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STANDARDS FOR PROFESSIONAL LEARNING

INSIDE

Standards for Professional Learning outline the characteristics of professional learning that leads to effective teaching practices, supportive leadership, and improved student results. *Learning Forward* is the only association focused solely on the most critical lever in improving schools – building the knowledge and skills of educators.

In this edition, we highlight one of the standards: **Implementation.**

Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change.

Professional learning produces changes in educator practice and student learning when it sustains implementation support over time. Episodic, periodic or occasional professional learning has little effect on educator practice or student learning because it rarely includes ongoing support or opportunities for extended learning to support implementation. Formal professional learning, such as online, on-site or hybrid workshops, conferences or courses, is useful to develop or expand knowledge and skills, share emerging ideas, and network learners with one another. To bridge the knowing-doing gap and integrate new ideas into practice, however, educators need three to five years of ongoing implementation support that includes opportunities to deepen their understanding and address problems associated with practice.

Ongoing support for implementation of professional learning takes many forms and occurs at the implementation site. It may be formalized through ongoing workshops designed to deepen understanding and refine educator practice. It occurs through coaching, reflection or reviewing results. It may occur individually, in pairs, or in collaborative learning teams when educators plan, implement, analyze, reflect and evaluate the integration of their professional learning into their practice. It occurs within learning communities that meet to learn or refine instructional strategies; plan lessons that integrate the new strategies; share experiences about implementing those lessons; analyze student work together to reflect on the results of use of the strategies; and assess their progress toward their defined goals. School- and system-based coaches provide extended learning opportunities, resources for implementation, demonstrations of the practices, and specific, personalized guidance. Peer support groups, study groups, peer observation, co-teaching, and co-planning are other examples of extended support. When educators work to resolve challenges related to integration of professional learning, they support and sustain implementation. Professional learning is a process of continuous improvement focused on achieving clearly defined student and educator learning goals rather than an event defined by a predetermined number of hours.

If you would like to read more about the ***Standards for Professional Learning***, visit the national organization's website at: **https://learningforward.org/standards-for-professional-learning**.

GROWING UNDERSTANDING TRANSFORMING LEARNING

by Dr. Beate Planche

In *Learning Forward*, as an organization, lists **Learning Designs** as one of its standards for professional learning. This standard outlines an international goal for effective professional learning:

> ***"Professional Learning that increase educator effectiveness and results for all students integrates theories, research and models of human learning to achieve its intended outcomes" (JSD – The Learning Forward Journal, Feb. 2016, p. 11).***

In Ontario, we have clear outcomes and goals in mind that now include the integration of modern competencies using a variety of learning models. As the Ministry report on Phase One – 21st Century Competencies (Winter, 2016 Edition) reinforced – cognitive competencies such as critical thinking, analysis and problem solving are important but are no longer touted as the only prominent indicators for success (p. 10). Interpersonal and intrapersonal growth are now being recognized as just as important as growth in the cognitive domain and the fundamental domain of being able to communicate well. Increasingly, we know it is important for adults to have strong people skills as well as reliable working skills. An important question in teaching this generation of students is how can we nurture and capture the impact of emerging *'softer skills'* in student learning? As well, in what ways can we integrate social, emotional and academic learning authentically so that learning can be assessed as a part of our evolving understanding of student success?

Building success in school on social, emotional and academic learning is not a new concept. Research on the social nature of learning was well received in the mid 1990's through the work of Daniel Goleman and his concept of emotional intelligence (1995), and the work of Maurice Elias and colleagues (1997) and their work through the Collaboration for Academic, Social and Emotional Learning (CASEL). This important research reinforced the social nature of learning (Elias et al, 1997) and that much learning is relational and impacted by relationships (Zins et al, 2004). A great deal is now known about the impact of a safe, supportive learning environment on student success. As well, the ability of adults in a learning environment to work well together in the service of students also impacts student outcomes.

