

The Impacts of MLN on Professional Work:

Report from the Interviews

In this investigation, the monitoring team interviewed a number of Math Leadership Network (MLN) participants and facilitators who play different leadership roles within their boards or at schools. While their roles implied dealing with different areas of school leadership issues, their feedback regarding the impacts of participating in MLN was informing for our purposes.

Methodology

The overarching study utilized the following research question:

What will the impact be on leadership capacity within the NE region if leadership teams come together to learn deeply about mathematics, content and pedagogy, system implementation and monitoring and shared commitment to a regional problem of practice, namely - declining mathematics scores across the region?

In its second year of existence, the MLN team also looked into the ways in which the leadership teams learn from each other. And, in what ways is new learning about mathematics content, instruction and assessment being applied in practice?

The chosen qualitative research approach for this study was a case study. According to Creswell (2003), the characteristic of a case study is that the researcher explores in depth a program, an event, an activity, a process, or one or more individuals—in this case the MLN members. The case(s) are bounded by time and activity, where the researcher is able to collect detailed information using a variety of data collection procedures over a sustained period of time. More specifically, this study follows a route of the collective case study, where, according to Johnson and Christensen (2000), the researcher believes that greater insight can be obtained into a research topic by concurrently studying multiple cases in one overall research study. The advantage of a collective case study is that a comparative type of study can be conducted in which several cases are compared for similarities and differences. In addition, a researcher is better able to generalize the results and test a theory by observing the results of multiple cases.

The research process

The semi-structured interviews were conducted during the September 20-22, 2017 MLN meeting in Sudbury. The interviewees recorded the name of the school board and a role for each interviewee, the perceived ways in which the MLN has impacted their professional work, and the benefits for their board from learning what other boards and teams are doing in the MLN. To find if there was a change in practice, educators were probed: “If we ask those who work with you, what are you doing now differently compared to a year ago, what would they say? And if you could give us an example.” Further questions included finding out the educator’s next leadership move (for system implementation monitoring) and the attached difficulties, as well as if they saw any shift in the way decision making about mathematics learning has been done in their board. The interviews with 20 MLN members lasted between 4 and 25 minutes ($M = 13\text{min}$).

Participants

Participating leaders play leadership roles at a number of school boards, including: the Algoma District School Board (DSB), Huron Superior Catholic DSB, Rainbow DSB, Near North DSB, and Nipissing Parry Sound

Catholic DSB. The roles each plays within these boards encompassed different capacities, such as: student achievement coordinator, school principal, teaching principal, numeracy facilitator, K-12 math facilitator, math lead, students' support lead, a resource teacher support lead, and student achievement officer. Within the scope of their leadership, many of them support their board's educators and administrators in different ways, and some (e.g., student achievement officer), provide opportunities for the MLN leadership teams.

Data Analysis

In accordance with the nature of the semi-structured interview, the interviewers used the guided approach to start each interview topic and allowed the participants to express their views (Gall, Gall & Borg, 2007). To obtain in-depth responses, the interviewers asked for elaboration on emerging topics. Qualitative data collected using the aforementioned items were coded using an open coding system and analyzed for emerging themes.

Results

Amongst participating leaders there was a consensus that participation in the MLN has been the one of the most impactful of some of the professional learning that they have had in their career, although many reported having participated in a number of other professional learning opportunities over the years. The majority expressed gratitude for the opportunity to participate in the MLN for many reasons. In the opinions of participants, MLN has helped bring together educators, principals, coaches and math leaders in a collaborative learning environment, where they were able to have professional dialogues around common concerns and how to address them in schools and at the board level through professional learning and networking. They also felt that MLN has helped deepen their math content and pedagogical knowledge quite remarkably and has consequently influenced their leadership styles within their varied professional roles.

Professional Networking

For most participants, building connections with professionals from other boards in the same region has been powerful in helping them learn from each other's experiences. Recognizing that they are all at the MLN for the purpose of enforcing change, they felt at ease discussing best practices, the successes, and also the challenges and failures of what they have experienced in an effort to help move all boards and their members further along in that journey. Many felt privileged to be able to connect with other professionals in the region, whether from their boards or other boards, for obtaining support when needed, only after participating in the MLN. An SA coordinator expressed:

Certainly the sharing when we're face to face during the three days in the MLN has benefited, but it's beyond the face to face. It's knowing that I can call... fill in the blank with any name in any board. So, I think it's created a culture of openness and willingness to share, which I think we previously had, but not to this same depth and extent.

