

Webinar Transcript

Understanding What Influences Teacher Mobility

NOVEMBER 15, 2019

MIKE SIEBERSMA: Hey, good morning, everyone. We're happy that you've chosen to attend this webinar on understanding what influences teacher mobility. I wanted to just give you a little overview of where we're coming from, and who we are. And, so, this webinar is being hosted by REL Central, which is operated by Marzano Research, and is funded by the Institute of Education Sciences, along with nine other regional education labs.

We have the responsibility and pleasure of serving the states of Colorado, Kansas, Missouri, Nebraska, North Dakota, South Dakota, and Wyoming, and the research that we're presenting today involves four of those seven states.

And like the other regional education laboratories, we conduct our research and do our work in partnership with practitioners and policymakers, whether they're through partnerships or alliances. And this particular research grew out of a research alliance called the Educator Pipeline Research Alliance. And the areas of focus for that alliance are around educator preparation, educator evaluation, and the focus of this particular work, which was educator mobility, and resulted in a study and two reports that you're going to get to learn about today.

Throughout the webinar today, you're going to hear from four different presenters in addition to me as your host. We have Stephen Meyer and Emma Espel, who are both part of REL Central, and are the lead authors on the two reports and the researchers who led the study that you're going to learn about today. We have Carolyn Haug, who's the Director of Research and Impact at the Colorado Department of Education and is one of the members of the research alliance. We have Desiree Carver-Thomas, who's a researcher and policy analyst at the Learning Policy Institute, who will share with us some examples from around the nation of what's going on for retention initiatives. And then there's myself, Mike Siebersma of REL Central, and I'll be your facilitator.

The goals of the webinar today are to convey the research on teacher mobility that we were able to do through REL Central, to review the findings from the two reports that resulted from the study – and we're going to hear directly from the researchers on kind of the way that was approached and what some of the key findings were – and then to hear from a practitioner on how they're informing policy. And then the final phase will be to sort of bring all that together, and hear about some retention initiatives, and see how they align with the research that we've conducted and maybe your experiences as practitioners or policymakers.

To get started, we just kind of wanted to do a little poll and find out who's on the webinar with us, and the level of priority that teacher workforce issues have in your roles. So, we have a poll. And we would like to have you just indicate the level of priority you place on these issues, with 1 being it's a really low priority, I might just be here because I'm curious or because the researcher

was my nephew. Or maybe a very high priority, this is something I live and work on every day and I see the needs.

So, what we want to do is have you fill in that poll. I believe the poll is open and visible to all of us here on the webinar. So, indicate the level of priority that it gets for you. And then I may be asking you to put in some comments into the question and answer feature to just say why you gave it the priority that you gave it. So, we'll start with just opening the poll, and then I'll prompt you forward with the question and answer piece.

So you can see that of those of us who are on the webinar at this point, half of us see this as a very high priority, and well over 3/4 of us, 90% of us, see it as either a high priority or very high priority. What I'd like to do is have a couple of you who made this number 5, a very high priority, just use the question and answer feature and put in some notes about why it's such a high priority. Maybe it's because of the job that you have, or the responsibilities of your role. Or maybe it's because you perceive the level of need and you've experienced it firsthand. But we'd like to hear from just a couple of you who have made this a very high priority in your work, and see why it is that you're seeing it that way.

Thank you for those of you who are putting in your responses to that question. It's interesting. We've been around to a number of the states, and talking with stakeholders about this study. And one of the things that people say is, not only do the data say that there are some challenges here, but the way that we experience those challenges is really different depending on where we come from. So, for example, one open position in a large district has a very different impact than one open position in a school district where there were only maybe 13 certified staff, or something like that. So, I really appreciate David, Zachary, Paul and all of you for putting in your answers.

And I'll just leave this open for a minute. Is there anybody who answered 3 or below and said, it's kind of in the middle in terms of my priorities or it's not a very high priority for me, and what your perspective is on that? All right. It looks like we don't have any takers on that one, and you can just imagine that there are people who balance a lot of different priorities, and maybe don't have primary responsibility in developing or retaining a workforce. But we're glad all of you are here, no matter where you're placing the priority. And we think that this is really important work and should provide us some nice insights on the kind of policy program and practice implications of teacher workforce issues.

And so now I would like to pass it over to my colleague Steve Meyer, who was one of the lead researchers and the lead author on one of the two reports and has done a lot of this work directly with the stakeholders in the central region. Steve.

STEPHEN MEYER: Great. Thanks, Mike, and hi everyone. I'm Steve Meyer in Denver, Office Director for RNC research, also a researcher for REL Central. I'm going to provide a little bit of background on REL Central's work in educator retention, mobility, and attrition, and a very brief summary of the research. And then I'll turn it over to my colleague Emma Espel, who is going to talk about findings from our recently completed study that we conducted for REL Central stakes.

I'm attempting to advance the slide. Let me try this. Okay, sorry about that.

Some of the work that we undertook in developing this study, of course, was taking a look at some of the research literature, and understanding some of the approaches that state agencies, and others have used to look at questions related to retention, mobility and attrition. And we used that information to inform a series of online meetings that we held with research alliance members who are connected to REL Central, beginning back in 2017.

