

**Research Report: Evaluating the Effectiveness of “At-Elbow” Facilitation  
as a Model to Support Enhanced Classroom Assessment Capacity**

Co-Investigators: Jim Parsons and Nicole Day

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### **Project Background: Supporting Enhanced Classroom Assessment Capacity**

The assessment of children in school is crucial if we are to better understand whether children have learned—and what children are learning. Because teachers are primarily responsible for assessing student learning, the quality of classroom assessment is an important pedagogical consideration. Historically, it has been the philosophy and practice of schools that all students could and should be assessed against each other. In short, assessment was competitive. The poverty of this historical viewpoint is that it failed to note, value, and celebrate students as diverse humans with diverse learning needs and ways of learning.

Recently, the goals of assessment have changed to address a fuller range of assessment practice. Curriculum (at the policy level) and pedagogical reform have become re-founded on the belief that each child, without exception, deserves and should be offered a valuable and appropriate education. This belief, and the curriculum reform that emerges from it, sees the needs of students (as individuals) as foremost and considers teachers responsible for better addressing individual student needs in diverse ways that maximize each child’s opportunities to learn. As a result, current consensus is that, although summative assessment has merit, the everyday work of teachers must revolve around better understandings of formative assessment because formative assessment best responds to how individual student needs present themselves in daily practice. Central to this re-formed belief is that (a) teachers’ education about student and classroom assessment is valuable so that (b) teachers can engage—and judiciously choose from—a variety of assessment practices and specific strategies.

Thus, student assessment must engage a variety of assessment understandings and activities. Paper-pencil tests and standardized performance measures are no longer adequate; and, because assessment decisions might have lasting academic and social consequences for students (Popham, 1997), enhancing teacher assessment capacity is crucial to quality instructional practice. Although ‘non-achievement’ factors such as effort, ability, attitude, and motivation are

hard to define or measure (Stiggins, Frisbie, & Griswold, 1989), they remain key to student engagement and student learning. If their work is to help students, teachers must better engage a fuller range of assessment methods that both motivate students and improve learning. Simply stated, as teachers work to enhance their assessment capacity, they must become more skilled at choosing and developing assessment methods and better able to interpret student needs, communicate assessment results, and help students to meet curriculum standards. Thus, engaging both formative and summative assessment improves student learning.

Although assessment has been utilized in summative ways for a long time, formative assessment is a more recent addition to a fuller understanding of assessment capacity. Paul Black and Dylan Wiliam's (1998) groundbreaking meta-analysis of 250+ research studies on assessment ("Inside the Black Box") made the case for formative assessment and encouraged educators to use formative assessment to improve student learning. Black and Wiliam found that (a) the success of formative assessment correlates with how teachers use it to shape teaching and learning practices, (b) effective learning is based on active student involvement, (c) enhanced feedback is crucial to improved outcomes, and (d) formative assessment is linked to self-assessment. Black and Wiliam also showed gaps between what teachers knew to be effective assessment practice and what teachers used to assess students.

More recently, in *What Teachers Really Need to Know About Formative Assessment*, Laura Greenstein (2010) reviewed the basic elements of formative assessment and noted the reasons that formative assessment is seen as the most effective way to improve student learning. Greenstein explained that three understandings ground formative assessment: (a) it is student focused, (b) it is instructionally informative, and (c) it is outcomes based. Greenstein traced formative assessment to Socrates, who asked students probing questions and used their responses to assess their learning and guide his instruction, which Greenstein considered two primary attributes of formative assessment. However, she noted that the phrase formative assessment is relatively new and can be traced to Michael Scriven's (1967) use of formative and summative to define differences between (a) collecting and (b) using information.

## **Project Background and Rationale**

**The Alberta Assessment Consortium.** The Alberta Assessment Consortium (AAC) is a recognized education partner in the province of Alberta. As a not-for-profit registered society funded by membership, AAC provides informed responses on assessment topics that impact student learning. The work of AAC is guided by four main purposes.

***Purpose 1.*** Advocate for sound classroom assessment practices by engaging in collaborative endeavors with AAC member jurisdictions and education partners.

***Purpose 2.*** Build assessment literacy in Alberta through action research and inquiry initiatives.

***Purpose 3.*** Develop a broad range of classroom assessment materials, directly aligned to Alberta curriculum, that address both formative and summative processes.

***Purpose 4.*** Enhance teacher/leader assessment capacity by providing opportunities for quality professional learning.

In short, the AAC provides opportunities for teachers and leaders to enhance their assessment capacity in support of student learning. The following URL provides a more detailed description of the work of AAC: <http://www.aac.ab.ca/utility-navigation-top/about-2/who-are-we/>.

**AAC Project Background and Rationale.** In the fall of 2013, the AAC began discussions with Alberta Education in regard to a potential conditional grant that would be designed to enhance classroom assessment capacity. The AAC project model was informed by a 2014 paper by Dylan Wiliam and Siobhan Leahy, well-known authors and researchers in the field of formative assessment, and by a 2014 Alberta Education–funded research study on the topic of teacher efficacy and professional learning.