A school principal agreed:

And so when you look at some of the other schools and school boards and see what their plans are, where they've seen success and how they've reached that success—then what it eventually does is it saves us time, so we don't have to do, perhaps the same mistakes, basically we can learn from one another.

Similarly, a numeracy facilitator expressed how impactful the networking component of MLN has been on their experience, as a new focus on mental mathematics has emerged in the school:

For example, with mental math, last year was our board's first year in that journey and I think it really helped to learn about the experiences of other boards who have been in that journey for a few years to help us see where to start and also to use that thinking around how to deliver and use information.

A board participant also explained:

We certainly didn't have that connection or the opportunity where you felt comfortable reaching out beyond your board [before the MLN]. So that certainly has changed. I think we're feeling more hopeful that we can try, in the comfort level of trying new things. And I think we tend to try them a little bit in this environment first, and get to talk with other people, like-minded people, or people that are comfortable challenging your thinking prior to doing that with the kids or with the teachers and educators.

In addition, a facilitator spoke about the impact the MLN has had on bringing boards from the region together and helping them see the benefits of collaborating together,

I think another really important way too, is that the MLN has impacted the boards and school authorities. I think now they value learning with and from the region. Whereas prior to the MLN there was the Ministry, they always had regional sessions. There were some boards in our region that felt like they needed to work with boards from other regions because they weren't sure they were learning anything with the people in our region, but I think the way the MLN has been structured they've come to see that we all have something to learn from each other and we can all push each other's thinking.

Promoting the Sharing of the Learning

Most participants expressed feeling a sense of responsibility to bring back the learning that they have been exposed to in the MLN, to their boards and schools. A student achievement coordinator explained:

I think that in my role, I'm recognizing the responsibility that I have – that the learning doesn't stay with me, and so I have taken my learning back and shared it in as many different ways, with as many different people as possible. And [it may be in the form] of sharing a resource that I've heard about, an article, a one-on-one conversation with the principal -you know- or much of my learning I've been able to take and share with some of our math coaches and our math learning partners.

Regarding bringing the knowledge back, a math facilitator similarly explained,

I feel like the MLN is really focused on research based practices, so whatever they bring to us I know I can trust it and it always seems to be so relevant to our next steps. They've been really responsive too. They know what we're working on, they know what other teams are working on, and they respond to it all by staying a couple of steps ahead of where we are. So, we've been able to bring some really great resources, thinking, and protocols to our board and our principals, that is moving us forward.

Similarly, a resource teachers' support lead described,

[A] lot of the learning that I've gathered from the MLN I've been able to share with the resource teachers, so we now have every resource teacher in our board doing a minimum of two intervention groups per day. So at least 80 minutes that's dedicated to math intervention. We've been strategic about the groupings that they're working with; we're using data and some in-boards school assessments to determine which grades we should focus on.

In fact, a numeracy facilitator thought that professionals participating in the MLN all showed interest and enthusiasm to bring back the learning to their boards and schools, she said:

[W]hile we're doing the three-day session [at the MLN] people come up and say, "oh, can you send me that link?," or, you know, even a video that was showed at the start of the week or some quotes that are shared, you just hear people want to do the fun activities like we have here. I think it's changing in the way they use some of the modeling we've done. They want a model of that same process.

Impactful Learning at the MLN

The majority of participants expressed feeling accomplished for participating in the MLN; because it has helped deepen their mathematics content knowledge and helped them recognize the need to do that with all educators of all levels in the system. A teaching principal explained: “[T]he MLN has given me a chance to broaden my thinking, to deepen my understanding, to deepen my content knowledge, deepen my pedagogy knowledge and to develop a more proficient understanding of math.” Similarly, a principal program gave details that MLN, “[H]as impacted what I’m bringing back to the system and it has especially helped my work with the Renewed Math Strategy around our intensive support schools because what we are learning here we are replicating in those schools.

In the words of another principal,

The work of Cathy Fosnot, has just really opened our eyes that this is the work that we need to do with all of our educators across our system and then allowing us this team time to sit together. We had our whole mathematics program team at the table with us, including our superintendent, and we were able to craft that renewed math strategy for our board, very specific to the needs that we were experiencing, as well as to meet the needs that suddenly were popping out for us.

