

What Works Clearinghouse

Using Student Achievement Data to Support Instructional Decision Making

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Using Student Achievement Data What Works Clearinghouse Webinar

Patrick Murray

My name is Patrick Murray and I will be assisting you today during the presentation. Today, everyone will be in listen-only mode, meaning that you can hear the webinar through your speakers, but we encourage you to submit any questions or comments you may have using the Q&A panel at the bottom right-hand of your screen. You can use that if you're having any technical issues or if you have any questions that you would like to submit for the Q&A portion of our webinar, which will last approximately 35 minutes. You can submit those questions in the box in the lower right-hand corner and they will be submitted and considered for the Q&A session later on. If you choose to view the presentation in full-screen mode, you can click the question-mark icon on the floating toolbar to open the Q&A panel and submit your questions. If you face any technical difficulties, you may contact web-ex tech support at 866-779-3239, and if there are no further issues, I would like to turn things over to our first presenter, Deputy Director of the What Works Clearinghouse, Scott Cody. Scott?

Scott Cody

Thank you, Patrick. I want to thank everybody for joining today's webinar to discuss the Clearinghouse's most recent practice guide, *Using Student Achievement Data to Support Instructional Decision Making*. I'm going to begin with a brief introduction to the What Works Clearinghouse and the products, and then we will hear from our three panelists, Laura Hamilton, who was the chair of the panel who developed

this practice guide. She's a Senior Behavioral Scientist at the RAND Corporation. After that, there will be Sharnell Jackson, who also sat on the panel developing this practice guide. She's the former Chief eLearning Officer at Chicago Public Schools and is currently the President of Data-Driven Innovations Consulting, Incorporated. And then, we'll hear from Elizabeth Laird, who's the Program Manager at the Data Quality Campaign. As Patrick said, following their remarks, we'll open the discussion to questions you may have, and you can use the text box at the lower right-hand corner of your screen at any time to submit questions.

So, what is the What Works Clearinghouse? The What Works Clearinghouse was established in 2002 to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education. To do this, we've established a set of evidence standards for education research. The standards apply to research methodology; studies that meet our standards are designed in a way that we're confident that the researchers conducting the research can attribute any impacts, any, increases in student outcomes to the education intervention that they're studying, and we're confident that they've effectively ruled out any other explanations for the impacts that they're seeing. So, that's what our standards mean. We conduct systematic reviews of research around specific topics, comparing the research to our standards and then summarizing the findings from these reviews, summarizing the findings from the research that meets our standards, standards in a series of reports, including intervention reports, quick reviews, and practice guides. Today, we're talking about one of our practice guides. A full list of all of our products is available on our website, whatworks.ed.gov, so you can find out more

information about intervention reports and quick reviews. You can also watch the brand new site tour that we've prepared at the website as well.

But I would like to say a few words about practice guides. Practice guides are our most popular product at the What Works Clearinghouse. Practice guides are evidence-based reports that provide recommendations for addressing issues such as reducing dropouts, turning around low-performing schools, implementing response to intervention strategies, and today's topic, making decisions based on student achievement data. To develop a practice guide on a given topic, we assemble a set of panelists that include researchers and educators, and they come together and review the research on that topic and produce a series of specific recommendations providing concrete steps on how educators can implement the recommendations, and they also discuss solutions to common roadblocks.

The panelists also rate the strength of the research evidence supporting each of the recommendations, and we have three levels of evidence. The first level is a strong level of evidence; this means that the panel has a high degree of confidence that if you adopt this recommendation, it's going to lead to improved student outcomes, This is.... based on multiple studies that meet the Clearinghouse evidence standards, and these studies demonstrate that the practice that the panel is recommending is effective, and that these studies have been conducted in a variety of contexts, a variety of locations. So, that is a strong level of evidence. It is actually a very high bar. The next level of evidence is moderate. This means that there is good research evidence suggesting that the practice is effective, but there's still some questions that remain after looking at this research. So, it could be that there's potentially other explanations for besides the

practice that the panel is recommend, recommending, other explanations for changes in student outcomes, or it could be that the research has only been conducted on a small number of students or in a small number of schools. Our last category is a low level of evidence. A recommendation with a low level of evidence means the panel could not identify research that demonstrates that the practice that they're recommending is effective. The panelists still think this is an important recommendation. That's why they're making it. They just can't point to research that demonstrates the recommendation is effective. This is the case in the practice guide we're going to be talking about today. While there's been a lot of research done on using data in schools, the panel couldn't find studies that isolate the specific practices that they're recommending and tests whether those practices by themselves improve student achievement.

Again, all of our practice guides are available, including this practice guide, on the What Works Clearinghouse website. That's whatworks.ed.gov. You'll also find on the site a link to suggest practice guide topics. We're always looking for new topics for practice guides. So, if you have ideas, please visit the site and make your suggestions. And, I will turn it over now to Laura Hamilton, who chaired our panel developing these recommendations for the practice guide. Go ahead, Laura.