**Salient Points: “Sustaining Formative Assessment with Teacher Learning Communities” (Wiliam & Leahy, 2014).** Wiliam and Leahy’s (2014) paper began with a reminder of Wiliam’s (2011) five strategies of embedded classroom formative assessment: (a) clarifying, sharing, and understanding learning intentions and success criteria; (b) eliciting evidence of learners’ achievement; (c) providing feedback that moves learning forward; (d) activating students as instructional resources for one another; and (e) activating students as owners of their own learning. Wiliam and Leahy also asserted that, unfortunately, these ideas are still not widespread in use, which leaves a gap between teacher-knowing and teacher-doing. Therefore, the authors articulated a need to “think carefully about how to support teachers in developing their use of formative classroom assessment” (p. 2) and wrote a paper centered on key points that inform the AAC model.

Wiliam and Leahy’s (2014) paper identifies the concern that “much teacher professional development has been focused on what is easy to deliver” (p. 2) and advocates for a shift of the planning for teacher professional development to a sequence that focuses on content first and process second. That is, the specific body of content knowledge needs to be considered before deciding on a professional learning model. Wiliam and Leahy recommended “deciding what kinds of changes in teaching will make the largest impact on student outcomes, and then—and only then—should we work out the best way to secure these changes” (p. 3). They articulated the necessary components to support “teachers in making changes to their practices when they return to their classrooms—the *process* of teacher change” (p. 3). These points include (a) choice, (b) flexibility, (c) small steps, (d) accountability, and (e) support.

**Salient Points: “Exploring the Development of Teacher Efficacy Through Professional Learning Experiences” (Klassen, Parsons, Beauchamp, Durksen, & Taylor, 2014).** The key findings of the Teacher Efficacy Study (Klassen et al., 2014)—relevant to the AAC model— included the following: (a) autonomy and choice improve teachers’ self-efficacy; (b) time and space allocated for collaborative professional learning activities build collective school-level efficacy; (c) collaboration promotes the professional learning teachers need to become better teachers and to specifically connect teaching strategies that better meet their needs and students’ learning needs; and, (d) professional development and professional learning should involve sharing curriculum ideas and best practices, where teachers co-create to share learning and teaching resources and new learning and teaching strategies.

[See <http://www.teachers.ab.ca/SiteCollectionDocuments/ATA/Publications/Professional-Development/PD-86-29%20teacher%20efficacy%20final%20report%20SM.pdf>]

## AAC Project Description

### Year 1 (October 2014 – August 2015)

Informed by the salient points from the two professional publications noted above, the AAC project was designed to develop and implement a professional learning prototype to enhance classroom assessment capacity.

In collaboration with Alberta Education, AAC developed a series of statements to articulate the specific body of content knowledge in the area of classroom assessment practice that would become the focus for the grant. These statements were compiled into a document titled *Dimensions of Sound Classroom Assessment Practice in Support of Enhanced Classroom Assessment Capacity*, available at the following link: <http://www.aac.ab.ca/wp-content/uploads/2015/10/Dimensions-of-Sound-Assessment-Practice.pdf>

The genesis of the model of teacher professional learning stemmed from the AAC intention and invitation to enhance (not build) capacity through a cohort model of professional learning; it recognizes that support creates growth. It was determined that all participants would be required to self-select to become involved, and it also required a commitment from teacher participants (and the leaders who supported the teachers' participation) to work within collegial and professional learning frameworks.

Invitations were sent to teachers (through their divisions) in the fall of 2014, asking whether they were interested in working with the AAC project. A number of teachers and divisions accepted this invitation, and several cohorts were created. In total, 45 teachers and 22 schools within 12 jurisdictions were involved in the initial year of the project. These teacher cohorts came from both urban and rural jurisdictions, large and small schools, and single schools on multiple sites. The elementary and secondary classrooms within this project represented diverse student populations.

The incarnation of this project was a plan that engaged AAC facilitators—seconded teachers who are highly skilled in assessment theory and practice—who worked directly with cohorts of teacher participants throughout the province of Alberta. Originally, six facilitators were involved in guiding the cohort work for this project. These facilitators were selected to ensure that the team would contribute experiences in various disciplines: humanities, math, science, wellness, and arts. Facilitation occurred at both elementary and secondary levels, with AAC facilitators providing “at-elbow” support for cohorts.

These AAC facilitators supported cohort participants as they met regularly over the course of the year. The participants considered their current classroom assessment practices and identified areas for further study and growth. The facilitators provided content support, using the framework in the *Dimensions of Sound Assessment Practice* document and resources from the AAC website, along with references to the work of internationally recognized assessment authors. Within this framework, the cohort participants were given freedom to create assessment goals and were asked to ensure that these assessment goals met their personal agenda for their professional learning. The goal was not about engaging in school-focused initiatives; rather, the goal was to enhance individual teacher assessment capacity. The cohort work was embedded in professional, ongoing discussions of professional practice and sought to create minimal disruption to the teaching and learning processes in the classroom.