A resource teachers’ support lead also felt that MLN has opened her eyes to deeper content knowledge,

I’ve always considered myself a fairly strong math student at the university and high school, but it was only when I participated in this kind of learning that I realized how superficial some of my knowledge was and how much deeper I needed to be able to go in my own learning in order to help students best in their learning.

Also, a students’ support lead added,

So, it’s been unique and comfortable to sit at the table with educators and to actually plan and talk about math. Not that I have all the answers, but [it is beneficial] to be part of the conversation and have a better understanding of mathematical learning and best practices, resources that are available, and ways that we can partner and strengthen for all our kids in the K-12 model.

Some interviewees also felt that their boards have benefited from the experience of being able to develop a framework for the whole school improvement. A numeracy facilitator who works with different boards felt that MLN has given many a direction to start their improvement plans,

I just think the MLN has helped to give direction to those who weren’t really sure where to start. And then, if there are teams that had an idea of where to start, I think the MLN gives them the research-based information they need to feel confident to move forward with a plan and to support it in a way that’s going to be impactful.

A numeracy facilitator gave the following reasons:

[W]e get caught to react based on the EQAO results. And so, we kind of didn’t have the time. The MLN provides us the time and the opportunities to look at the work of the researchers like Bullard, Fosnot, and Lawson. Whereas, maybe before the MLN, we would have gone with something that maybe not as research based or whatever that determines the tool... not to say that we would do it negligently, but you do it because you don’t know what you don’t know... and the fact that there was always this urgency to start changing practices.

Making the Learning Accessible to All

Furthermore, many interviewees reported feeling involved, as professionals and educators from different levels of the hierarchy are being brought to the MLN and are seated at the same table. This for most made the sharing of learning and the discussion of school change easier within their schools and boards. For example, a math facilitator said,

Definitely one of the ways, is common learning that we've had on our team. So, myself as a teacher leader, SOs, superintendents, and principal program and now we have some teachers within our school, we've got so many people coming together having common learning. And so, we really developed this group approach to the work we're doing. So, it's not like, if I'm learning something new I have to go to my superintendent and say this is a good idea we should do this. They're in the learning there with us, so that's been a good thing.

Similarly, a math facilitator elaborated,

our superintendent (well, one and a half superintendent because we have some half roles), and principal program, like we're all experiencing the same math learning at the MLN and then when we go to planning meetings back at the board we have a common experience that we can say, "well, we did this at the MLN, don't you think that would fit well with what we want to see happening here?" It's not like we have to recreate the experience for everyone else. We've all had this same experience as decision makers, and so we can just make decisions that are more precise and intentional and faster too. Like, you know, time is the essence when you're trying to make a difference for kids.

Leadership Plans for System Implementation Monitoring

While MLN offered learning and networking opportunities for educators and professionals at different levels of the hierarchy, individuals and boards began to implement the learning they have been introduced to in different ways depending upon what suits their particular school needs and planned directions. In making plans on how to implement monitoring, participants expressed a need to reach a common depth of understanding, among teachers within mathematics departments and with senior admin teams, about what monitoring is, and what it looks like in the field, at the school level—recognizing that monitoring is not evaluation, and it is not something external that is done to people, but rather focusing on how to work together. A principal program expressed that at their board,

[W]e've decided as a senior executive team that we are focusing strictly on monitoring as our overriding goal for the system.... We have all the resources that we need to make this shift in our thinking and our teaching practice but where it falls apart is the monitoring of what that looks like. So how are principals monitoring what teachers are doing and how are teachers monitoring how their students are learning? How is that conversation coming back then to senior admin table? And how are senior admin monitoring how principals are conducting this work within their schools? So, I think that that's something that we realize is a gap in our admin learning in terms of do they even know how to monitor and what to look for in a successful math class.

An SO, also described her vision of implementing the learning,

[W]hatever we're doing at the MLN should influence the work we're doing with K-12 and specifically 7-10. So that's the first one, just a better understanding of the math and how students learn math in a more systematic way, what are the conditions? A better understanding of the conditions in order to mobilize this learning.

A numeracy facilitator explained about the kind of learning to take back:

We really need to be a lot more specific with the professional learning that we're engaging in, or what we're providing for educators. And then, we've been in the classrooms too, we're being more specific with the work we're doing in classrooms and also teachers with their students. I think our assessment methods need to change a little bit. So, maybe assessments need to be more specific, specific to a goal. Or a learning goal for students... we can make suggestions for parents some things that they can do to instill that learning at home or to practice the learning at home.