There were three of these. And in them we talked about research findings, but we also talked about some of the detail of the characteristics of the studies that have been conducted in this area, and some of the data sources that have been used. In the first one, we focused on an overview of research and teacher retention, mobility and attrition. So, we're looking at a variety of studies, you know, national, state and district level studies. And we took a pretty close look at some of the characteristics of that study. So, what were the recent questions that were asked, what sort of designs were used, what measures, you know, what conventions for reporting, those kinds of things.

In a second session, we looked a little more closely just at those studies that they were using state agency data, looking at some, again, you know, some of the considerations that were used with those data and their – sort of the benefits or limitations of those – that kind of approach.

And then the third one was much like the first one, but focusing not on teachers, but administrators. So, we're looking both at district and school level administrator retention, mobility and attrition. Most of that research is on principals. And, actually, as a follow up to this study we're talking about today, we're just completing a study that's looking at administrator mobility. So, we're looking at district superintendents and assistant superintendents, and also school principals and assistant principals, and looking at the same kinds of questions for those types of educators.

And I mentioned I went into a little detail on these prior alliance meetings, because the slides for these meetings are available if you're interested in learning a little more about these topics. They'll be posted with the materials from today's session in three or four weeks. You can also request a copy sooner by emailing us at RELCentral@MarzanoResearch.com. And you'll see that email address later if you've missed it. It's at the end of the slides. And I think I could probably urge Joe to add it to the chatbox.

Great. One thing that's clear, you know, in taking a look at the research on this topic is that a lot of approach is progressing questions about retention, mobility, and attrition, and one challenge is finding meaningful and consistent terminology and definitions. So REL Central created a video that provides an overview of the terminology used by researchers and policymakers, and some of the factors that affect these definitions. So, I'd like to play this for you kind of by way of introduction of these terms, and some of the considerations for understanding them. So, I'm going to play this short video.

[VIDEO PLAYBACK]

NARRATOR: Teacher retention, mobility and attrition are big issues in education today. But what are they? Why do they matter? And what is the language researchers use to define them?

Here's a quick overview from REL Central. First, let's discuss common definitions of terms researchers use to describe teacher movement. Typically, “retention” is when the teacher stays in a position or school, “mobility” is when a teacher moves to a different school or district, and “attrition” is when a teacher leaves the profession or the state school system.

More terms you may encounter that vary in use but are often used to describe retention, attrition, and mobility include the following. “Movers”, teachers who leave the school to teach elsewhere; “stayers”, teachers who remained in their school from one year to the next; “turnover”, the percentage of teachers who leave in a period of time; and more, such as “transfers”, teachers that transfer to a different school; “churn”, the movement of teachers to different schools or positions; “migration”, the movement of teachers to other schools; “returners”, teachers who have left the profession but have returned; and “leavers”, individuals who have left the teaching profession.

You can imagine that retention, attrition, and mobility are looked at carefully by educators, policymakers, and researchers. But why? While teacher mobility and attrition may result in positive outcomes, such as better matchmaking of individuals with positions that suit them, teacher mobility and attrition are also associated with lower student achievement and additional costs to schools and districts.

In addition, mobility and attrition can create challenges for ensuring equitable access to quality education when teachers leave low performing and economically disadvantaged schools. The potential impact of these issues on student outcomes makes understanding them all the more important. Luckily, their definitions typically reflect three factors.

Factor 1, the position of a teacher and whether a change in position occurs. Factor 2, the location where a teacher works and whether a change in location occurs. And Factor 3, the perspective a researcher uses for a study to describe a teacher's movement. Depending on if a researcher is studying the issue from a state, district, or school perspective, he or she may see the same teacher movement as representing attrition, retention, or mobility, or another descriptive term.

For example, let's say Sita, a second-grade language arts teacher, takes a job in the following school year as a fourth-grade language arts teacher in the same school district, but at a different school. This move represents a change in position and location. From the perspective of a researcher studying the district, this change represents retention because Sita is still in the district, but also reflects mobility because she moves from one school and position to another. Additionally, because Sita change schools, researchers can define her as a mover.

Here's another example. A fourth-grade math teacher, Ron, takes a job at another district within the state, but continues to teach fourth grade math. Ron did not change his position, but he did change his location. From the perspective of researchers evaluating teacher movement within the district, Ron's change can be counted as attrition or turnover because he has left the district. But if a researcher focuses on the state, Ron's mobility can be labeled as retention because he's still a teacher in the state.

As you can see, definitions of these terms are dependent on changes in teacher position and location, and reflect the researcher's perspective and focus in a study. So, the next time you see or use these terms, keep in mind that definitions vary, and it is important to understand the types of teacher movement being described.

We hope this has helped you learn a little more about teacher movement. Discover more by visiting the REL Central pages on the IES website, or contact us at RELCentral@MarzanoResearch.com.

[PLAYBACK ENDS]

STEPHEN MEYER: Okay. Great, so that gives you kind of an introduction to some of those terms, and a sense that these, you know, there are a lot of complex considerations in understanding findings from this research, so just to give a little bit of background there. I'm just going to say a little bit more about the research in this area that motivated the study. So, of course the concerns around retention, and mobility and attrition, are largely driven by a concern about teacher shortages. And, you know, there's been a lot of national attention to the issue of teacher shortages in recent years.