A key feature of the grant deliverables for year 1 of the project was the development of videos showcasing the various dimensions of sound classroom assessment. During the cohort meetings, the facilitator worked with individual participants to plan the selected assessment focus within their individual classrooms. Video footage of the classroom experience was collected. These included conversations with teachers and also with students on the impact and value of the assessment strategy and/or technique. These videos reside on the AAC website at the following link: <http://www.aac.ab.ca/projects-grants/assessment-capacity/>.

While the AAC facilitators guided the work of these cohorts, a long-term goal was to work towards having the groups take ownership for their professional growth in assessment. Because of the short timeframe of this project, this goal was only partially realized in all cohorts.

Some funds remained at the conclusion of the first year of the project. AAC submitted a proposal and received permission from Alberta Education to use the remaining funds to continue the project into the 2015–2016 school year.

## **Year 2 (August 2015 – August 2016)**

All of the cohorts who had participated during year 1 of the project were invited to continue. Some of the participants were able to reengage, but not all were able to do so for various reasons. Some had moved to different schools or jurisdictions, whereas others were not able to schedule cohort meetings because of timetabling restrictions.

Three of the cohorts continued (some with new participants), and four other cohorts were formed. AAC facilitators continued to guide the work of the cohorts, although the video component was no longer a requirement of the grant for year 2.

It was also determined that a research component would be an integral part of the extension project. An independent research team was engaged to conduct a qualitative study to ascertain the effectiveness of the model in teacher assessment practice.

## **Evaluating the Model: Research Framework**

### **Background**

The goal of the proposed extension project was to create a prototype for enhancing classroom assessment practice that is both sustainable and scalable. AAC facilitators guided and supported the teacher cohorts while helping individuals to become self-sufficient. This research sought to evaluate the model used during the AAC's work with the teacher cohorts within the participating schools. This included (a) the role of facilitators who acted as supports for both content and process learning founded within the model used to promote growth in assessment at the school site; (b) understandings and learnings collected as data from participants as a way to better understand the work of the cohort, including both teachers at the school and AAC facilitators who worked at-elbow with school-based teachers who participated in the work; and (c) the stories of those relationships, including successes and difficulties as at-elbow AAC facilitators worked with school site-based teachers and leaders as they employed the model together. In other words, the researchers attempted to better understand cohorts' stories of teachers who worked towards enhanced assessment practices and the value of the at-elbow model to increase their assessment capacity.

The goal of this research was to inform recommendations for shaping a model of facilitator at-elbow coaching that could be used beyond these prototyping sites. The researchers also hoped to provide data to inform future steps in working towards enhanced classroom assessment capacity across the province.

### **Research Question**

The question that guided this research study was, “Did the Alberta Assessment Consortium model of at-elbow facilitation, as used in four cohort sites in Alberta, support enhanced classroom assessment capacity?”

### **Literature Review**

The specific idea of at-elbow (or at-the-elbow) professional coaching or facilitation is not a phrase found often in the educational literature. We found a semblance of the phrase *at-elbow* or *at-the-elbow* 13 times across the breadth of ERIC, and only eight articles used at-elbow or at-the-elbow in ways at all similar to those in this review. (See Barab & Hay, 2001; Carambo & Stickney, 2009; MacKinnon, 1996; McLaughlin & MacFadden, 2014; Muldoon & Macdonald, 2009; Rock, Gregg, Gable, & Zigmond, 2009; Roth & Tobin, 2004; Tobin & Roth, 2005.)

However, the idea of coaching teachers to own their professional learning has been around for many years. Keller (2007) noted that fads in education come and go, but coaching for teachers has become an important tool to help schools and divisions enhance teachers’ instructional practices and improve students’ success. McCollum, Hemmeter, and Hsieh (2013) added that coaching has gained support as a professional development approach to help teachers better use research as a base to improve their teaching. In their control versus experimental group research, McCollum et al. found that, after coaching, the teachers in their experimental group demonstrated significantly more instructional skills than did those in the control group. They found that coaching can improve practice.

Shidler (2009) added that those seeking to improve student outcomes have used teacher coaching to meet that goal. In her three-year research, Shidler sought correlations between the number of hours spent coaching teachers for instructional efficacy and student achievement. During year 1, in which her model focused on coaching instructional efficacy in specific content teaching that moved directly from theory to practice, she found significant correlations between the time that coaches spent in classrooms and student learning in the early grades. However, during years 2 and 3, when her coaching model focused less on specific content, she found no significant correlations. Shidler reported that coaching increases teacher efficacy (both instructional and self) and that coaching practice should balance time among four effective components: (a) instructing specific content, (b) modeling instructional practices, (c) observing teacher practices, and (d) helping teachers to engage in reflection.