Present efforts to integrate an inquiry stance in curricular implementation support what research has already illuminated – that self-motivated learning is possible in contexts that provide for choice and control (McCombs, 2004). As McCombs wrote:

> ***When students have choice and are allowed to control major aspects of their learning (such as what topics to pursue, how and when to study, and the outcomes they want to achieve) they are more likely to achieve self-regulation of thinking and learning processes (2004, p. 25).***

This is a vital understanding for us as educators as the outcome of student alienation is linked to the failure to provide supports to address the motivational needs of competence, autonomy and relatedness which in turn impact commitment, effort and quality of student work (McCombs, 2004, p. 26).

Presently, we are also making explicit links between developing social and emotional competencies and the concept of well-being. Well-being is now a defined goal of public education in Ontario (Achieving Excellence: A Renewed Vision for Education in Ontario, 2014). And yet, there are challenges evident in the implementation of Social and Emotional Learning (SEL) as a construct with sustainability of effort being a realistic concern in environments top-heavy with curricular and academic demands. Teachers continue to feel the pressure of parental and provincial mandates and much of our emphasis in professional learning is based on clearly evident concerns about student achievement in subjects like mathematics. How can we integrate and sustain learning priorities more effectively for adult and student learners is a relevant and timely leadership question. This question also aligns with another *Learning Forward* Standard – that of **Implementation**:

"Professional learning that increases educator effectiveness and results in educator effectiveness and results in changes for all students applies research on change and sustains support for implementation of professional learning for long term change" (JSD – The Learning Forward Journal, Feb. 2016, p. 11).

In my opinion, it is a recipe for scattered implementation results if concepts about SEL, or as used in some settings SEAL (Social, Emotional and Academic Learning), are seen as "programs to deliver". What might be helpful is to reframe our understanding of how to integrate SEAL more authentically by using clear language that we all can recognize as vital and which links emotional and cognitive well-being to every subject at every grade level. At the core of this work, I contend that we have the task of *'growing understanding'* for the individual learner and between and among all learners – *understanding of the learning or work at hand and understanding for our work and learning together.* As well, I suggest these two dimensions of *'growing understanding'* need to be employed hand in hand and underpin how we can better engage all learners. We need to become explicit in engaging young people in making connections to both the cognitive demands within learning activities as well as the relational aspects which enrich the learning. We need to engage learners in transformative learning that builds a sense of connection and engages our *'heads, hearts and hands'* (Singleton, 2015).

I don't mean to diminish wonderful programs and projects available to schools which focus on specific skill building such as Tribes training or the use of restorative approaches. My intention is rather to say that just as inquiry is as much of a philosophical stance to learning as it is a pedagogical choice, *'growing understanding'* is an approach to building relationships as much as an element of effective teaching and learning.

What does *'growing understanding'* really mean? We have been comfortable with several different streams of meaning for the definition of understanding in our educational contexts for many years. As an on-line version of the Merriam-Webster dictionary reports – the meaning of understanding includes a mental grasp or comprehension of concepts, a friendly harmonious relationship as well as an interpretation of something (**https://www.merriam-webster.com/dictionary/understanding**). For example, we are comfortable using the word in the following ways: "We have a thorough understanding of a concept" or "We have an understanding as to how to divide our work load" or "We have a relationship based on treating each other with kindness and understanding". Our grasp of understanding as a term includes our acquisition of knowledge and the building of intellectual and emotional capacity. We also appreciate, perceive and grasp deeper meanings through developed understanding and, I would add, the special ingredient of empathy. Understanding is at the core of cognition and metacognition as we think about our own thinking and our own knowing. Metacognition influences how we plan, monitor and evaluate our own progress and influences the development of self-regulation.