Laura Hamilton

Thanks, Scott. Before I move on to the presentation, I just want to acknowledge the members of the panel. One is Sharnell Jackson, who you'll hear from in a few minutes. We also have Rick Halverson, Ellen Mandinach, John Supovitz, and Jeff

Wayman, and this group provided a broad and pretty diverse range of experiences and expertise that they brought to the guide. Okay. So, we've seen a lot of focus on data use recently, both in the practitioner world and in the research community. There are several factors that appear to be contributing to this. First, a combination of advances in technology and changes to state and local testing policies have led to widespread availability of standardized test scores, as well as tools for analyzing and reporting on them. Data use is frequently mentioned by school and district leaders as a key reform strategy, but everyone recognizes that simply providing data to educators is not likely, by itself, to produce good results. There's a need for better understanding of how data use can improve student achievement.

A second factor is related to pressures from accountability policies, which have focused educators' attention on math and reading state test scores and on the need to raise proficiency and reduce student achievement depth. Data use is one strategy that's been used to achieve these goals, but, again, it's important to figure out how to do it right. Finally, the policy and funding initiatives coming out of the Department of Education right now have focused heavily on creating better data systems and using them for these various kinds of decisions. So together, all these factors suggest that improving data use should be a high priority and that we need to figure out how to do it effectively.

I'm going to go through the recommendations, but first, I just wanted to give you a few notes about this guide. The number-one thing is that we need to acknowledge the scope. We know that teachers and other educators have always gathered a large volume of data on their students' learning, including performance on tests they create

themselves, assignments, and in-class discussions. All of this information can serve as data for use in instructional decision making. The scope of our practice guide is on what we call common assessments, which are those that are administered in a routine and consistent manner in multiple schools or classrooms. So, these include things like state and district accountability tests, as well as benchmark or interim assessments and other school or district-wide assessments that produce information that can be compared across classrooms or schools. We do not intend for readers to interpret this as suggesting that this is the only important type of data. In fact, in several parts of the guide, we encourage readers to combine this kind of information with all the other data that they collect to make informed decisions.

The second point is that some recommendations are more relevant to classroom teachers, whereas others may be more targeted to school or district administrators. We suggest that all users look at all of the recommendations, even if only a few of them seem particularly relevant. So, for example, teachers might find the first and second most directly relevant to what they do, but they should be familiar with the others so that they understand what school and district leaders should be doing, and they can advocate for these things if they're not provided. Effective data use is likely to require coordinated efforts across all levels of the system, and so, it's good to be familiar with all of those.

And then the final point is that, as Scott mentioned, using the standards of the What Works Clearinghouse, all of our recommendations have a low level of evidence assigned. There have been few experiments or other strong research designs used in this area, so the recommendations are supported by a large number of qualitative case

studies and surveys and by the expertise and experience of the panelists. So, I'm going to quickly go through the recommendations, and then after I turn it over to Sharnell, she'll elaborate on these and connect them with the daily work of educators.

It's important to say upfront that the decisions that teachers and others can make are only as good as the data available to them, so a critical first step is to ensure that the systems are in place to provide high-quality data. This includes identifying and purchasing assessment systems that measure the things the school is interested in, adopting multiple measures to provide a broad view of student learning, and helping teachers identify sources of data that they collect as part of their ongoing instruction. We have three action steps for this particular recommendation, and we like to describe it in terms of a cycle, because using data to answer a specific question often leads to further questions and the need to go through the cycle again. So, the three steps are to first, collect and prepare a variety of data; second, interpret the data and develop hypotheses about how to use them to improve student learning; and then, finally, modify instruction to test those hypotheses. And in the process of modifying the instruction, more data should become available, not necessarily from common assessments, but from teachers' interactions with students, and this should lead to a continuation of the cycle.

The second recommendation focuses on students. Students should be viewed as partners in their education, and having them review data and set goals is one way to promote this partnership. We list four action steps related to having students examine their data and set learning goals. First, educators should make the objectives for learning very clear to students, so they know what's expected of them and they

understand what they need to do to demonstrate competence. Once students have had a chance to demonstrate the performance, teachers should provide feedback that's timely, constructive, and clear. Third, we recommend considering the use of tools, such as rubrics, to help students understand what they can do to take responsibility for their own learning and performance. The guide provides some examples of those. And then finally, the analyses that students do as part of this process can be used as input to guide instructional decisions at the classroom or at the individual student level. I'm going to point out that like many of our other suggestions, providing effective feedback requires time out of the classroom for preparing feedback and time during class for students to understand the feedback they receive and how to use it. But we want to emphasize that this shouldn't be viewed as add-on time. It should be sort of incorporated into the instructional process.

The third recommendation is to establish a clear vision for school-wide data use, because effective use of data depends on everyone in the school being involved with and supporting data use to improve instruction. The school should establish a data team that includes various stakeholders, including teachers, possibly curriculum coaches, the principal or another school leader, and perhaps even district representatives. This team can provide input into decisions and can serve as a liaison between staff and district leaders who are responsible for putting the data systems into place. Our second step focuses on making sure that everyone is using a shared vocabulary. So, when we talk about something by collaboration or what counts as evidence, what do we mean by that and are we all on the same page? Third, it's likely to be helpful for schools to adopt a written plan to reflect the opinions and experiences of everyone in the school. And, of

course, leadership is critical, and that can be shared among principals, coaches, or other members of the data team.