Hershfeldt, Pell, Sechrest, Pas, and Bradshaw (2012) reviewed the growing interest in coaching as a way to promote teacher professional development and evidence-based school practice. Their work, which outlined a school’s attempt to use a coaching model to help teachers introduce positive behavioral interventions in elementary schools over a three-year period, summarized the lessons that coaches learned. They suggested the need to work with administrators, teachers, and student support staff to promote change and improve student outcomes. Hershfeldt et al. concluded that successful coaching models must clarify the multiple roles of teachers, coaches,

and administrators to better understand the mechanics of scheduling and engaging in accurate data collection.

Denton and Hasbrouck (2009) defined coaching as a role in which individuals provide others with direction and support to help them to accomplish their goals. In an educational context, coaches work with teachers to support the use of new pedagogical ideas that teachers hope to incorporate into their teaching; for example, providing evidence-informed instruction, engaging in effective classroom modeling, or addressing specific student needs. As Denton and Hasbrouck noted, a real concern is *how* coaching is done to or with those with whom a coach works, the techniques and models used as part of the coaching, and the education that coaches need if they are to work effectively.

Borman, Feger, and Kawakami (2006) compiled a literature review on coaching and described “salient theoretical frames that emerge in the coaching literature” (p. 3). Their review showed that some coaching studies fall into the constructivist domain and embody a consultative process in which two equals co-construct knowledge. Other studies have placed coaching in a behaviorist domain, which represents a process that involves “knowledge transfers from expert to novice” (p. 3). Furthermore, the variance in coaching programs described in the literature is broad: coaching can be “consultative or directive, collaborative or supervisory, focused on inquiry or teacher behavior, peer-to-peer or expert-to-novice” (p. 4).

Specifically, Denton and Hasbrouck (2009) categorized how coaches spent their time and the coaching styles and approaches they used. The categories they outlined included (a) technical coaching, which improves teachers’ professional development and restructures classrooms through a model of coaching expertise that provides technical assistance to novice teachers; (b) collaborative problem solving, in which coaches help teachers to address student needs by facilitating a problem-solving method (such as identifying a problem, prioritizing goals, developing action plans, and evaluating outcomes to help teachers implement new plans—a sort of action research); (c) reflective coaching, in which coaches help teachers critically consider their teaching practices to change them; (d) team-building coaching, which utilizes coaching within a group context to create school learning communities; and (e) reform or change coaching, which targets whole-school (rather than individual teacher) improvement by engaging school leaders *and* teachers in leadership development and helping schools to better utilize their resources (financial or human). Although Denton and Hasbrouck suggested that most coaching methods take multiple approaches, the key components of these models help teachers to improve student learning and build collaborative communities, focus on research findings, and learn to better problem-solve.

In her dissertation, *Influence of Instructional Coaching on Elementary Teachers’ Instructional Practice: A Case Study*, Maxwell (2011) found that both teacher and administrative participant groups affirmed the effectiveness of instructional coaching as a way to improve teachers’ instructional practices and identified five positive coaching practices: (a) becoming better able to analyze data and monitor progress, (b) aiding professional development and professional learning, (c) building professional learning communities (PLCs), (d) improving instructional skills, and (e) promoting teacher reflection.

## Foundational Philosophies

**Conceptual framework.** In this qualitative research study we examined the effectiveness of the AAC professional learning model that we previously described as a method of supporting and enhancing teachers' assessment practices. We anticipate that our findings will create a context for designing further cohort assessment work in the interests of enhancing classroom assessment capacity within Alberta and more widely.

Using the AAC *Dimensions of Sound Classroom Assessment Practice*, along with key understandings from Wiliam and Leahy (2014) as lenses that guided our own understanding, we looked for ideas that worked so that we might replicate them, insofar as possible, at other sites and within other contexts. We believe that best practices are always contextual; however, we also believe that good work can be shaped to fit different contexts.

Additionally, we support an appreciative inquiry (AI) methodology and dialogical research methods. As teachers listen to each other speak positively about assessment experiences, we believe that they learn from each other in ways that continually enhance their own classroom assessment practice and capacity.

**Research Methodology: Appreciative Inquiry.** As researchers, we chose AI (Cooperrider & Whitney, 2005; Ludema, Cooperrider, & Barrett, n.d.) as our research methodology because we believed that it best fit the model and goals that the AAC was working to establish. AI fits within Dylan Wiliam's (2011) philosophy because, as he suggested, it is better to focus on strengths than on weaknesses.

As a research methodology, the basic principle of AI is affirmation. Specifically, AI (a) helps to discover elements and factors in any group that have enabled success and (b) build upon those elements and factors to improve the future. AI is based upon research assumptions that recognize and value the best in people and possibilities; it affirms human strengths and successes; and it shows that humans can impact and shape the systems in which they live. In AI the assumption is that people, groups, and organizations (in this case, schools) can engage their own solutions. It asks three questions: (a) What do we value? (How do we understand the best of what exists?); (b) What might become? (How can we dialogue to better understand what could and should be?); and, (c) How should we innovate? (How should we move towards what will be?)