The National Research Council issued a very interesting report in 2002 entitled "Learning with Understanding: Seven Principles". While the report was aimed at improving the study of mathematics and science in high schools, the concepts are broad and I believe apply to every discipline. They also add depth to the concept of *'growing understanding'*:

1. **Learning with understanding is facilitated when new and existing knowledge is structured around the major concepts and principles of a discipline.**
2. **Learners use what they already know to construct new understandings.**
3. **Learning is facilitated through the use of metacognitive strategies that identify, monitor and regulate cognitive processes.**
4. **Learners have different strategies, approaches, patterns of abilities and learning styles.**
5. **Learners' motivation to learn and sense of self affects what is learned, how much is learned, and how much effort will be put into the learning process.**
6. **The practices and activities in which people engage while learning shape what is learned.**
7. **Learning is enhanced through socially supported interactions.**

It is clear that if students learn many disconnected pieces of content, we have engaged them in rather poor pedagogy. Students must

make sense or *'grow understanding of'* the big ideas in each content or disciplinary area to be able to move from subject knowledge to application and refinement. Certainly, if we want students to understand cross-disciplinary connections, this must involve intentional planning on our part as educators. This is why we spend time on activating prior knowledge to connect to new and evolving knowledge. This is why we test our assumptions about what students have understood versus retained. We use concept maps to help students see and find connections and we engage students in academic discourse and conversation to make the abstract more compelling and use realistic models, whenever possible.

What affects a student's sense of self is the involvement of emotion – linked to confidence, motivation, curiosity, relationships, safety and trust. Emotion is evoked every time students join other students at a table or task. Students may be anxious, encouraged, humoured or wary of the expectations inherent in working together. Staff experiences collaborating together mirrors student experience. There are conscious and unconscious needs at work in any group situation for student and staff learners. As Daniel Goleman's work highlights, we all want to belong, to have a sense of control and to be engaged in team work that develops shared understanding. Thus, we need to develop *'understanding for'* each other as we learn together.

For those of you who are fans of Twitter, Thom Markham recently wrote a very thought provoking posting for Mindshift (Nov. 16, 2016), where he suggests that empathy holds the key for transforming 21st Century learning. As he writes:

> ***"What if we discovered one unifying factor that brought all of this confusion under one roof and gave us a coherent sense of how to stimulate the intellect, teach children to engage in collaborative problem solving and creative challenge, and foster social-emotional balance and stability – one factor, if we got right, would change the equation for learning in the same way that confirming the existence of a fundamental particle informs a grand theory of the universe? That factor exists: It's called empathy."***
>
> **ww2.kqed.org/mindshift/2016/11/16/why-empathy-holds-the-key-to-transforming-21st-century-learning/**

Markham suggests that empathy provides *'the emotional sustenance for outstanding human performance'*. It includes *'the feeling of being able to understand and share another's experience and emotions'*. He goes on to write about seven *'dots'* or concepts which connect the importance of empathy to what I will call *'growing understanding for'* **each other** and **the work or learning we do together.** The *'dots'* are summarized:

1. **Empathy underlies collaboration – as today's students will work together within workplaces and across cultures.**
2. **Empathy is healthy – as well-being, health, relationships and personal strengths are impacted by our ability to be empathetic.**
3. **Empathy promotes whole-child learning – as empathy activates the heart as well as its 40,000 neurons that travel from the heart to the brain. Gratitude and appreciation, cousins of empathy, show positive effects on brain function.**
4. **Empathy 'opens' us up – as being 'in flow' states helps us to function at peak levels.**
5. **Empathy powers up inquiry – developing cultures of care makes open-ended questions safe and encourages caring about learning.**
6. **Empathy triggers creativity – as it is often the first step used in design processes in crafting new software – 'sinking into the mind of another' so to speak.**
7. **Empathy unites – a key emotion critical for billions of people to live in harmony and co-operation.**

Adapted from **ww2.kqed.org/mindshift/2016/11/16/why-empathy-holds-the-key-to-transforming-21st-century-learning/**

As a recent 2012 *OECD Practitioner Guide: The Nature of Learning* contends – emotions are the primary gatekeepers to learning. Emotions and cognition operate together and guide our learning. The report also suggests that the ultimate goal of learning and associated teaching in different subjects is to acquire *'adaptive expertise'* – the ability to apply learned knowledge and skills flexibly and creatively in different situations.