Another facilitator also added about the learning that has been done at her school:

What we're sort of trying to put into place right now is we're thinking about limiting the number of projects that we're working on this year... And the thing that was most well-received I guess was we did a full day of grade 3 and 6 learning, but we invited the school team to come. So, we had the grade 3 and 6 teachers that are specialized as resource teachers and a facilitator of the school, and the principal, and vice principal sitting in class in hubs. So, we had just four days and we would gather maybe three or four schools together in a school site. Spent time learning together, went into a classroom and acted stuff, then came back into a classroom. We're doing a lot of modeling stuff. And the feedback from that was very positive and they asked for more. So, we're thinking that this year my system work will be kind of like a mini MLN but our leadership teams are going to be all over grade 3 and 6 teachers with certain facilitator principal and that the learning that we're going to do will support, just as this is supporting the deeper math learning for the collective, but also something that can bring back to their schools at some level.

For one school, they have been provided a math learning partner. The school principal envisioned that a logical next step would be to start doing some PLC work or some PD work with combined staff from the two schools so that the staff from both schools can learn from each other. Another school principal reported that his plan was to start with small steps towards change and implementing the learning,

My next move would be to keep it small. Start with a small group of teachers, one or two teachers. And really take the time to slow down and give them the proper in-service or the education around the continuum, for example strategies. What does the continuum mean? What does it mean for their classrooms? Their students?

Another school was reported to bring forward the cooperative analysis protocol from what has been done at the MLN in July, to principals and math coaches. For them, that is in the process of being a next move in which they are looking at the whole school assessment and analyzing the data.

For a numeracy facilitator who works with a school that is not using the whole school assessment approach yet, she explained,

My intention for that day [PD day], is to do some work with teachers to really help them to understand the different mental math strategies that Alex Lawson and Kathy Fosnot referred to. And then we're going to implement using the monitoring tool [we created at the MLN meeting] to try and get to move our students. So, we're going to create a tracking board and do some diagnostic pieces and place their kids on that board and actually start implementing some of the work around using models and tools to elicit students' thinking around Number Talks.

A math lead also explained that for her,

My other big leadership move is how to turn perceived constraints into assets. So, I'm reading a little bit about that now because I get a lot of, "well we can't get this and this." So, how can we turn that around and promote creativity and inspire hope in this?

Anticipated Challenges in Implementing Change

For some, one of the anticipated challenges in bringing the knowledge back was how to promote a mindset of slow and steady steps toward change, rather than looking for immediate change. A school principal expressed his concern, “So, what I want to be prepared for, is that this is not how it works. And so, we’ll celebrate these mile’s victories and we’ll continue to work.” Others were more concerned about how to impact teachers and appropriately use the available resources so that teachers feel supported, in a timely manner. Another school principal expressed concern about how, “to stay focused, because there’s so many directions that you’re pulled in.”

Similarly, a math lead anticipated challenges in terms of promoting teachers’ ownership and creativity,

I think the most difficult thing I find going is that I have to get them [teachers] to change their thinking. So, teachers are remarkably compliant. They will do fine, “if you just tell me what to do and I will do it.” So “no, I want you to do what you’ve always done and I just want you to think about it differently.” And that’s my biggest challenge to get real change in shifts in thinking. And then the doing will come out the back door.

For a math facilitator concerns were somewhat different,

So, I feel like there are schools that are in different places with that whole school assessment and they’re asking already “OK, we’ve got some interview data, what are we doing with that?” and I see how much we’re struggling today with what does that coding and looking for trends [look like]. We’re seeing how much we’re struggling with that, so it’s concerning me that, OK, how are schools equipped to be able to take this on themselves? Because we know it’s going to look different in every building, so that will be a challenge.

For a numeracy facilitator, the biggest concern was time and strategic planning,

It’s not going to help to tell them this is the strategy and this is how you can decompose and recompose a number. People actually have to experience it for themselves, and that takes time. And so, it’s trying to figure out how to make the best use of the time I have.

On the other hand, while the resource teachers’ support lead was enthusiastic about the changes she wished to make while implementing the learning she had in the MLN, she was concerned about changing teachers’ mindset,

[W]e’re still very much struggling with shifting from modifying math programs for special education students to accommodating and making sure that you understand our profile better so that we can just provide the least restrictive curriculum, which would be an accommodation versus a modification. So that’s still something that a lot of resource teachers are grappling with and classroom teachers too because it hasn’t been our past practice.