Based on the Title II data, which are data reported by states to the U.S. Department of Education, enrollment in teacher preparation programs has gone down a lot in recent years. So, from about 700,000 enrollees in that '08-'09 year to less than 450,000 in '15-'16 and '16-'17, which are the most recent years for which data are available. And there's also been a decline of about 23% of people who complete teacher preparation programs in about the same time period.

Analysis of some federal data back from the '15-'16 school year suggests a national shortage of about 60,000 teachers, and large projected increases in shortages over time for future years. And there's other data that suggests that there's been a slower growth of the elementary and secondary student enrollment relative to teacher supply. That's a little more hopeful. But one thing that's definitely consistent in research on shortages is that there are shortages in particular content areas, types of schools and districts, and geographic areas.

So, for example, as I think a lot of you are likely familiar, shortages are really pronounced among math and science teachers, special education teachers, teachers of foreign language and English for English learners. You know, and some of the shortages are more concentrated in schools that serve high poverty students, with large proportions of racial and ethnic minorities, and also in settings where wages and school resources and working conditions are less attractive.

And then, based on national statistics, each year there are about 84% of teachers who remain in the same positions, who are retained; 84% who are movers or change to a different school, what we consider mobility; and about 8% who leave teaching or, who we're calling attrition. One thing that we'll see later in the findings from the study, there's a lot of variation within and across states.

And then mobility and attrition are associated with negative consequences. So, negatively associated with student achievement, and, of course, there are costs related to getting new

teachers, associated with recruitment, hiring, and training. And these kind of negative consequences tend to be concentrated in schools where there's consistently high mobility and attrition. Those are often the schools and districts that are low performing and in economically disadvantaged areas.

Oops. Sorry about that.

So, in the research on factors related to mobility, retention and attrition, there are different types of research, of course. There's qualitative research that looks really closely at some of the factors. Survey research that may ask educators directly about reasons for staying or leaving. And then there are a lot of studies like the one we're talking about today, that are using existing data to try to relate some information about characteristics of teachers, schools, and districts, and how that's related to retention, mobility, and attrition.

A lot of the prior research has focused on teacher characteristics, like their demographics, qualifications, and experience, finding things like gender and marital status, and types of degrees are related to teacher decisions to stay, move, or leave. And then there's also a lot of research that looks more closely at some of the characteristics of teacher preparation and adoption. So, for example, we know that clinical preparation experiences and induction support can vary substantially. And the nature and extent of those things affect likely their retention as well.

Characteristics of school organization and resources – things like teacher collaboration, teacher voice, administrative support – affect retention mobility and attrition, and lastly, characteristics of students and communities. So, you know, where there are high concentrations of students in poverty or low achieving students, we tend to see higher mobility and attrition.

So, one of the key takeaways I just wanted to emphasize from the research on this topic is things really vary a lot across locales. So, you mentioned that in the context of teacher shortages, but also the extent of mobility and attrition, and the factors related to those things vary, at least on local conditions, and that was a real motivator for this study.

The study that you're going to hear about next, we took a look at some available data from state agencies, and we looked at some regional, state, and district patterns of retention, mobility, and attrition for states in the REL Central region. And with that, I'm going to turn this over to Emma Espel, who's going to talk about our recently completed REL Central study.

EMMA ESPEL: All right. This study resulted in two reports that sought to answer a total of five research questions. I'll be going into detail about the research questions in just a moment. But, in general, they were designed to characterize teacher retention, mobility, and attrition from one year to the next. To accomplish this goal, REL Central worked with state education agencies to collect administrative data for all teachers from each state.

We used these data to identify a single primary district, school, and position for each educator. For example, if teachers had multiple assignments across schools or districts, the assignment where they spent the most time was the one that was considered their primary assignment. This definition then allowed us to identify whether teachers were stayers in the same position in

school from 2015-16 to 2016-17, or if they moved or were movers from a teaching position in one school to a teaching position in a different school. And finally, if they were not identified as a teacher in the state in 2016-17, then we were able to consider them leavers.

In other words, we were able to use these administrative data to tell if teachers were stayers, movers, or leavers. And in the second report we examined the characteristics of teachers and their schools and districts that were related to the likelihood that teachers were stayers, movers, or leavers. We examined these related factors using an analysis technique called “multinomial logistic regression”, which you can learn more about in the report.

The first report was released in March 2019. It was designed to answer four research questions, specifically, what proportions of teachers were stayers, movers, and leavers. We also desegregated within each category, and that's where the other three questions come from. So, within the group of stayers, we examined the proportion that changed grade level assignments. Within the group of movers, we examined the proportions that remained teachers in the same district but a different school, versus those that remained teachers but transferred to a different district.

Among leavers, we were able to distinguish if they had remained in the state education system, but not in a teaching role, or if they left the state public school system. Given the nature of the data, it was not possible to tell if leavers became a teacher in a different state or if they left an education career altogether.

Overall 82% percent of teachers were stayers. This percentage ranged from 79% in Colorado to 86% in Nebraska. Eight percent of teachers were movers, and this ranged from 7% in Nebraska to 8.6% in Colorado. And, similarly, 10% of teachers were leavers, ranging from 8% or so in Nebraska to about 13% in Colorado. These numbers reflect the national trends that Steve mentioned earlier. Recall that, nationally, each year about 84% were stayers, and 8% were movers, and 8% were leavers. Here there is a slight difference, with slightly fewer stayers and slightly more leavers.