Three broad pedagogical approaches are seen as important to acquiring adaptive expertise:

> **GUIDED LEARNING –in which the teacher takes an active role in determining learning goals, measuring outcomes and involved in giving feedback;**
>
> **ACTION LEARNING – in which learners take a more hands on role in determining the objectives of learning and where learners also become more involved in self-organization and planning; and**
>
> **EXPERIENTIAL LEARNING – where the learning is not controlled by teachers and goals are not predetermined but determined by context, motivation, discoveries and collaborations with others. Experiential learning is sometimes seen as a by-product of the activities (p. 3).**

These approaches need balance and intentional integration to be effective. It is clear that these kinds of approaches also impact students *'hearts, heads and hands'* – a great formula for deeper learning. Emotions influence the development of motivation – both intrinsic and extrinsic motivation and provide diagnostic information to teachers in terms of revealing student commitment to learning as well as their concerns.

Recognizing the role that emotions play in learning can help us to *'grow student understanding'* - under-

standing of the demands of the curriculum while helping students grow understanding for each other as well as the role support plays in the learning process itself. We are co-learners in the process and do this through facilitated classroom discourse and activity, through professional learning, and through leadership team work. Specific SEL or SEAL programs can certainly support this quest but I believe it needs to begin with adults modelling how we grow understanding of our own work while being empathetic and caring about each other as professionals and colleagues at the same time. Our students need to see us as learners as much as teachers. We need to be explicit in modelling how we come to understand concepts and to co-construct meaning with each other and with our students. The value of collaborative inquiry in Ontario as a learning vehicle brings this point home. Deeper forms of co-learning involve our emotions, our reflections, our experiences and shine a light on the value of collaborative learning efforts (Sharratt & Planche, 2016).

Jack Mezirow would call our challenge a quest for **transformative learning** (1997, p. 5) – where we consider a frame of learning which encompasses cognitive, conative and emotional components. In transformative learning, we seek to become aware and reflective of our own assumptions as well as that of others. Discourse is necessary to validate what and how one understands or arrives at best judgments. Becoming critically reflective is fundamental to effective collaborative problem posing and solving (p. 9). Learning contracts, group projects, role play, case studies and simulations are learning designs that are associated with education that is considered transformative (p. 10). Learning is a social process and discourse becomes central to our ability to make meaning of our work and learning (p. 10).

Are there not substantive opportunities for character development as expressed as one of Michael Fullan's 6 C's (2013) in the process of dialogue and discourse? Is there not an important connection to emotional well-being as well when we structure social learning activities? Is social discourse and dialogue not the basis of effective learning communities and collaborative staff and student inquiries? Are there not important considerations here for the notion of *'learning designs'* for both student and staff learning as well as the concept of *'implementation'*? This kind of collective goal also supports a third standard of *Learning Forward* – that of **Outcomes:**

> ***"Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum (standards) expectations" (The Learning Forward Journal, Feb. 2016. p. 11).***

There are issues of **leadership** behavior, assessment **data** and **resources** that need to be added to this discussion – which represents three more standards for *Learning Forward* - all which are well served by intentional professional collaborative learning and collaborative work.

I am hopeful there are many who see the value in drilling learning down to core concepts and engaging together and with our students in learning more about how to *grow understanding or comprehension capacities while we grow our understanding and our ability to empathetic for and supportive of each other's efforts.* If we can frame our public education goals in ways that are truly recognizable and relatable to all stakeholders, we can find authentic ways to integrate worthy educational goals as a part of moving towards transformative learning – learning which helps us to develop empathetic problem solvers as well as autonomous thinkers and transformative learning which develops staff professional capacity as a supportive members of vibrant, collaborative **Professional Learning Communities** – the 7th *Learning Forward* standard! ■

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Fullan and Hargreaves

calltoactionsummary

by Brian Weishar

Citation: Fullan, M. & Hargreaves, A. (2016). Call to Action: Bringing the Profession Back In. Oxford, OH: Learning Forward.