Okay, the fourth recommendation focuses on supports, which are critical for these(?). A school-based facilitator should be available to help educators interpret and use data on a regular basis. This could be a teacher or a coach, but someone who's given these responsibilities and has the skills. Second, teachers and other educators really need to have time set aside. One of the concerns we often hear from teachers is a lack of time to review data, both alone and in collaboration with colleagues. So this should be scheduled into the school day in a way that facilitates the necessary collaboration. Finally, targeted professional development focusing on data use should be provided regularly, and this should be targeted to meet the needs of the specific role that the person is in. So what an elementary teacher needs is going to be different than what a secondary math coach needs.

And then, the final recommendation focuses on developing and maintaining a district-wide data system. This can, again, benefit from the involvement of all stakeholders. Different users will have different needs, and in particular, districts should consider all the data sources that they want the system to include, and all the needs should be clearly articulated. An additional consideration is whether to build or buy a system, and there are advantages and disadvantages to each of those. And then finally, we suggest a staged implementation with pilot tests to try out specific features and get feedback on how well they're working. So now, I'm going to turn it over to Sharnell, who will talk about what this can look like in schools and districts.

Sharnell Jackson

Good afternoon. My name is Sharnell Jackson, and the recommendations in this practice guide create a framework for effectively using data to make instructional decisions which can be adjusted to fit unique circumstances. The central message of this guide is that effective data practices are interdependent among classrooms, schools, and district levels. Through targeted data-literacy and data-use professional development, sophisticated data systems, teachers, and school leaders can foster a more inquiry-like approach that involves ongoing and sustained investigations into the kinds of teachings that produce more powerful student learning by using data to identify problems, by being a part of solutions to problems, provide continuous monitoring, and target research to address the problems. Teachers should adopt a systematic collaborative inquiry process in a framework to focus conversations about data analysis and student performances that influence instructional decisions and improve the ability to meet individual student learning needs with standards aligned curriculum resources based on state assessment items. The variety of school-wide service-based common assessments, curriculum content, and instructional, instructional lines of student performance, performance data provides a more sophisticated way to identify the aspects of standards students have yet to achieve and to equip teachers with the strategies to help students master the standards. To be useful, teachers and school leaders, student performance results must be transparent, reliable, and available immediately to give guidance that informs educators that their instruction is meeting student learning needs and providing feedback for daily adjustment.

Motivating student learning. Teachers should provide students with explicit instruction on using achievement data regularly to monitor their own performance and establish goals for learning. Student-centered data analysis involvement can both motivate those elementary and secondary students to learn by mapping out goals and accomplishments that are attainable, reviewing actual achievement gains, and providing students with a sense of control over their own learning outcomes. Feedback should be designed to help students understand that their own strengths and weaknesses, explaining why they received the grade and scores that they did, and identifying the specific content areas, skills the student should focus on by providing timely feedback, appropriately formatted, specific, and constructive. Students are best prepared to learn from their own achievement data when they understand the goals, the learning objectives, and when they receive the data in a user-friendly format that helps them learning from their misunderstandings that engages them, making significant improvement. Principals should establish a data team, data coach that will be a champion and clarify and guide the school's vision for the most effective use of multiple measures of formal and informal student performance data. The team should include a balanced assortment of stakeholders who can solicit input from all aspects of the school's teaching and learning environment. At its outset, the data or learning team should develop a shared vocabulary of critical concepts related to states, district, and school-wide assessments. In data use in particular, developing a shared vocabulary will help minimize the misunderstandings and conflicting assumptions among school staff. The team's administrator and teachers should write an action plan and with evidence of causes and proposed solutions that clearly articulate how the school will use

performance data to support school-level goals for improving student achievement. To create conditions for effective data use, the data team should revisit the school's goals to ensure that they are attainable, measurable, relevant.

Once the plan is developed, the data coach or facilitator should provide roles, responsibilities, questions and guidance when using data to support the school's strategic goals for continuous improvement, with the ultimate aim of developing the capacity of all school staff to use data more effectively and more efficiently. At the outset, members of the data team should regularly interact with school staff about the data and monitor its use. Oftentimes serving as data facilitators, using the distributed leadership model to ensure a sustainable continuous improvement process by building the capacity of all stakeholders to use data to personalize student learning and to improve their performance. The explicit connection among data systems enables models of accountability, provides an environment, and incentivizes targeted teacher professional development opportunities and supports continuous instructional improvement.

Schools and districts can make concrete changes that encourage data use in schools. These changes need to ensure that teachers, principals, and school staff have a thorough understanding of their roles and responsibilities in using data and that they possess the knowledge and skills to support professional learning communities to use data appropriately. Schools and districts should invest in leadership training, professional development for teachers, and provide structured times for grade and content area collaboration. Principals should provide school-based facilitators and coaches who encourage staff to use data systematically in an inquiry-oriented process.