We also desegregated the findings based on rurality and found variation across states. But, in general, 83% of teachers in rural schools were stayers compared to 82% in non-rural schools. Our colleague Carolyn will be talking a little bit more about how Colorado used their state's specific data.

These proportions, also, as I mentioned, varied substantially within each state. The heat maps here demonstrate the mobility and attrition rates. It's a little bit small, but the latest blue colors show the districts with the lowest percent of combined movers and leavers, suggesting those are the districts with the lowest mobility and attrition, at less than 11%.

As the blue darkens, the rate of mobility and attrition increase, until finally the highest quartile shows districts where nearly a quarter of teachers were movers or leavers in this one-year snapshot between 2015-16 and 2016-17. You can see by these heat maps that there seem to be pockets with high or low mobility and there are a lot of variation between states.

And, as I mentioned, we desegregated findings to learn more about stayers, movers, and leavers. Almost all stayers remained in the same grade level. That suggests there was minimal churn within schools, and this pattern was similar across states. Movers were about equally as likely to stay in the same district or leave the district for a new school. But this pattern varied across states.

For example, in South Dakota, 67% of movers stayed in the same district, and in Missouri, 49% of movers stayed in the same district. So, there was some variation here, even though overall the trends suggested about half and half who were moving to a different district.

Few leavers changed to a non-teaching position in the education system. As you can see, 96% of leavers were no longer in the state education agency data system in 2016-17. Slight variations occurred across the states and ranged from 88% of leavers who left the state system in South Dakota to 97% in Colorado. The report provides a lot more detail on these numbers as well.

Report 2, we're excited to announce, was just released in August. It was designed to answer a single question about the extent to which teacher, school, and district characteristics were related to teachers being movers or leavers, compared to the likelihood that they would be stayers. At this point, we'll review a few key findings from that. There is a lot more detail in the report.

The teacher characteristics most strongly related to moving were teachers who were special education teachers, which may not be a surprise to some, as well as those with less experience in the same school and age. Specifically, special education teachers were 72% more likely to be movers than were other teachers. Teachers with less than four years of experience in a school were 58% more likely to be movers, compared to their counterparts that had more experience. And the youngest teachers were 42% more likely than the oldest teachers to be movers.

When examining school characteristics, we also know that teachers were about 50% more likely to move from a school that had been identified for accountability improvement by the state, and about 47% more likely to be movers away from schools with the lowest average teacher salaries, compared to the schools with the highest average teacher salaries.

When we shift focus to look at characteristics related to leaving, we see that age, full-time equivalency, so how much time a teacher has assigned to a specific role, districts experience and salary were the teacher characteristics that were most strongly related to leaving. Interestingly, teachers in the oldest age category – in this case, it was quartile based, so the teachers aged 49 or older – were 63% more likely to be leavers, compared to their peers who were just slightly younger than them at 40 to 48 years old. And this pattern is a little bit different than when we looked at movers. So, the younger teachers were more likely to be movers and the older teachers were more likely to be leavers, which is interesting.

Teachers who worked less than half-time were 41% more likely to be leavers than those who worked more, and teachers with fewer years of experience were more likely to be leavers than those who had been in the district for at least four years. And then, also, teachers with the lowest salaries were 35% more likely to be leavers, compared to teachers with the highest salaries. And then patterns for leavers were similar.

These findings are examples of what the reports demonstrate. As I mentioned before, more detailed and state-specific findings can be found in each report. But I just wanted to present a few nuggets of information that we found relevant and interesting in this report. And hopefully this helps frame the next portion of this webinar, which provides an example of how one state dug in, interpreted and identified implications of this research for their work.

MIKE SIEBERSMA: Thank you, Steve and Emma. We really appreciate your taking the time to share some of those key findings, and we know that as people in specific places, specific states, dig into the report, that there is a lot of really interesting data and information by state, and even down to some of the kind of district characteristics. We are saving some time at the end for questions and answers with each/all of the panelists.

But we want to move on now and hear from Carolyn Haug, who's from the Colorado Department of Education, and is going to share with us a little bit about how, in Colorado, and through the State Department of Education, they have been using this research, and using data and other research to develop programs, policies, and practices designed to strengthen the teacher workforce. So – Carolyn, if you want to say anything else to introduce yourself, please go ahead and do that, and thank you for being here.

CAROLYN HAUG: Thank you. No, I'll just go ahead and start right in.

So, in Colorado, there are several important implications of this study for the work going on in the educator talent office at the Department of Education. Predominantly, this study contributes to our overall understanding of the teacher workforce in Colorado, and it provides a comparison to that of a couple of nearby states, which we find really valuable.

On one hand, some of the specific findings from this study reinforce some of our perceptions that a lot of us had. And on the other hand, some of them challenged our perceptions. For example, our office was not surprised that teachers in schools identified for improvement were more likely to leave their school at the end of the year. However, we were generally more surprised that teachers in our non-rural schools left their positions at the end of the year more often than those in our rural schools. So, these are just a couple of examples of the important individual-level findings that are in this report.