She also added,

[I]t’s been a change in status quo. There’s been a change in how we’ve done things in the past. And even though the resource teachers especially have a very fantastic group they’re very keen and they understand why that wasn’t there before and how this is so much better, I don’t think the understanding is right there yet about how to intervene to accommodate, to close the gap. Because before, it was easier to give them a different curriculum.

Appreciation of collaborative knowledge and efforts

Some interviewees thought that there is evidence of change, in terms of recognizing the important role the supervisory officers, numeracy facilitators, and principals play in math learning and teaching. A principal reported,

There has been a shift with the renewed math strategies and knowing that this vision is a three-year vision at this point has been really great. And also, we have increased our numeracy facilitators' support. We've gone from one to three [of them], which is fantastic. Two of them are in the city but we have our outline area, we have one specifically dedicated to this district area. And it's been tremendous help in supporting the learning in the building.

Similarly, a math facilitator described that,

The people I'm working with on the board level, I mean they said it over and over in our team, it's so amazing that we have a voice in this process of building the school assessment, because in the past it has felt like the board said "here, this is an assessment that you need to do" and they had no ownership of it, they didn't have the knowledge of why it's important, where it's going to go, how is this data going to impact my class tomorrow, sort of thing. So that's been a big part and our principal had commented on the alignment between what your teachers are learning along with themselves in board led PD and how it aligns with what SOs are learning in principal sessions, and what classroom teachers are taking back, so just an alignment is more precise.

One board participant also described that,

The engagement the superintendent in this team, and her decision to ensure that the team included people from every single sort of walk of our curriculum life has had an unbelievable impact on our system board level... That's a huge, gigantic change, you have three superintendents sitting in a room with a bunch of leads working, not just sharing, not just show and telling them...

A numeracy facilitator also shared,

[O]bviously there's a sense of urgency there and senior admin recognize that sense of urgency and they're saying like: "What can we do to support?" Our senior admin has been very interested in being part of the learning to the best of their ability and, you know, we all know how busy things are and how difficult it is to be at the table that they really have made an effort to be part of that, which is great!

While some participants felt that decision-making styles continue to be top-down, some reported improvements in terms of involving educators and facilitators in different ways. A facilitator explained,

To me, the greatest aspect is that the superintendents are sitting at that table. Partly because they have authority to make decisions. And now they've got some of the content and pedagogy that allows them to make those decisions because the numeracy facilitators don't get to make the system decisions. And I'm not saying they have all the right answers but they really don't make the decisions. Even system principals may not be making decisions depending on the culture in a school board without the SOs at the table, I really don't think we would see what we're seeing as far as system change.

A school principal also agreed that her participation in the MLN has helped her become more comfortable with allowing teachers and staff the space to lead and do things for themselves, she explained: "[I am] sharing a lot more resources [now], using the lingo, encouraging more leadership amongst the teaching staff... , there was a time when I thought I had to do everything [by myself], but I don't."

Also, in response to this recognition of the significance of collaborative work and the role numeracy facilitators play in advancing math teaching in the region, more collaboration and willingness has been evident since the surge of the MLN. A numeracy facilitator explained,

[There is] this notion of flattening the hierarchy; having superintendents in school, numeracy facilitators sitting around the same table to engage in learning. And now, when they're back in their boards making

decisions or engaging in professional areas there, they bring that flattened hierarchy lens when they're thinking. Of course, everybody has a different role and superintendents are making the decisions about learning, but now they can see for themselves that the math experts have both the support knowledge and the wisdom, about not just math and content pedagogy, but about what's actually happening in their system that they're valuing it.

Another facilitator also added an interesting perspective about the sense of collaboration among professionals from different schools or different boards,

I think it was really interesting to notice and appreciate the different strengths that different people bring to the table. And, rather than worrying about everyone being on the same page, thinking about the fact that all of our different pages are making a better story. And, honoring those different perspectives. And, giving time for each of those perspectives to take route. I think some of the actions that we've been able to undertake in this work and that we've been grouped and regrouped and moved around have really facilitated that. And though it's been in some respects a little frustrating that we didn't have more time with our like roles, I think maybe there's an intentionality behind that in terms of us needing to cope with not everybody being in the same space in terms of that content base.