Data facilitators can help staff obtain the knowledge and skills they need to use data appropriately, so the staff cannot become too dependent on facilitators, but instead increase their capacity to use data it effectively, collectively. Collaborative data analysis can highlight achievement patterns and trends across grade levels, their schools, and can engender the kind of consistency, instructional practices and expectations that often characterize high-performance schools. The collaborative team meetings should follow the following components. Preparation – prior to the meetings, educators should set an agenda that focuses on the collaborative meetings, on using the most updated data relevant to a specific timely topic. Analysis – during these meetings, teachers should follow the cycle of inquiry, using data to create hypotheses about their teaching practice and student learning outcomes, and then test those hypotheses with evidence of impact. Action agenda – at the end of each meeting, educators should be prepared to enact a data-based action plan that examines and modifies and monitors their instructional practices to increase, achieve student achievement. Comprehensive data systems – a high-quality data system should be comprehensive, interoperable, and integrate linking disparate forms of data for reporting and human resources, financial, curriculum instruction, assessment, and analysis to a range of systems and audiences. Currently, there is misalignment and data transfer varies between data requested by teachers, and the data used by districts and states to improve student achievement.

To help ensure that the relevant types of staff in school and districts will rely on the data system to inform their decisions, district administrators should involve a variety of stakeholders when determining what the functionality of the system should provide. Districts and schools need to secure financial and human resources to develop

safeguards that ensure that data are secure, transparent, timely, relevant, and useful to educators in improving instruction and student achievement. Districts should establish a data system governance or advisory council that includes representatives from each stakeholder group. User needs should dictate the system requirement decisions in support of educational achievement and not vice versa.

In closing, effective data use at the classroom level is more likely to emerge when it's supported by a data form, informed school, and district cultures assessing, analyzing, and using student performance data to promote continuous improvement. Holistic reform of education hinges on building the capacity of classroom teachers through data-driven, inquiry-based professional development learning communities to use longitudinal data for effective decision making. School leaders need to establish a comprehensive plan for data use that takes into account multiple perspectives, flexible models, and emphasizes the need to establish organizational structures, responsibilities, processes, and practices that support the implementation of a comprehensive, sustainable plan. In closing, effective sustainable data use requires pre-service and in-service professional development and reliable data management systems at the district level. It provides detailed suggestions about how districts or other educational entities, such as the multi-district collaboratives or charter management organizations, should develop and maintain a high-quality system in support of student achievement. And I'd like to introduce Elizabeth Laird.

Elizabeth Laird

Great. Thank you, Sharnell. So, I'm Elizabeth Laird with the Data Quality Campaign and what I'm going to do is give you essentially a different perspective on the same issue, which is, what is happening at the state and national level to really support the work that you're trying to accomplish in the classroom and at the district level.

So, to start, what I wanted to do is just begin with essentially a historical perspective of where we've come as a country along the spectrum of accountability and how we use data really for continuous improvement. So, the genesis of many of these data-driven initiatives has really been around compliance reporting. So initially, whether it be funded [funders], or whether it be the federal government, or states or districts, they ask for data to essentially meet compliance requirements, so that, you collect the data, you submitted it, never to be seen or heard from again. And what essentially happened was, now that there was genesis of data, well, it turns out we can actually use it, so let's look at the data and figure out what worked well and what didn't work well. But, again, this is looking backwards, so, you know, the kids that were in your classroom have moved on and that data is not really especially relevant for using data in real time. And, as Sharnell and Laura have talked about, what we're really talking about data use now is for continuous improvement of, we have children in our classroom now. These are the practices and policies that we can put in place to use data in real time to improve the outcomes of individual children.

So, what's happening at the federal level is, there are now resources that are, that the new administration is pouring into, supporting data-driven efforts. What you see in front of you that is small to read, but is a good thing, because these are all of the

opportunities that are available to states to find and support the data-driven initiatives. And a couple that I'll point out are the "Race to the Top" grant, which I'm sure most of you are familiar with, but really prioritize building and using data systems, but not just for policymakers at the state level, but really getting data back into the hands of the users that are in the classroom and the districts that are dealing with individual children who really need that more robust information that just historically hasn't been available to them. And another great program that's been especially important in this work is the "Statewide Longitudinal Data Systems" grant, which started in 2005 and has grown exponentially. States have submitted their most recent round of applications to apply for these funds, for the \$250 million. But essentially, the federal government is really pouring money into developing state data systems that then aren't just used for accountability and compliance purposes, but are really moving towards getting data back into the hands of users to ensure that data really are used for continuous improvement and not just for accountability anymore.

So, the Data Quality Campaign was founded in 2005, and it's a national partnership comprised of 14 managing organizations, which you see on the slide there, as well as many more endorsing partners, because the power of the partnership is that in spite of all of these organizations' individual priorities, they have all come together to agree that we all need better data to do our jobs. And the primary constituency and the constituency with which the Data Quality Campaign works is state policymakers. So, it's really working with state policymakers to improve the quality of data that are available for use and also prevent duplication of efforts, so that data-driven initiatives from the

school to the district, to the state, to the federal level are aligned, and we're all moving towards the goal of using data for continuous improvement.

So, how we define what a comprehensive longitudinal data system is, we've identified ten essential elements of a statewide longitudinal data system that are really foundational for a data system, but not enough. In other words, as you've heard from Laura and Sharnell, often the data that are collected by the state, and even the districts, are not what teachers need in their classrooms. So, this is the beginning and not the end. And so, I'm not going to go through each of these elements, but I'll point out a couple that I think are especially important when you talk about using data in the classroom and at the district level, which is element one, which is a unique statewide student identifier. So, what that means is that each student has an ID. And so, given the mobility of students, if they transfer from district to district, that academic record is not broken. So, if a student shows up on your doorstep or in your school building wanting to register for school, you have information about that child, and you're not starting with a blank slate. And the other one that I think is especially important is element three, which is the ability to match individual test records from year to year to measure growth. And that's really where we're going in terms of accountability, but also in terms of just the use of data, of how much more powerful it is to have data that show growth and that you can look at trends over time both in terms of individual students, but also across groups of students and schools and districts, and it really allows a much more robust conversation about how can we implement policies that help individual kids and schools and districts.