Greater success in an education system will not come from the outstanding work of individuals in a district. It will not come from one highly effective professional learning event or through one efficient professional development model. It will not come from a single catalyst, professional standard or government policy. According to Fullan and Hargreaves in their paper, *Call to Action: Bringing the Profession Back In* (2016), greater success will be achieved by pursuing a culture of collaborative professionalism that addresses the twin goals of equity and excellence, and that:

- involves every teacher and principal;
- builds professional expertise through persistent action, reflective feedback and continuous improvement; and
- involves teachers and other educator leaders to be systematically collaborating in order to improve the learning experiences and achievement of all students.

Put another way, "the essence of system success is a culture of daily interaction, engaging pedagogy, mutual trust and development, and regular, quality feedback related to improvement. Learning to be better is a function of purposeful collaboration endemic to an organic culture geared for continuous improvement and innovation" (8).

Call to Action is Fullan and Hargreaves' response to *The State of Educators' Professional Learning in Canada* (Campbell et al., 2016), a study commissioned by Learning Forward. In this study, Campbell and her colleagues investigate the state of educator professional development in Canada.

As part of their response, Fullan and Hargreaves state that professional learning and development, "carefully defined, is at the heart of an effective and continuously growing teaching profession and, in turn, the best visions and versions of it are rooted firmly in a system culture of collaborative professionalism that cultivates individual and collective efficacy" (2). Here, Fullan and Hargreaves combine both professional learning and professional development, as *professional learning and development* (PLD), and they define PLD as "deliberately learning something new, developing and growing personally and professionally, and doing this individually and with others" (21). They see professional learning and development "as indispensable, and the upward spiral of their mutual interaction is what makes teaching, learning, and schools great…[and] collaborative professionalism needs to be the foundation for both PL and PD so that they intersect and overlap deliberately and work closely together" (6).

With this collaborative professionalism at the foundation, strong cultures of collaborative professionalism "thrive on diversity and disagreement, promote good variation of style, strengths, and overall approach, and increase individual as well as collective talent" (18). This culture, according to Fullan and Hargreaves, encompasses several elements, and they define these elements as pairings of individual and collective factors:

- Individual autonomy and collective autonomy;
- Individual impact and collective impact;
- Personal responsibility and collective responsibility;
- Individual inquiry and collaborative inquiry;
- Self efficacy and collective efficacy; and
- Inward mindsets and outward mindsets.

Fullan and Hargreaves believe that this call to action comes at a turbulent and critical time. It seeks to build up a collaborative and activist teaching profession that works jointly with students, families, and communities in order to do greater good. Their declaration calls for:

ALL TEACHERS TO

- forge their own collaborative professionalism, and take responsibility to find and foster their own professional learning and development.
- seek deep learning with and through students, teachers, and parents through inquiry, engagement, and activism.
- find new opportunities for accessing new ideas and having greater impact in one's own situation as well as with those involved in collaboration.
- see the potential of the work as a life-changing and world changing movement that involves connecting with other educators and students.

ALL SYSTEMS TO

- make collaborative professionalism a centerpiece of a strategy, and that invites the input and commitment of all stakeholders in the system, including professional associations, federations, and politicians.
- formulate the purpose of education to develop global competencies that carries within it the relentless pursuit of equity, the importance of inclusion and democracy, and human rights.
- leverage the role of the middle, and invest in it so that it can frame new directions, liberate those throughout the system, and connect globally with other cultures and systems that share the similar commitment and integrity.
- adopt a stance on competencies and outcomes that are bold and broad yet specific and explicit, so that defined values, skills, and competencies for students and teachers are fostered in practice and assessed in terms of progress.
- reach out globally and learn from other systems and strategies, and ensure that solutions are informed by what is happening elsewhere.

