher residents placed in five districts and one charter school.

ATRP also created an internal fiscal process to enable UNM to pay the state-funded stipends to teacher residents, co-teachers, and principals. In addition, UNM implemented professional learning for the co-teaching strategies required by HB 13. Finally, UNM created memorandums of understanding for signature by each district outlining the requirements, funding, and hiring guarantees for each district.