So, these are the rest of the ten elements that, again, I'm not going to go into tremendous detail. The other element that I would point out is element nine, which is the ability to match records between P-12 and postsecondary systems, which is, school, college and career readiness does not begin when a child enrolls in college. So, really trying to build this P-20 pipeline that, you know, from the beginning we're really moving kids towards college and career readiness, and the only way to do that is if you have data that follow individual children over time.

So, to track progress towards this, what we've done is, since 2005 when the campaign was founded, we've conducted an annual survey of state data systems. And so, what you see on the left in 2005 is the state of the nation when the campaign launched in '05. And then the map on the right is what the state of the nation currently looks like, which is that, when the campaign launched in '05, no state had all ten elements of a longitudinal data system. In '09, we now can report that eleven states have ten elements, and the map is much, much darker, so across the board, states have made progress in terms of building data systems. But, I think what's especially germane to today's conversation is that, even though states have made a lot of progress with building systems, there's still a long way to go to make sure that the data are used. In other words, we're not about building systems that are IT projects without a checklist, but really, how do we use these systems for, to support the use of the data, so that we really are using the data to improve outcomes for children.

And so, what the campaign is working on now, and as what Sharnell and Laura have really done a great job of highlighting, is how do you change the culture around data use? It's not something that's been the way that we've typically done business in

education. So, how do we have those hard conversations about really changing the way that we do business so that we do use data for continuous improvement. And so, along those lines, we've identified essentially three very eloquently-termed buckets of information or strategies that states can adopt to encourage the use of data. The first is that as, because as I'm sure you're familiar with it, there are silos of information systems at the district and also at the state level. How do we make sure that these systems are able to talk to each other and that you're not submitting, you know, the state info sort of information to multiple data systems, that we really have aligned our data systems from those at the district level, as well as up to the state.

The other piece is, and that we've touched on is making sure that data can be accessed, analyzed, and used. So, questions that state policymakers ask are very different than questions that teachers ask, that are very different than district administrators. And so, how can we provide data to stakeholders at all levels in a way that answers the questions that they're asking of the system? And lastly, it's about building the capacity of stakeholders to use data. Again, this is a relatively new concept, in terms of using data for continuous improvement. So, how do we build the capacity of all stakeholders, from parents to teachers, to administrators, to policymakers, to use data appropriately and in a way that's geared towards continuous improvement with the ultimate goal of improvement student outcomes.

And so, as part of this work, as I said, we've really worked with state policymakers and really focused on building state data systems for use. But, as part of that, we acknowledge and know that, you know, the districts are really in the business of managing the educational process, and so, how can we really unpack this relationship

between what's happening at the state level, what's happening at the district level, and then how that then relates to what's happening at the school level. And so, as part of this work, we've begun to unpack some challenges that exist that have already been mentioned. One is that, there's just a cultural difference between the data that states are asking of districts and then the data that teachers are asking for from districts to really use for continuous improvement. So, you know, as part of the No Child Left Behind Act, a lot of the data generated are summative assessments, while what teachers really need are more formative measures. So, how do we sort of ensure the data the state asks for is useful to the end stakeholder, but then also, what are the other forms of data that teachers need to really use data in a way that's formatively and that helps individual children.

And then, the other issue that is I'm sure no surprise, it's just the technical barriers between state and district data transfer, so that; whose fault it is that often state data reporting requirements change and often change from year to year, and so there's just this technical issue of how do we really, maintain some consistency and make sure that these efforts are not duplicative and they are coordinated, and so really trying to have that technical conversation of, how can we reduce the reporting burden on schools and districts to meet state, state needs.

So, that is my presentation. Thank you. I will turn it over to Patrick to moderate the Q&A, and there's my contact information, if you have any further questions.

SC: = **Scott Cody**
PM: = **Patrick Murray**
LH: = **Laura Hamilton**
SJ: = **Sharnell Jackson**
EL: = **Elizabeth Laird**

SC: Okay, great. This is Scott Cody again from the What Works Clearinghouse. I want to thank all of our panelists for the presentations. And if you have questions that you'd like the panelists to answer, please use the text box at the lower right-hand part of your screen. I'm going to begin asking some of the questions that have come in already. The first question is: Why is there not stronger research evidence for these recommendations? Has it not been done? Or have the outcomes not been strong enough to support the recommendations? And I think Laura, if you could take that question.

LH: Sure, this was something that I think surprised a lot of the panelists as well. We reviewed a huge volume of evidence related to data use. Some of it was some studies that were specifically designed to look at data use, and some of it was from studies of other things, such as, you know, the effects of curriculum coaching. What we found was that, there were a small number of actual experiments, but they tended to be done with a very specialized student population. So, for example, there were a few that were done with special education students, or they were done in a way that didn't allow us to make strong conclusions about causality. And so, this has definitely been the focus of a lot of research, particularly recently, but most of that research has taken the form of surveys or correlational analysis that just don't meet those What Works Clearinghouse standards.