Furthermore, a numeracy facilitator explained: "The MLN has really shaped how we look at our professional learning and how that looks like as a collaborative approach and what we want to see in our schools." A facilitator also argued that this sense of collaborative learning has led people in different roles to feel a positive sense of efficacy. She explained,

And the thing I'm really thinking about is the sense of advocacy on the part of the four teams that they can do this work. I think they just didn't know they could before and because we brought them together as teams even with the board, you know superintendent might not have known much about the content and pedagogy and felt like they had to make a decision and wasn't even sure it was the right decision. But I think now that they've worked with numeracy facilitators, and system principals at the same table now they're bringing this sense that as a team we can do it right. I don't have to make all these decisions myself and I don't have to do all the work myself that we're going to do this together.

A resource teachers' lead also added that the sense of collaboration has also led to more focus on mathematics learning and teaching, she argued:

[Before,] it was very literacy-based. So now, because we've taken such a big swing towards the math, there's lots of collaborative discussion amongst the school board, every time we meet. Now, it's about math ... we're looking more at students' work, we're looking more at data than we did before. I think we have a few more assessment procedures in place. We've kind of developed a board in-house collection of assessments that are administered at each level that we didn't have before and we're using that data better to make decisions about spending the resources, allocation of our time as a program team.

Realization of the Significance of Mathematics Content and Pedagogical Knowledges

Participants also thought that professionals and teachers are becoming more attentive to different ways mathematics instruction can be handled and its importance. A facilitator said: "It was more about 'the what' to teach than 'how to' teach." She added: "[We are now] better at presenting different models of how to problem solve." A math lead similarly explained,

People are starting to pay more attention to the mathematics instruction. Have they actually made shifts yet? No, but they're thinking "I've got to do something" and they're thinking about mental math much

more than they were when I first started it. And they are aware. They want to do better. So, there's a shift that's important and they want to figure out how they can do it.

The resource teachers' support lead also described how MLN has impacted practice at his school,

We've got more resources for them [teachers]. We work more collaboratively around it. There's been more math discussion. The questions I'm getting now are very different from the kinds of questions we were asked before. If I, kind of, went through all the e-mails and questions for the week, 90 percent were around literacy—"I have a student stuck at this level, what do I do?" But now, we're seeing a shift towards math.... I think before, most of our meetings were very much about procedure protocols and now, it's more [about] learning.

Improved Facilitation Content and Skills

Many participants reported that participating in the MLN has helped improve their facilitation confidence and skills. A numeracy facilitator explained that MLN has helped him become a better PD facilitator,

[T]he biggest piece that I'm really focusing a lot more on, is helping people to see how using visual representation really helps to build understanding. So maybe in the past I was looking more at numbers, sort of thing. Abstract representation of numbers that we're kind of shifting to using, like, we're using number line, for example.

And a math lead also explained how her PD facilitation has changed,

I'm doing less telling and I'm asking more provocative questions. I'm much more tuned in to exactly what their [teachers'] needs are. My work is more data driven..... [I became] a real proponent of those [visual models], which I was not necessarily for. For instance, models talking--I never really talked about models before. And now we're looking at both the opening number line, we're looking at 10 frames, and arithmetic racks.

Similarly, the resource teachers' support lead elaborated,

So, we come together, we've done a lot of PD with the resource teachers. Every time I've left MLN and we've gone back there's a board team and we work together to do a full day workshop with our principals, our math leads we brought into that, and we also included our resource teachers. So now in within that school you have a little hub of learning connected to the MLN, you have the principal lead math, the teacher lead, and then of course the resource teacher..... For me personally, I started right at the beginning. So, every time we've gone back we've planned a full day session for a lot of the activities, a lot of the learning, the handouts that we've gotten here have been the basis of what we've done with the rest of them. It's been great! And then we've also spent a bit of time touching base with the RTs throughout the year around what they're seeing that brings students' work up more than they did before. We're talking about the concepts that we're trying to build their capacity in, but at the same time supporting them and what they need to do with the students.

Another facilitator also saw improvements in his work with educators and teachers, as a result of participating in the MLN,

Active listening has been something that I've been trying in this time around in this role. Really paying attention to, and perhaps, I'm a better collaborative partner [now]. A lot of the time in the past they expected me to do everything. And I've been OK with that because it has empowered me. I find I do a better job of working alongside other people. And our growth mindset project is a great example of that

because it was something that each one of us brought something different too, and our impact at our board level was really significant.