As a way of engaging people in research, AI centrally involves asking positive questions that strengthen a person's or group's capacity to move towards positive change, thus helping people to create practical futures. Fundamentally, AI unites people in dialogue to talk about past and present capacities, successes, ideas, potentials, strengths, opportunities, lived values, traditions, stories, insights, and future visions; it engages people in world-building conversations.

Similar to formative assessment, in which student (or participant) answers guide teacher (researcher) inquiry in ways that allow researchers to gather evidence of learning, the conversations of AI are nonlinear. Because AI eschews deficit-based vocabularies, it organizes human thinking towards efficacy in change. AI is based on the heliotropic principle (things respond to sunlight), working to help people and groups discover the most effective and constructive ways to envision and create a preferred future. Instead of beginning with problems to be solved, according to AI, reality is socially created.

**Research Method: Focus Groups.** A *focus group* is a small-group discussion, best guided by an experienced researcher who facilitates conversation. Its purpose is to learn the participants' beliefs about a designated topic and, sometimes, to guide future action. A focus group differs from individual interviews. Focus group interviews stress group interactions to address the researcher's topic (Morgan, 1997); however, unlike question-and-answer interviews, they take the form of a facilitated conversation that occurs in nonthreatening environments where the participants are actively invited and encouraged to share their opinions. Whereas more linear research methods tend to engage closed-ended and relatively narrow questions, focus groups are typically open ended, relatively broad, and qualitative. They engage the participants in a topic in depth, within its nuances. Our original plan included the possibility of individual interviews of cohort members during the spring data collection, but we conducted them in the fall after the research project was extended.

Because focus group interviews engage the participants in conversations, a lead researcher must moderate or facilitate rather than interview. The purpose of a focus group interview is to spark guided conversation and stimulate participant interaction. The moderator's task is to further the conversation by probing and exploring emerging ideas. To do so, the facilitator must create an environment that nurtures sharing without pressure and encourage, as we call it, first-draft thinking into generative conversation. The facilitator's initial task is to clearly explain the purpose of the focus group interview and to ask for the cohort's cooperation in crafting the broad sharing that emerges from the time that they spend exploring the topic.

The goal in our research project was to engage each cohort in a conversation that generatively answered the research question in the way that each cohort deemed best. To engage this method, as a research team we generated a number of related questions that we believed would offer the greatest opportunity to cover and engage in the topic. We also believed that, by allowing focus group participants to choose the questions that were the most meaningful to them, the resultant group conversation would be rich. For us, the nonlinear aspects of AI meant that all questions need not be answered, as would have occurred in a more linear research method. In assessment terms, the focus group interviews followed a more formative assessment philosophy rather than the formalized, summative, structured approach of summative assessment. We wanted the participants to have more choice and flexibility to express (in their own voices) evidence of their assessment learning.

In this research study we saw many advantages to using focus group interviews. Although focus group data can be difficult to score, we believed that it would be the best approach for a variety of reasons. First, focus group interviews facilitated a research method similar to the cohort experience and conversations in which the participants had already engaged. Another advantage of focus groups was the promise of depth and complexity of response as the cohort participants stimulated new thoughts with each other, which might not have otherwise occurred. We believed that, because each cohort had a history of working together, the participants would continue to speak openly. Also, in our experience, focus group interviews continue participants' professional learning. In this case, the conversations furthered professional conversations about assessment in which each cohort had already engaged. Specifically, because focus group interviews allow the participants to both express their own opinions and respond to other members' and the moderator's questions, a focus group interview might extend in completely unexpected ways. Finally, because focus groups are structured and facilitated, but also open, they can yield rich data in a relatively short time.

## Study Delimitations and Limitations

In qualitative research, such as this study, limitations and delimitations refer to situations and circumstances that might affect or restrict the methods and analysis of the research data. Researchers must always make choices to make a study manageable, and they are obligated to report the implications of actions and events during the study that might limit the generalizability of their findings.

**Delimitations.** Delimitations are the choices that we made (or were made for us prior to the study) that we should mention to better understand the generalizability of the study's findings. These choices set the boundaries for this study.