SC: Great. The second question, I think I'll ask this one to Sharnell. What kinds of teacher-principal professional development are most effective for training educators in effective data use?

SJ: Actually, the most effective professional development is actually considered, is inquiry-based professional development at the school level to avoid the problems of overwhelming staff with new data systems. What happens is, many times, when people focus on the data system, they should really be focused on the inquiry process around actually determining hypotheses around what they see in terms of the data for, you know, the student performance data, and using that as a cyclical process to develop action plans and instructional practices to differentiate instruction for students and to continue to monitor that process in terms of how that particular strategy actually worked with students, and then coming back, and looking and diving deeper in terms of the gaps in learning that they face. So, it's really an inquiry-based process and it's collaborative. It's with a team, it's with an action plan, and most of all, the structure.

SC: Great. Thanks, Sharnell. Okay, so the next question is: what are the panelists' suggestions for inclusion in a data team at the building and district level? And I'll leave that open to whoever wants to respond to that.

LH: Well, in the practice guide – this is Laura – we talked about a possible composition of a data team. And so, we suggested having at least one senior member of the school's administration, so I'm talking about a school-wide data team now, so the principal and assistant principal, two or three teachers, and you'd want to select those to represent various subjects and grade levels, so that you've got some different perspectives there, one or two classroom support professionals, such as reading

coaches, and, if possible, it's a good idea to include someone from the district, particularly someone who works in research evaluation or assessment so that you have that school and district connection on the team. But, you know, the decision about how to compose the team is really, really needs to be made with the knowledge of the school's unique context and, you know, what composition would best meet its needs.

SJ: This is Sharnell. I would just like to add by that by saying when I said structured before, I meant like a structured time set aside for teachers and that data facilitator, that data team to meet and collaboratively analyze and interpret the students' achievement data.

EL: Yeah, and I'm Elizabeth. Along those lines I would just echo what they said about having, you know, the leadership at the school as part of it, because this can't be an add-on. It can't be something that's more work. And so, having that leadership, you know, allocate time, and make it a priority and actually make it easier for teachers to do this, I think, is especially important in what we've seen.

SJ: And if you think about it – this is Sharnell – data is in every, in every aspect of what they do in terms of student learning in the school, so it's not an add-on. It's embedded within everything that they do, as it relates to student learning.

SC: Okay, another question that's come in. Could we get some examples of how specific data has been used to change instructional method in the classroom? Laura, maybe you could start, and we could move to the other panelists.

LH: I was actually going to suggest that Sharnell take that one, in part because Sharnell has just wonderful on-the-ground experience working with educators.

SJ: I would say the kind of data that's used is actually the, I think the most underutilized data is school-wide assessment data. So that's common, and when I say common, it's really common across grade levels. So, if you're talking about all third-grade teachers are using the same assessments. And it's formative assessments. It's aligned to the curriculum. And I think that in my position, in terms of what I did in the classroom and what I saw at a district level to be most effective, it was formative assessments, common assessments in schools, school-wide common assessments aligned to curriculum instruction, which is ultimately aligned to standards – right? – and as it relates to standards, its alignment with the assessments. So there's a connection from the assessment to the instruction to standards, and that's on a cyclical process. So I'd say formative, interim assessments, common assessments.

SC: Elizabeth, Laura, do you want to follow up on that?

LH: There's one thing I'd add, which is consistent with what Sharnell said, is having explicit links to help teachers figure out not only what students' strengths and weaknesses are from this particular data, but where to go next? So, links to specific lesson plans or other instructional guidance. And, as Sharnell mentioned, that's really facilitated when you have an assessment system that's closely linked with the curriculum, rather than something that's just sort of plopped in every, every two to three months. So, that linkage between the curriculum and the assessment and that guidance about where to go from here are what seem to really facilitate good use.

EL: Right, and in the districts that we've spoken with, one of the things that seemed to be especially important was the piece that Laura was just speaking about, which was the alignment of the assessment to the curriculum to the standards. And so,

making sure that everything is aligned and the supports are provided around that was an important piece, in terms of districts that really were able to achieve being data driven.

SJ: And this is Sharnell. I'd just like to add one point to that and that was start with the assessment in mind. Instead of planning assessments, you know, in terms of creating lesson plans, start with the assessment in mind and have targeted instruction as it relates to specific needs of students, the individual needs of students. And I think that that, if you continue with that cyclical process around analyzing the data and making sure it ties very; the connection, the alignment to the standards is going to make the difference.

SC: Okay, great. A question came in for Elizabeth. Miss Laird, you mentioned the unique identifier at the state level. Is there a rationale for a state-level ID as opposed to a national, particularly with respect to continuity from PK to 12 and college?

EL: So, I mean the genesis of the statewide unique identifier has been that states have really developed their own longitudinal data systems almost in isolation of each other, so that as they, they develop these systems to meet the No Child Left Behind accountability requirements, they really develop fifty different data systems, along with fifty different assessments, as has come out with the common standards. And so, I don't, there have been some conversations at a policy level about creating a national ID, and for the most part those have been shot down for privacy concerns. And so, I think what the most important thing is to do now that we have fifty different identifiers is to develop common data standards, so that we can define, you know, what a student identifier entails, so that when students do move across state lines, with

privacy protected, of course, that there is an ability to follow students across state lines, because the reality is just as students move across districts, they move across states.