CANADA TO

- establish PLD (in the form of collaborative professionalism) as a contractual responsibility and right of each and every teacher.
- commit every province and territory to both finance in professional learning and development at the micro level (e.g., that supports large numbers of teachers, leaders, and schools to improve their collective efforts and impact by working together within the school day) and the macro level (e.g., to work toward solutions of improving indigenous education, making intelligent uses of technology, or raising mathematics achievement).
- develop a national declaration and set of guiding principles for collaborative professionalism that include the well-being of teachers and students.
- establish a biannual national conference on the state of collaborative professionalism. ■

PROFESSIONAL LEARNING

The Role of Principal Leadership in Professional Learning:

One Board's Story

by Dawne Boersen

The Huron-Perth Catholic District School Board is a very small, rural board in Southwestern Ontario, with a fairly large geographical area. Stratford, Ontario is the largest urban center at the most southernmost point with a scattering of small, rural schools between there and Goderich to the north and west. With limited resources, we must always be creative to do the work that is required. Collaborative professional learning practices are necessary and are well-established, and our elementary principals take an active part in the professional learning that is needed for the school improvement process.

Learning Forward describes the standard of leadership as professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning. Learning Forward's Executive Leadership Program (ELP) gave us a tool to support the skill development of instructional leaders as they learned alongside their math leads in the Ministry of Education's Renewed Math Strategy. The executive committee of Learning Forward Ontario has adapted the ELP to meet the needs of Ontario educators and matched it to the Ontario Leadership Framework. At Huron-Perth CDSB, we have incorporated the leadership work of Fullan and Quinn in their book, Coherence into the ELP.

The Ontario Ministry of Education's Renewed Math Strategy was designed to give school boards the opportunity to create a professional learning structure that meets the needs of individual boards. Throughout this initiative, the Huron-Perth CDSB has attended carefully to the seven Standards of Professional Learning that Learning Forward has identified as essential to the long-term sustainability of professional learning which leads to sustained changes in instructional practices in mathematics. In particular, we have placed a strong emphasis on the leadership of the principal at the school.

When planning for the implementation of the Renewed Math Strategy, we considered the research on professional learning. The standards-based professional learning approach developed by Learning Forward describes a process of professional learning that leads to changes in educator knowledge, skills and dispositions, which leads to changes in educator practice, which, in turn, leads to changes in student results. One of the keys is the role of the instructional leader in the school, the knowledge they have around identifying cultural dispositions in their school, and their skills in influencing change in practice and culture.

We have used the adapted Executive Leadership Program to introduce our instructional leaders to the Standards of Professional Learning and incorporate them into our work with the Renewed Math Strategy. The requirements of the RMS funding include specific training for the principals of the school and the ELP fits in very well with our plan. And so we began with the standard of **Leadership**.

Professional learning that increases educator effectiveness and results for all students require skillful leaders who:

develop capacity,

The requirements of the Renewed Math Strategy meant we needed to think about not only developing capacity in our math leads, but also in our instructional leaders. We also value the collaborative work that we have done over the past years, and included our special education resource teacher in our learning. We have a wide range of experienced to new leaders, and we needed a learning design that meets all needs. We began with our principal meeting in August where we introduced the learning design we felt best met our system needs.

In our math learning this year, each school team had four days of study at the board office, with two observation days in between, followed by a day in their school, plus one and a half days to work with the entire staff about their learning throughout the process. Board-based coordinators and math facilitators were part of the support team.

Within this learning design, we built flexibility for the instructional leader of the school to determine the best moves for their school. We began with building a good understanding of the seven standards of professional learning we must consider at both the system and the school level (Learning Forward). Next, we looked at the right drivers that Fullan and Quinn have identified, as well as the role of the principal that Fullan described in The Principal, from where he discussed the fact that the principal does not need to know exactly what a teacher knows in the subject area, but enough to be able to understand where instructional practices and culture must be changed.