Specifically,

1. As researchers, when we chose to study the impact of a model in which assessment facilitators worked with cohorts of teachers outside their classrooms, we believed this model to be a model of facilitative coaching. Thus, our review of the literature prior to our engagement in this study focused on coaching.
2. Although the AAC assessment facilitators were working with a larger number of cohorts throughout Alberta, we chose to limit the study to six cohorts across the province whom we thought would be representative of the larger work. (Later, as we note, we changed six cohorts to four.)
3. Because the timeline for the study and the opportunities to meet with each cohort were limited, we utilized focus group interviews as our research methodology to collect data. Although a case study model that outlined the history and growth of each cohort might have produced richer (or at least different) findings, that choice of methodology was infeasible given the short timeline for the study's completion. Case study models demand a great deal of time with each cohort. Instead, given the exigencies of time, we instead engaged in focus group data collection. Utilizing focus groups allowed the researchers to meet with each cohort within the agreed-upon timeframe. We also used focus groups because we determined that they matched the philosophy of the cohort structure.
4. The study required that we meet with each cohort twice. Part of the first meeting involved observing each assessment facilitator who was working with the cohort; it was the only time that we did so. However, further observation might have rendered further insight.
5. Because we were ultimately looking for what worked within this model and why it worked, we chose AI as a focus for gathering data. AI focuses specifically on the positive rather than the negative.
6. Finally, to allow the broadest possible discussion topics to emerge, we designed a series of related and linked questions that we shared with the participants, and we encouraged them to choose and answer the three or four questions they believed best addressed the research question. This choice represented a nonlinear research engagement that resulted in broader, but perhaps not deeper, research data. Philosophically, a more linear research method would have resulted in far different data.

These delimitations allowed the researchers to address the time and the location of cohorts in the AAC's work. In total, the delimitations defined the study's parameters of sample, methods, and setting.

**Limitations.** In similar ways to delimitations, in any research, limitations are influences that researchers cannot control. They include any shortcomings, conditions, or influences that restrict the researchers' methodology and conclusions. These limitations might influence a study's results and might mean that the findings cannot be generalized (or scaled out) to a larger population.

Certainly, a limitation of this study was the sample. First, the time constraints of the study undoubtedly impacted the work in several ways. We shortened the study's design, changed the number of meetings with the cohorts from the original three meetings to two, and shortened the time between meetings to approximately two weeks. It is possible that this constrained timeframe impacted (a) the nature of the participants' responses on the researchers' second visit, (b) the level of analysis of the data, and (c) the writing of the interim reports. Although we focused on rigor in this study, the shortened timeframe possibly impacted the study in a number of ways.

Second, of the six cohort sites that we chose, one site was forced to drop out for unexpected reasons that made meeting with the participants impossible within the timeframe of the study. Certainly, not including this cohort in the larger study impacted the findings. In practical ways, it decreased the number of participants and the breadth of the findings. We eliminated a second site from the study because we determined that it was still in the process of forming and that the cohort at this site had not engaged with the assessment facilitator, and the professional learning model under study, long enough to yield valid results. When we found it difficult to gain reliable data from this site, data sheets were removed from the data collection.

A third possible limitation was the nature of the data collected. Because we completed the study within a short timeframe, we utilized a data-collection method that fit the timeframe: focus group interviews. Certainly, although focus groups yield reliable data and in this case philosophically consonant data, the type of data generated was group rather than individual focused. As researchers, we believed that the focus groups yielded findings that matched the study's ultimate goals; however, such data come with their own limitations. Although the choice was grounded in logic, as researchers we cannot deny the attendant limitations.

A fourth potential limitation of the study was our choice to engage in AI—to look specifically at what worked—and not at what did not work. Certainly, the choice of focusing upon what worked well eliminated any possibility of making a fuller assessment of both positive and critical aspects of the work. Our research showed that the participants lauded the AAC model that we studied. Furthermore, we believe it is likely that any critical commentary would have been minor. However, it is impossible to report findings that we did not seek.

A fifth potential limitation of the study was the impact of the small number of cohorts and participants on the reporting of the data. Specifically, although we sought and focused upon AI—what worked—within the model of assessment facilitation, a number of critical notes arose during the data gathering. There was no critique of the AAC assessment facilitation model. Instead, the participants identified some of the difficulties with moving their learnings within an environment and culture that they considered unaligned (and thus presenting difficulties) with the changes in which teachers had engaged. We have decided to note only briefly such critical

comments. Because the participant numbers were small, we determined that the criticism might be traceable and reflect upon particular participants or cohorts. We eliminated such comments from the report to protect the participants, which is a researchers' ethical duty and promise to their participants.

A sixth potential limitation was the choice of instruments that we utilized in the study. The creation and use of a series of questions designed to stimulate a broad discussion of the research question limited a more linear, question asked–question answered, data-collection format. As researchers, we chose to engage in cohort-based conversations in which the participants could discuss the impact of the model upon their cohorts and their own teaching. This choice undoubtedly shaped the responses of the participants in ways that are unknown.

Finally, during the course of this research study, the researchers experienced a death in the family. This family tragedy made it impossible for both researchers to attend and engage jointly in the research data collection, which was the original plan. Although we have attempted to discuss the research fully in a timely manner, there is no doubt that having only one researcher attend and direct the focus group interviews was a limitation of the study.