SC: Okay, the next question. As was presented, the role of data in education has elevated in recent years. What efforts exist for including the necessary skill sets for using data in pre-service teacher education programs, administrative courses, and certification requirements? And, Laura, I'll send that one to Laura.

LH: Sure. I haven't seen any systematic documentation of what's being done, but anecdotally, we certainly hear much more about efforts to try to incorporate data-driven decision making into the coursework and the pre-service experiences that both teachers and principals get. There are, you know, organizations, such as New Leaders For New Schools, which place a heavy emphasis on helping their principal candidates learn to use data. At the pre-service teacher level, we're seeing a little bit more effort than in the past to incorporate an understanding of data into coursework. But it's not systematic and it's still the case that the majority of teachers in particular end up learning this on the job, rather than during the pre-service training.

EL: And this is Elizabeth. What I would add is that there are states who are beginning to have conversations about including demonstration of proficiency and data use as part of their credentialing requirements. And so, enacting statewide policies that require showing they are able to use data as part of being a teacher and using data to help kids is something that states are beginning to consider. And then the other point that I would raise is that something else that's also really sort of taking off is the idea of feeding data back to teacher preparation programs about how their graduates did in the classroom. The leading state on this front is Louisiana, but, which requires being able to

match teachers to students, and then based on how those, the students perform in these teachers' classrooms, giving that data back to the teacher prep programs so they can improve their curriculum and their courses to really better prepare teachers to succeed in the classroom.

SC: Great, thanks. The next question, what types of data are best suited for measuring growth? Laura, if you have an answer for that?

LH: Sure. There's, as we've heard, there's a lot of emphasis now on trying to create state data systems that allow the measurement of growth from one point in time to the next. In the past, there was a lot of emphasis on trying to use achievement tests that supported what's called a vertical scale that actually allows you to measure gain and achievement from one grade level to the next, but there are a lot of statistical methods now that are being used that don't actually require that vertical scale. And what we see with a lot of the state standards state assessments is that, it's hard to build that kind of a vertical scale into the assessments because there's such a need to focus on measuring grade level content. And so really one of the main criteria is that you have a testing system that is consistent over time, that measures common content to some degree from one grade level to the next, to the extent that that's feasible, and that you have an identifier, which Elizabeth was talking about, that allows you to follow students over time. --I think the harder thing is to then try to link that growth to a particular teacher. That's where it gets tricky to figure out, you know, who actually provided the math instruction for this student during the course of this particular year. Was it one teacher? Was there a supporting teacher who helped out? Was there any team teaching going on? And so, making that next step and trying to link that growth to a

particular teacher is a lot harder. But creating the system to simply, to measure student achievement growth from one year to the next is becoming increasingly feasible. The one thing I would add is that you do have to be careful in kind of interpreting changes from one year to the next as, you know, actually measuring an amount of learning or something like that. You have to be a little cautious in making those, those kinds of assumptions. But you can certainly track student progress over time and get a sense of whether kids are on track to meet proficiency goals, and whether they're, you know, performing better or worse than expected, given their past performance.

SC: Thanks. Okay, the next question, I think this is probably for all of you. Maybe we can start with Sharnell. What types of data collection and analysis can we do during instruction rather than after summative assessments?

SJ: During assessments, I'm going to say that that would be the common assessments used that are aligned directly to curriculum instruction. That's that formative, the interim, and the, you know, the common assessments of teachers, performance-based assessments. Many times, it's the performance-based assessments that a teacher is asking questions and they're using performance clickers. Or it could be, it could be a quiz. It could be, it could be a writing prompt. It could be, but that it's that common assessments that are tied directly to curriculum, to standards-based curriculum instruction that I think that are the most effective.

LH: Also, the discussion that we had about having students analyze their own data, that's something that, you know, really does take place in the context of instruction and, in fact, is and can be an instructional activity. And so, teachers and students together can analyze student work, provide feedback, get a sense of what they need to

do to improve. And so, that's, that's one type of analysis that really does have to take place in the context of instruction and can be a powerful way to help students understand what's expected of them.

SJ: And this is Sharnell. It's really multiple measures of formal and informal performance data that, again, I go back to the fact that it has to be tied to curriculum instruction, which is aligned to the standards.

SC: I don't know if Elizabeth, did you have anything else to add there?

EL: Hi. I don't have anything else to add except hear, hear, I agree.

SC: Great. Okay, the next question. How does one assuage fears that data will be used constructively and not punitively?

SJ: This is Sharnell. I think you have to start with the mindset of changing mindsets and have the issue in terms of dealing with data safety and transparency. I think the data needs to be transparent, but it also needs to be safe for teachers to be able use that data, student performance data, to reflect on their practice. And it has to be a change in culture in the way the data is used to not be punitive or evaluative, but used a means to reflect on practices, to improve them, and, at the end of the day, improving student achievement.