So, on this slide, I begin to introduce some of the broader impacts of this study on our work. One of the primary broader impacts is that it makes a very significant contribution to our understanding of how the entire teacher workforce in Colorado is moving. The teacher workforce is something that, as a department, we're deeply motivated to understand better. In fact, so much so that our office has a parallel research question about teacher retention, mobility, and attrition, that we, as an office, are pursuing, specifically as it relates to the new teachers coming from Colorado preparation programs. So, I'll talk more about that in a few minutes. But it's essentially a parallel research question focusing on a subset of this population.

In addition, the study contributes to our understanding of the workforce issues in different types of districts. So, disaggregating the results for our non-rural districts and our rural ones is very important. In Colorado, we have school districts as large as 85,000 to 90,000 students. But then

we have several, probably a dozen or more, with fewer than 100 students. So, there's just a huge difference in the type of districts. And these enormous differences make it imperative that we understand more about how the workforce is functioning by district size and location.

And so, as such, one of the key attributes of the study is this rural to non-rural comparison. And this is related, also, to the second initiative I'm going to address in a few minutes, and that is the shortage of educators in Colorado's rural and non-rural school districts.

Before I get into those two research areas though, I would like to briefly highlight that REL Central staff recently hosted in the Denver area an event for the purpose of interpreting the report. At this event, this interpretation event, we had representatives from a vast array of our stakeholder groups. We had about 25 people who were able to participate that day, and they included folks coming from our state teachers union, the association of school boards, the Council for Rural Education, various teacher preparation programs in the state, a couple of state offices, including the State Department of Higher Education, a handful of us from the Department of Education, and then various researchers.

The meeting was really valuable to me, personally, but also to all of the other folks I spoke with, because it allowed us to spend some quality time understanding the findings and talking them through. It gave us the opportunity that we really so rarely have to think deeply about what the findings mean to us, and to hear what they mean to other stakeholders, which I think is really key.

The morning provided a rich conversation, and we ended up having a lot of participants who were very interested in talking through the variation between the rural and the non-rural districts. And they spent quite a bit of time understanding what those definitions mean, and discussing this topic of how much variation we have in our state among the districts within each of those categories.

And, so, there's other data in the report that talks about the proximity of some of the rural districts to a suburban or an urban area. And I think in Colorado that makes a huge difference, because I think we see different mobility patterns in some of our rural districts that are near a metro area. They have other opportunities that some of our rural districts in more remote areas don't.

So, the findings from the study were really a launch pad on that day into additional research questions from the group, such as what impact districts are seeing from some of the teacher retention, housing initiatives that have recently started, and what the patterns might look like if we focused on, for example, our mountain communities, among many other ideas. So, we're looking forward to another opportunity in the spring to really spend some time looking at the companion study to this, where some of the teacher attributes are further detailed.

So, as I mentioned earlier, one of the primary implications of the REL study is the close similarity of the research questions here in this study to a research question that our office is looking to answer. While the REL study looked at retention, mobility and attrition for all teachers, our state research is focused on this question, but for this subpopulation of new teachers

who have just come out of their Colorado teacher preparation program. In other words, we're just focusing on a minor subset of the larger group that the REL study looked at. So, this study does provide us a really valuable reference point for understanding and interpreting some of the movement we're seeing among our new teachers.

So, in this next slide, I'm taking you to just a preview of the type of report that Colorado is in the process of getting ready to release. We will be releasing this next month. And you can see, the reason I'm bringing you here is because this is our retention, mobility, and attrition dashboard. And here, on the left side, you can see that we're using many of the same definitions that are in the REL study.

The image on the screen has some letters missing. But, essentially, we're looking at retained in school – teachers who are retained in school from year to year, teachers who are retained in the district, teachers who are retained in the state, and then people who've left the teaching profession. This first small sliver are the teachers who've left the teaching profession, but have remained in Colorado education, and then this larger gray rectangle are people who've left the system entirely. And, so, this would be after the first year of teaching.

Then we trace them into their second year after, and we look to see how many are now retained in the school, in the district, in the state. Again, how many are in education but no longer teaching, how many have left entirely? And here we look at and start to consider those who had left the year before but have now returned. And so many of the definitions from the REL study have really impacted what we're able to do as a state by using the same definitions, even though there are things that the REL study has done that we aren't going to do, but by maintaining consistency wherever we can, it allows us to really build on the data that they've provided.

The next slide describes other research in our office that relates, although maybe a little less directly, to the REL work. Our office has recently initiated a survey to find out how Colorado school districts fill their open educator positions each year. And this is in an interest to better understand which types of districts and which endorsement areas rely on shortage mechanisms to fill positions, or which endorsement area positions go entirely unfilled. The REL study we're discussing today helps us to understand the implications of our hiring survey and, again, broadens our knowledge base.

So, we're in the second year of collecting these data from our districts. In a few findings from last year's data collection – so that's '18-'19 school year – are shown here on this slide. Last school year we had almost 9,000 teaching and special service provider positions that needed to be filled. So that's about 14% of our teaching positions and about 19% of our SSP positions in the state. And while the vast majority of those open positions were filled through one of our shortage mechanisms, we did have about 3% of the teaching positions and about 12% of the SSP positions that went completely unfilled last school year.