### **Research Ethics and Ethical Approval**

We sought and received research ethics approval from Solutions IRB, an independent, academically accredited institutional review board, on May 6, 2016. Specifically, IRB Chair Dana Gonzalez approved the protocol “Evaluating the Capacity of Schools and Teachers to Design Classroom Assessment Experiences for Students” under the rules for expedited review. The expedited-review category applicable to the study's approval was (7) Research on individual or group characteristics or behavior. The study was approved through May 5, 2017, at which time an annual report either closing the protocol or requesting permission to continue the protocol for another year is due.

In the ethics approval we agreed that we would conduct this project in full accordance with all applicable laws and regulations and adhere to the project plan as Solutions IRB approved it. We agreed to notify Solutions IRB if any major proposed changes might affect the status of this approval or might bring the risk of harm to the participants. We also agreed to report immediately to Solutions IRB any unanticipated problems involving risk to the participants or others. We agreed to share any changes to the approved study documents prior to their use. Finally, upon completion of the research project, we agreed to notify Solutions IRB so that they could close out the study.

With regard to the specifics of our work, to complete the study we considered and adhered to current policy on research ethics. Our research follows the ethical principles applied to research with human participants. We followed three primary ethical principles generated in the historic Belmont Report: autonomy, beneficence, and justice.

Autonomy refers to the right of participants to determine the activities in which they will participate. Autonomy requires that the participants understand what they are being asked to do, make reasoned judgments about the effect of participation on them, and choose to participate, free of coercive influence. We protected the participants' autonomy by discussing and seeking informed consent; fully disclosing the nature of the study and any anticipated risks, benefits, and

alternatives; and allowing the participants to ask questions before they decided whether to participate.

Beneficence refers to our obligation as researchers to maximize benefits to the participants and society and minimize risks to the participants. The AAC rigorously reviewed our research proposal, and Solutions IRB conducted an ethical review. Although we anticipated few risks, we discussed possible risks prior to collecting data.

Justice demands the equitable selection of participants for research, the avoidance of coercion, and likely benefit to the participants from the research. Thus, we realized that we are responsible for shaping the findings into helpful educational practice.

We also followed the principles of ethical research studies, which include the following:

1. A primary concern of researchers is the safety of their participants. Thus, we identified potential risks to the participants, minimized those risks, and continually monitored the ongoing research for adverse events that the participants might experience. As researchers, we were also prepared to stop the study if serious unanticipated risks occurred.
2. Researchers must also obtain informed consent from each participant in writing. We obtained this consent after the participants had an opportunity to consider the risks and benefits and ask pertinent questions. We consider informed consent an ongoing process rather than a single formality. Indeed, we considered our work as researchers a partnership with the participants to discover educational best practices.
3. Researchers must protect their participants' privacy and confidentiality and prevent disclosure of or unauthorized access to data linked to a participant's identity.

**Engaging in Informed Consent.** Because we understood that informed consent is crucial, our informed consent included the following:

1. Disclosure: We used an informed consent document that fully outlined the nature and purpose of this research, the procedures that we would use, the expected benefits to the participants and society, the potential for reasonably foreseeable risks, and alternatives to participation in the research. We also described the procedures in place to ensure the confidentiality of the data and the anonymity of the participants. Informed consent also made it clear who to contact with questions about the research study and the research participants' rights.
2. Understanding: We ensured that the participants understood what we had explained and gave them opportunities to ask questions, which we answered. We wrote our informed-consent document in lay language and avoided technical jargon to enable the participants to read and understand the language in which it was written.
3. Voluntariness: We ensured that the participants' consent to participate in this research was voluntary and free of coercion. We also informed them that they could withdraw from the study at any time without penalty.
4. Competence: In ethical research, the participants must be competent to give consent. In our case, we treated the participants competent because of the nature of their work and their maturity.

5. **Consent:** Because human participants must authorize their participation in a research study, our participants signed consent forms. In this study, we did not collect personal or identifiable information, and only the participants' signatures on the consent form link them to this study.
6. **Exculpatory language:** The informed consent did not contain exculpatory language by which the participants waived their legal rights or the researchers or sponsors were released from liability for negligence.

**Data Storage and Retention.** At the conclusion of this study we will store the data in a locked filing cabinet in our home office for five years.

## **Research Design and Specific Research Methods**

### **Participants**

**Selection of Participants.** The participants were selected for us from cohorts who had worked with the AAC. The participants in this research study came from four cohorts of teachers. Originally, we intended to involve six cohorts; however, unexpected circumstances forced one to drop out; and, after two data-collection trips to one cohort site, the AAC and the researchers jointly agreed that this cohort had not engaged in enough work with the assessment facilitator to generate usable data to further the study. That is, they were unable to offer data that would usefully answer the research question. We then systematically eliminated data that we had collected from this cohort.

### **Cohort Descriptions: Overview**

**Cohort 1.** Cohort 1 was a cohort of teachers who all worked at the same school; it was a mix of both first- and second-year members. During the first year of the cohort, two teachers who had had a long history of working together began to work with the AAC facilitator. During the second year, two more teachers joined, making a total of four teachers in the cohort. All teachers taught the same grade.