One numeracy facilitator added,

[MLN has] deepened my understanding of mental math. Of composing and decomposing numbers into using models. So, I think it just gave me a much better toolbox in terms of helping my teachers to teach that in a better way. Now that I have a really solid understanding of it myself, I think it makes it a lot easier to know what experiences to give my teachers also what experiences to give students in order to help them develop that understanding.

Clear Direction and Strategic Intentionality in Decision Making

In addition, many felt that within their schools, or boards their planning has become more informed and intentional. One facilitator explained: “we’re really now focusing specifically on the monitoring and checking. So that’s an area that we identified that was an area of need ... I think the MLN itself has provided a lot of ideas for next steps for us.” A school principal added:

Now I feel that we’re more focused and intentional in what we’re doing for our school planning for this year, and I feel like we’re taking smaller bites this year, rather than looking at the whole school change immediately.

Another school principal thought: “It’s not uniform, however there has been change. I believe what’s been key to a number of our teachers is that there is an openness to collaboration. Everybody understood that it is an important piece.”

Additionally, a principal program saw improvements in how precise and intentional the planning has become at their school,

[E]ven just last week our program team sat with our superintendent and coordinators around our early learning and we were trying to come up with our board improvement goal for numeracy. And the language that we’re using is just completely different. So, we are still going to use the EQAO measures, yes, we’re still going to use report card data, yes we’re still going to use some of those other tools that we’ve used over time but our language is so much more precise in terms of what it is that we want to see. And we are okay to say that a lot of our kids are just stuck in that phase of counting. We want them to be working with numbers so that’s all we’re going to say, like we want to move kids from using counting strategies to working with numbers. Is that going to affect the whole entire mathematics curriculum? Maybe not. But before we can affect the whole entire mathematics curriculum, we feel that this is where we need to start.

Similarly, another facilitator believed that the work done in the MLN greatly impacts the work of professionals in their own workplaces. She explained that her previous work within different school boards was not as focused and intentional. She used to facilitate their PD sessions, helped schools in the primary division to understand composing and decomposing numbers. She explained:

But a lot of what we did was not working with the same group of people over time and monitoring their learning and ensuring that it was supporting to the learning. So, honestly for me, I felt like we’re not really sure we’re having much of an impact here. I mean this is all great learning what we’re doing but we’re not sure that it’s creating significant change for students or for educators. And so now [after the MLN] we actually can see the impact. So for example in one board that I worked with, the numeracy facilitators were all new and had a great need to develop some math content and pedagogy first, and also how to facilitate. And so we saw within the year a shift in them participating in the MLN in developing content

pedagogy and seeing some facilitation skills. A shift in how they work with their school staff. For example, at PLC I think even more important their work with their system, with their principal, and superintendent and the senior admin team whenever they had the principal meetings and they started facilitating, now it was much deeper. They had higher expectations for the participants. It was more meaningful and the principals all became highly engaged. And now, when they were back at their schools, they were having different expectations for their staff and engaging in the learning in a deeper way. So, we can actually see that we didn't have to do the work for them, and now they are sort of asking us to help them think through what that work would look like. So, they're on their own now.

Recognition of the Different Learning Needs among Students

Furthermore, some participants believed that they have become better able to understand that there are a variety of needs in the classroom, and that they, while pushing for change, still empathize with the classroom and the teacher and the system, and look for ways on how to work together on how to implement a plan that is going to be simple enough and manageable enough for the classroom teacher to use. For instance, the resource teachers' support lead explained,

We've done a lot of work around the cognitive processes more with principals, with resource teachers, and classroom teachers, just giving them a better sense of recognizing the importance of knowing the student and the student's learning profile, to develop good ideas around that. So, we're still working on that. It's kind of where the focus needs to continue to be.

Conclusions

Despite all the anticipated challenges in bringing the knowledge back to the work field in an effort to make positive changes, participants believed that their participation in the MLN has impacted their practice and the shape of mathematics learning and teaching at their schools in different ways. Many pointed out that there has been more intentionality around decision making, in addition to facilitators' increased confidence, and the general understanding of the significance of sharing the knowledge and collaborative efforts. Others appreciated the evidence of growth in the mindset of school staff who have been part of the MLN. Given that the incentive for creating the MLN was to counteract the decline of the EQAO achievement scores in mathematics in the NE region, it proves to be a phenomenal success that the system leaders feel invigorated in doing this enormous task and expressing confidence in the strength of their regional counterparts.

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