So, when I referred to shortage mechanisms, I'm talking about things like long-term substitutes, emergency authorizations, retired educators brought back into the classroom to teach, and candidates who are currently enrolled in alternative licensure programs. In some of the core content areas where we saw shortages were math, science, and special education, if we're talking

statewide. And some of our rural areas – particularly our smaller and more remote rural areas – they in general have a more difficult time filling positions. And then that, of course, because there are fewer positions there, the percentage of them that go unfilled is higher.

So again, all of this is based on just our first year of data trying to capture this. And it is really related to the idea of mobility, because not only is it difficult to fill a position in some of our areas in the first place, if we have a lot of turnover in those positions, we're facing that kind of difficulty year after year after year. So, I think what – kind of in summary – what I would say, is that this whole idea of the teacher pipeline is important at the State Department of Education, and this study fills a real critical area of that puzzle for us.

So, I'll go ahead and turn it over to Desiree at this point.

MIKE SIEBERSMA: Thank you, Carolyn. We appreciate that. And you can see how within REL Central, our states are really pushing kind of the edges of how they can use data, and how they're reporting it, and as we hope and expect, the work that the REL is doing is also informing your work. So, we really appreciate you sharing that with us.

And I just want to introduce Desiree Carver-Thomas from the Learning Policy Institute. Desiree, I think you're ready.

DESIREE CARVER-THOMAS: Yes. Good morning. Thank you for the introduction. I am Desiree Carver-Thomas from Learning Policy Institute. I'm a researcher and policy analyst, and I work on educator quality issues, including teacher supply, demand, and mobility. And I'll be talking about what we know about teacher mobility and shortages at the national level, and about the research-based strategies that states are using to better recruit and retain teachers.

So, I'll start by talking about what shortages look like nationally. Over the past several years, news stories each fall look a lot like these headlines, which is how public schools face worse teacher shortages than previous years – “Colorado teacher shortage edges crisis in rural towns”, and so on and so forth. And districts across the country report starting the school year still looking for teachers.

My colleagues and I have been documenting these shortages, and we estimate that the nation as a whole is short about 100,000 teachers. This is based on projections using nationally representative survey data, and also based on a 50-state review of reports on vacancies and uncertified teachers. This is a problem because, when districts struggle to find certified teachers, they often resort to cutting courses and programs, increasing class sizes, and filling positions with substitutes and uncertified teachers, all of which impact student learning.

The major driving force behind teacher shortages is teacher attrition. Roughly 9 out of 10 teachers that districts need to hire each year are being hired to replace a teacher who has left. These aren't teachers who are retiring, they're mostly teachers leaving mid-career at the national level. So, as states look at how to address their shortages, it's just as important to think about retention as it is to think about recruitment.

So, I've talked about what mobility and shortages look like nationally, and the importance of both recruitment and retention. And now I'd like to share what we know about what matters for recruiting and retaining teachers. So based on my colleagues' research, we know that compensation, preparation, support for novice teachers, and teaching conditions, matter both for making teaching an attractive career for new teachers and for helping to retain those who are already in the profession.

My colleagues have written a comprehensive report that outlines the research on this called Solving the Teacher Shortage, which you can find on our website if you'd like to dig further into the research on each of these points. For now, I'll be focusing on how states are using what the research says about what matters for recruiting and retaining teachers to develop policy solutions.

So, a key question with regard to policy solutions is, how can states address their shortages without undermining teacher quality? Many states are eager to address severe teacher shortages but want to do so without compromising on what students need. So, I'll be highlighting five key strategies that states are using to do just that.

So, the first is funding loan forgiveness and service scholarships. College costs are increasingly unaffordable. And this has an impact on potential candidates wanting to pursue careers like teaching. By underwriting the cost of teacher preparation, states can help make teaching an affordable career choice, and research shows that these programs are especially effective when they cover a substantial portion of preparation costs. So, Indiana's Next Generation Hoosier Educator Scholarship, for example, offers a \$30,000 service scholarship in exchange for a 5-year service commitment.

The next strategy is high retention pathways into teaching, such as teacher residencies and Grow-Your-Own programs. These don't just recruit new teachers into teaching. They're designed to ensure that candidates have the preparation that they need to be successful and continue teaching for the long haul. So, in teacher residencies, residents typically have an entire school year of clinical experience under the guidance of a master teacher while they earn a master's degree, all before becoming responsible for their own students. And residents tend to have higher retention rates than their peers, tend to be more racially diverse, and to be rated effective teachers.

Grow-Your-Own programs recruit high school students, paraprofessionals afterschool programs staff, and other community members into teaching, based on research that suggests they're more likely to continue teaching in their own communities. So, California recently invested \$45 million into a program that offers up to \$20,000 per candidate to support paraprofessionals to pursue teaching degrees. The state has also set aside funding for teacher residencies, focused on preparing special education, STEM and bilingual teachers.

Research shows that new teachers who experience comprehensive mentoring and induction supports are more than twice as likely to stay in teaching, compared to their counterparts who don't receive that support. The most effective induction programs include coaching, feedback from experienced teachers in the same greater subject area, opportunities to observe expert teachers, orientation sessions and seminars, reduced workloads, and extra classroom assistance.

Iowa is offering state-funded induction for all first- and second-year teachers, with \$1,300 per novice teachers.