LH: And this is one of the reasons that we emphasize several, at several points in the guide, the need to really bring all stakeholders into the conversation, so that when you create your written plan for data use, and when you call your team together, you have the voices of teachers and others who will be affected by this and you can, you know, increase the likelihood that you're getting buy-in from everybody,

and that you're using data in a way that's appropriate, and it's not something that's just being handed down from the district to the teachers.

SJ: Right, and I think, you know, this is Sharnell, when you have structured time for collaborative inquiry-based professional development and support around that, that it actually has, when you have a structured time with action planning, it keeps the focus on the data, and it takes it off of being personal and focuses strictly on the student performance in ways in which teachers can actually work together collaboratively to solve that problem, in terms of how can you differentiate instruction using common assessments and curriculum that is aligned to standards.

EL: And I would just pick up on what Sharnell said, which is the notion of transparency. And so, it's not just making sure that the data are transparent, but also being crystal clear from the beginning about what you intend to use the data for, so that what we're seeing in some places that, is that data are collected, and it's only after the fact that stakeholders think about what they're actually going to do with it. But if you're clear from the very beginning about, this is why we're collecting data and this is what we intend to do with it, and not just clear in your own head, but clearly communicate that, as Laura said, to a broad group of stakeholders and get their input, then I think it really goes a long way to assuage the real rational fear of how data will be used, because it has been used punitively in the past. But, as I said to sort of kick off my remarks, it's really moving more towards this place of continuous improvement, but the only way to get there is if you're very clear about how you intend to use the data and are very strategic about the reason you're collecting the data and providing all those supports around it to make sure that it's used appropriately.

SC: Okay, we probably have time for one or two more questions. Here's a good sort of question towards the end of this. Where can I find a workshop or workshops that help stakeholders build capacity in the use of data? And I'll open that up to everybody.

SJ: So, we have to be specific on this one as it relates to, I think that there's many organizations that actually offer this kind of professional development, data-driven decision making for creating data teams in the school. I know that, for sure, one is in terms of data-wise, and those are things that they can actually look and actually choose to look up online and say, "Who offers that kind of professional development?" And, I know that some of them do it online, as well as they will actually travel to your location and use a train the trainer model to build your capacity and facilitate that within your district, but there's many different courses.

SC: Any remaining comments? I think we are almost out of time. Let me ask one final question. All of this alignment sounds like teaching to the test. Where does creativity occur in the classroom?

LH: Well, you know, one of the reasons we really try to emphasize not relying exclusively on state accountability tests or even on district benchmark and interim tests is that we recognize that excessive focus on those can result in narrowing the curriculum, and there's clearly some research on that. So, we do emphasize the need to think about data collection very broadly and to incorporate the kinds of data that teachers routinely collect in the classroom. And so, the guide doesn't intend to say that everything that you do in the classroom needs to be directly relevant to the state tests or to our district's interim tests. It's to say that those should be incorporated into your

decision making, but at the same time, as a teacher, you should be providing the curriculum that you think is, you know, the best one for your students, and collecting data, and working with students on analyzing their own work as part of that curriculum.

SJ: I think where creativity and innovation comes in is really by teachers giving that kind of feedback that is timely, and that's really appropriately formatted and very specific and constructive. And then that could mean getting suggestions for additional practice, but it could be activities such as project-based learning activities and giving; I think when students know how it is that they're going to be assessed upfront, and know the specific ways in which they are actually that, you know, that it's attainable and that they're reviewing actual achievement gains and providing them with a sense of control over their learning outcomes, I think helps them to actually be more creative and innovative in what they do.

EL: And I would just add, too, about even just changing what we think of in terms of data, because for so long, when you say data-driven decision making, the first thing that comes to mind is an annual assessment, and really expanding what we mean when we talk about data, that it's really about having multiple data points and using both formal and informal measures to really have a more holistic view of children, and where they're succeeding and where we, how we could intervene to help them. And I think if you're just trying to see that, too, in terms of accountability, one place I would encourage you all to look is Ohio's revamped assessment system and how they're moving away from just using a single test score to, really, multiple measures, one of which is having a capstone project. So, students will pursue their own capstone project that they're free to decide upon, and it's counted as part of their accountability system.

And so, even just thinking about, you know, more broadly about data and how we use the data, I think, I think we're getting there and I think we'll continue to see sort of an expansion of what we need in terms of data.

SC: Great, and with that I think we are out of time. We had a lot of good questions come in, and I want to thank everybody for submitting their questions. If you do have additional questions, and we didn't get to your question, you can submit it to pmurray@commworkslc.com, and we will try and get back to you. For more information, we've provided some of the websites of the organizations involved. There is the What Works Clearinghouse website, Mathematica Policy Research, the Data-Driven Innovations Consulting, Incorporated, and the Data Quality Campaign. But, on behalf of Mathematica and the What Works Clearinghouse, as well as the Institute for Education Sciences, I would definitely like to thank all of our panelists for all of your work and the information that you've provided us today. This webinar has been recorded, and it will be available to be viewed on the What Works Clearinghouse website in the near future. Also, watch the site. We'll be doing additional webinars in the near future on other topics as well, and you can be sure to check out some of our other products, such as intervention reports, which look at the research on specific education curricula, branded interventions, practices, and so forth, as well as our quick reviews, which look at individual studies, and our other practice guides, which are available on a host of different topics.

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