The provincial focus on math gave us a perfect platform for attending to the standards. In Ontario, elementary teachers are generalists, meaning we have very few math experts at this level. This has created a fairly even playing field, as we are all beginning learners in the math content areas. In order to develop capacity in mathematics, it was essential that our principals were co-learners with the math lead. Our principals attended each of the four central days of intense learning with their team, in a collaborative network with schools that also chose that content area. As part of their school improvement planning, each school staff met to review their data and determine a direction for learning for their school by selecting one of the four research-based Paying Attention monographs the ministry of Education have released in the past few years. This is the content area the capacity building focused around, using the idea of the pedagogical system (worthwhile math tasks, classroom discourse, tools and representations, non-threatening classroom environment), established by Glenda Anthony and Margaret Walshaw (2007). We ended up with three groups, focusing on spatial reasoning, proportional reasoning and fractions as the areas of study. The math lead focused on learning the content and determining their next instructional moves based on the observations and conversations they had with the students, as well as the thinking they recorded on chart paper. The principal was a learner of the content, helped the teacher determine next instructional moves based on the evidence, but also determined their next best leadership move, based on the work their team was doing and the needs of the other math teachers back at their school.

advocate and

Leadership moves are different from instructional moves. School leaders must advocate, influence and change the culture of the school. In individual leadership sessions, principals were asked to consider the moves they needed to make within their school to change the culture of mathematics – What do we believe to be true about good math students? Does your team believe that the goal of mathematics is to find solutions for every question, and quickly? To find the 'best' solution for every question? Or do they believe in mucking around with a problem over time, allowing all students to muddle through and persist in difficult thinking? Do they go straight to the formula? Are teachers looking for the stages of math thinking, for example, if a student solves a rich problem using additive thinking, is that level 3 or 4 work, or is that level reserved for those who

solve a rich problem using multiplicative thinking? What are our beliefs about assessing mathematics? We started to focus the principals' attention on these questions at sessions in between their sessions with the math leads. They were asked to use the same stance with their teachers that student work study teachers use with the students. What are they observing about the instructional moves the teachers are making based on what they see? We found that in the first round of using a rich math task, teachers modified the task to make it easier for students to complete, leading to a low ceiling on the task. This gave us pause and we had to ask the question about what this means about our beliefs about mathematics. This was an important part of the process towards changing instructional practice, as without identifying and addressing these beliefs and dispositions, changes in instructional practice would not follow.

create support systems for professional learning.

In order to create support systems for professional learning, we also included our special education resource teacher in the school team in year one. This allows a collaborative approach at the school level while observing students and in the content learning. During the observation phase of the work, a board level staff member, either a coordinator or math facilitator, joined the team to use an observational stance, similar to the work done by the SWST, to observe the students while they worked at the rich tasks. The importance of creating structures that include support systems is often overlooked in professional learning. We tend to invite people into the board office, get them enthusiastic about what has been presented, and send them away. We hope to avoid a lack of implementation by creating a strong support system that includes the SERT. The principal is an integral part of this support system, their understanding of the role of professional learning in changing practices that lead to improved student achievement is a key component to the success of this initiative.

We did not expect principals to lead entirely on their own. Through a collaborative approach, beginning with the Executive Leadership Program, we placed an important emphasis on the role of the principal to be careful observers of their learning team, discover their underlying beliefs and attitudes towards learning mathematics, and decide upon their next best leadership moves to lead to sustainable changes in practices in mathematics instruction. Principals met four times at regular principal meetings to, first of all, build their capacity around the professional learning standards, and then to network and discuss their own observations of their learning teams and as a group, seek input on what the next best leadership move should be. The year will end with the principal leading the learning with their team in their own school with the rest of the staff. At the end of this process, feedback from principals will help us determine our next moves in designing professional learning for next year. Stay tuned! ■