School leadership has one of the strongest impacts on teacher retention. Our research shows that teachers who don't feel supported or encouraged by their administrators are more than twice as likely to turn over. So, while teacher preparation is important, it's just as important that administrators are well-prepared to create the kinds of environments where teachers want to stay. So, Tennessee is using Title II funds to set up competitive grants for leadership residencies in high-need districts.

Finally, several states are offering competitive compensation to recruit and retain teachers. Some states are offering overall salary increases. Idaho, for example, is raising teacher salaries by 17% over five years. Other states are offering bonuses for teachers working in high-need subjects and locations. Utah is offering \$5,000 bonuses for teachers who will move to high poverty schools. And finally, many states are offering financial rewards for teacher expertise and leadership. Over half of states offer stipends to teachers with national board certification. Washington State offers an additional \$5,000 bonus for National Board-certified teachers in under-resourced schools.

You can find more information about the programs that I've mentioned and more in an LPI report called Taking the Long View. We also have a one-page brief on district strategies for addressing teacher shortages. It's called Addressing the Teacher Shortage: What Districts Can Do. And all of our reports are available on our website.

Thank you. I will pass it back to Mike.

MIKE SIEBERSMA: Thanks, Desiree, for that. We just have a couple of questions that we want to pose to you. And we'll get through both of them and just encourage you to use the question and answer feature in the Zoom platform to do this. First thing is, what might be some policy or program implications of the findings in the report for your context? And so, if you can just share some thoughts that you have on that, we'd appreciate that. And then, secondly, we want to we want to have you pose any questions that you have to any of our presenters. We have a couple of them that have come in already. And I would like to pitch those over to, maybe first to Steve and Emma, and perhaps Carolyn.

One of the questions that came in is, is there a plan to continue this research beyond the '15-'16 to '16-'17 year? And Zachary was asking both in terms of the REL research and what Colorado is doing on their own for the research. So maybe Steve or Emma, could you respond first in regard to the REL research? And then we'll pass it over to Carolyn and see what she has to say about that question.

STEPHEN MEYER: Sure, I can start. As I mentioned, you know, we're continuing to look at a follow-up study that's looking at administrators or school and district level administrator retention, mobility, and attrition. And in the conversations we've been having around these reports with some various stakeholders from each of the states, we've talked about possible next steps.

So, for example, with Carolyn at CDE, we've been talking about how to support the department to efficiently kind of recreate these analyses on an annual basis. So, what that exactly looks like, we're sort of figuring out, but it might be a set of protocols, or analysis, procedures, or syntax, kind of guidance that can be used to replicate the same approach.

There was, I mentioned we watched that video about the definitions. There are a lot of decisions to be made in making sense of administrative data to answer these kinds of questions. And we were able to find a common set of them for these four states. And that's one thing that I think really has a lot of potential as an outgrowth of this work, is to help states kind of continue to look at these data in similar ways.

MIKE SIEBERSMA: Thanks, Steve. Carolyn, what would you say to that question and continuing the research specific to Colorado?

CAROLYN HAUG: Yeah. That's a great question, and I appreciate it. We do intend to continue to both track the cohorts of new teachers coming out of the Colorado preparation programs. We will continue that into the future. We will eventually build three years of retention data on those cohorts, and we will track multiple cohorts.

We also do intend to continue to compile data on how districts are filling their open positions, and to build a database around that, an annual database around that. And then, as Steve mentioned, we are working with the REL to figure out a way for the department to replicate the current study that we're talking about this morning, to replicate that in future years through the department. We aren't quite sure yet how that will look, but we see it as a need.

MIKE SIEBERSMA: Thanks, Carolyn. I have a couple more questions. I think I'm going to give Desiree the first shot at this one. Somebody asked, what would you tell people in the media or policy world who say there's no shortage of teachers?

DESIREE CARVER-THOMAS: Well, I think it comes back to the data. You know, we see-- we did a 50-state review of state reports, and we see that, across the country, states are reporting that positions are being left vacant, or they're being filled with long-term substitutes, or they're being filled with uncertified teachers. And so, I think that's a really clear indicator that we don't have the number of certified or fully prepared teachers that we need in order to fill the demand for those positions. So, I think that that's what it comes down to.

MIKE SIEBERSMA: Thank you. And I would just point to the fact that, looking at only one piece of research like this, you might say, hey, wow, you know, retention is pretty high in teachers across the nation. But if you start to put that against some of the other research, like things that Steve cited early on about how many teachers are leaving, exiting the state systems, versus how many are coming into the system through the teacher prep programs, and we see that enrollment is dwindling. There are kind of multiple pieces to put together there that say that we are seeing positions go unfilled, particularly in certain areas. So, I appreciate that.

The other question I wanted you to take a first shot at, I think was directed for you, Desiree. And that was all those strategies you were talking about all seem effective. And there's promise in each of them, but they're expensive. So which ones do we see having kind of the best bang for the buck, if you had to answer that?

DESIREE CARVER-THOMAS: That's a difficult question to answer because, I think, you know, states that are really focusing on how to address their teacher shortage issue are taking a comprehensive approach. So, Washington State, for example, is really investing in quite a few of these strategies that I mentioned. Because there isn't really a silver bullet. However, I think that there are some creative ways that each of those strategies can be done. There's a lot of work at Bank Street College, for example, to look at how to make teacher residencies an affordable approach.

We know that Grow-Your-Own programs tend to have a smaller cost, but they also don't have quite the same – the pipeline isn't necessarily as guaranteed as a teacher residency, let's say. We know that service scholarships and loan forgiveness are really most effective when they cover a substantial portion of the cost of preparation. And so, you know, you can get into some of these penny-wise pound-foolish solutions, where putting small amounts of money into a program like that actually won't yield the kind of results you might be looking for. Whereas making a larger investment would actually get the results that you're looking for.

So, I think it's all of the above, which I know is not a satisfying answer. But you know, we don't necessarily want to recruit lots of teachers, and then they're in working conditions that are just really unsatisfactory. So, all of these, sort of, pieces of the puzzle have to be thought about.

MIKE SIEBERSMA: Thank you for that. This is a question I'd like to pose to Emma, if Emma could take this one. Are there any finding specific to ethnicity or race of teachers and ethnicity or race of the students? Any suggestions for policy mechanisms to improve that? Do we know anything about that from either this research or some of the stuff you reviewed in the literature review phase?

EMMA ESPEL: Sure, Mike. Thanks for the question. The report that looked at factors related to mobility and attrition did look at both teacher race and ethnicity, as well as the proportion of students in each school who were racial or ethnic minority students. And what appeared is that leavers are more likely to leave from a school that has a higher proportion of racial or ethnic minority students.

And so that's sort of the finding, that I don't have specific policy recommendations, and might turn it over to my colleagues for that. But I think that's kind of the finding that was in there. It didn't appear when we looked at movers as one of the top categories. And it didn't appear at the teacher level. It was primarily the composition of the school where it showed up more.

MIKE SIEBERSMA: And I know the Learning Policy Institute has looked at the demographics and the background of teachers, compared with students that they serve, and some of the

implications of that. Do you have anything to say about policy mechanisms to improve that, Desiree?

DESIREE CARVER-THOMAS: Sure. Well, I guess something I would add is that we do see higher turnover rates among teachers of color. However, in a model that we used in our research, we also found that, once you control for the kinds of schools where teachers teach, that kind of falls away. So, what that suggests is that it isn't so much that teachers of color are more likely to leave as it is that teachers of color are more likely to teach in schools where all teachers are leaving.

So, it raises the point that it's really important to think about what are the teaching conditions in schools where teachers of color teach, schools that tend to be more under-resourced? So, paying attention to, you know, the kind of school leadership supports that are being provided so that school leaders can help to create the environments where all teachers want to stay, especially in schools where there are ongoing shortages.

MIKE SIEBERSMA: Thank you. We hear that idea of conditions, teaching conditions, coming up a lot.

This one, I don't know if there's anybody specific that would like to take this question on, but can anybody answer the question, how does teacher attrition compare to attrition in other sectors, other industries? Is there sort of a healthy amount that we should be looking for?

DESIREE CARVER-THOMAS: I can speak to that a little bit. And it's a good question. And I would say that maybe another way to think about it is to think about how teacher attrition varies across country, and across state boundaries. So, you know, obviously, there isn't any – or at least from our research, there isn't any one perfect attrition rate. And we know that people will leave to retire and for other reasons.

But you know, the national attrition rate is about 8%, as mentioned earlier. In some countries in high-achieving school systems, like in Ontario, Canada, and Singapore and other places, the attrition rate can be as low as 3% or 4% each year. And we see that even within the United States, where there are states where the attrition rate is that low, especially in the Northeast, and then other states where it's, you know, many times greater.

So, I wouldn't say that there is a specific percentage amount of attrition that's ideal. But we know it can be significantly lower, could be half the rate that it is nationally. And that would make a difference in terms of school stability, the cost of attrition, and so on.

MIKE SIEBERSMA: Great, thank you. I think we have time for one more question. And then there's a couple that we'll try to do a little cleanup on through the question and answer feature in Zoom. But Paul asked, is there a good summary somewhere of the different strategy states have used to increase teacher salary, if that's a factor? What are they doing? And is there a summary that can be accessed by the masses to find out what's going on across the nation that way?

DESIREE CARVER-THOMAS: This is Desiree again. I will refer you to that the report that I mentioned, Taking the Long View, which has a great summary of the various strategies, including increases in salary, incentives, and so on, and has the states that are using those strategies, and some more detail about how some of those states are doing that.

MIKE SIEBERSMA: Great. Well, thank you all for all of your contributions, and for the questions that everybody submitted, and just for taking the time to attend this webinar. We do have some of the references, and these will all be posted mostly just for your benefit when the slides are published. And this is the research that we've looked at to kind of put together the literature review.

But we thank you all for coming. The presentation will be posted. It needs to be cleaned up a little bit. And it'll come out in three to four weeks and be posted on the website. If you would like some of the information or resources that were mentioned, you can use that email address on this slide, RELCentral@MarzanoResearch.com, and we'll try to get all those resources out to you. We can also use that to answer any additional questions that you have.

If you wouldn't mind checking out the chatbox on the Zoom platform here, we have a survey for you. And we do collect data on kind of what your experience was with the webinar and use that to try to continuously improve these events for the participants. So, we'd appreciate it if you'd take a couple of minutes and just fill out that survey. And once again, thank you for participating today.