**Cohort 2.** Cohort 2 consisted of four teachers. Three were new to the cohort, and one was returning. The cohort members were from different schools and taught different age levels and different discipline areas.

**Cohort 3.** Cohort 3 consisted of a core group of three teachers who had continued to work in the model during the second year (a small number of teachers had left the cohort after year one). All cohort members taught at different schools, in different subject areas, and at different age levels.

**Cohort 4.** Cohort 4 was the largest cohort and consisted of five members, all of whom were from the same school. The group members taught different age levels of students and different classes; however, all members taught in the math/science discipline areas.

### **Data Collection: Method Synopsis**

The following is a short synopsis of the research method for this study.

Step 1: Getting started

We held initial discussions to discuss the proposed research and designed a research plan that we shared with the AAC. Solutions IRB in Denver, CO, granted ethical approval for the research.

#### Step 2: Gaining insights from AAC facilitators

We interviewed the AAC facilitators in a focus group conversation and used the findings to design the specific research plan.

#### Step 3: Focusing on schools and teachers: Research introduction

The researcher met cohorts on site to observe the AAC facilitators who were working with the cohorts. We reviewed the philosophy and purpose of the research study and obtained the participants' ethical clearance to proceed with the study.

#### Step 4: Focusing on schools and teachers: Round 1 data collection

The researcher engaged cohorts in focus group conversations and utilized two response sheets to collect data. The researcher also took notes during the focus group discussion. (Specifically, these response sheets were used by participants as background information they brought to the focus group discussions and by the researchers to review, consider, and summarize key points the participants made during the focus group conversation, in the participants' own words.)

#### Step 5: Round 1: Data synthesis

A four-member research team met to analyze and synthesize the collected data. This research team analyzed the response sheets and reviewed the research notes and insights. Using these findings, the research team planned round 2 of the data collection.

#### Step 6: Focusing on schools and teachers: Round 2 data collection

The researcher met each cohort a second time on site to review the findings, consider gaps in the findings, and seek help to fill the gaps. The participants then completed a third response sheet, and the focus group highlighted and expanded on the findings.

#### Step 7: Round 2: Data synthesis

The same research team members met to analyze and synthesize the round 2 data, and they shared, discussed, catalogued, and used their insights and notes to write an interim report.

#### Step 8: Extending the research study

After writing the interim reports, the researchers met with the AAC to discuss, and it was mutually agreed that it would be beneficial to extend the research study to gain further data. During this extension, the researchers interviewed the cohort members a third time: one as a group who attended the AAC's annual conference, one via telephone, and the remainder in individual interviews. They taped, transcribed the tapes, and analyzed the sessions and reshaped the research report in discussion with the AAC leadership.

#### Step 9: Reviewing and shaping the report

The researchers wrote and shared the interim reports with the AAC. They received oral feedback and shared a final interim report with the AAC based upon the oral feedback. The final interim report was also shared with a Working Group comprised of representatives of various stakeholder organizations convened as part of the larger AAC grant. The researchers then wrote and delivered a final report to the AAC.

## Findings

### Impact of the Model

As we worked through this research process, we realized that the specific stories, unique experiences, and learnings of the cohorts—both as a whole and as individual members—revealed a great deal about the impact of the model. Thus, we describe the impact by using cohort ‘impact snapshots’ combined through research notes from (a) the observed cohort meeting, (b) the two focus group interviews, (c) the participant data sheets, (d) the research notes from the follow-up semistructured interview, and (e) the transcribed stories and comments from the follow-up interviews.

**Cohort 1: Impact snapshot.** This cohort began from a foundation of two teachers who already had a strong working relationship. They were both Grade 3 teachers who had worked together at the same school for 15 years. During the first year, the cohort consisted of these two teachers, whose interest was piqued at a divisional AAC assessment workshop. Then they accepted AAC’s invitation and joined the model to form a cohort.

During the second year of the model, one teacher new to the school and another teacher who was returning from maternity leave, a person the original cohort members previously knew, also joined the cohort. That second year, the original two asked permission for the others to join because the other members of the Grade 3 team needed to know the reasons and foundation for the changes that they were implementing in their grade-level co-planning sessions.

This cohort was made up of fairly experienced teachers. As a group, the teachers were comfortable working with and discussing assessment and assessment ideas. Most noticeable were the comfortable relationships between the assessment facilitator and the teachers. Conversation was fluid and friendly.

During their assessment conversations, the teachers easily spoke about their learnings, mistakes, and work with students. They were exceedingly collaborative (they described a long history of working, planning, and professional goal setting together), and it was clear that their collaboration with the AAC facilitator had expanded from an earlier base that they had established. It was also obvious that the assessment facilitator and the teachers had built a good relationship that was evident during the conversations among the teachers and with the AAC assessment facilitator.

These teachers shared the same professional vocabulary. It was also significant that, when we spoke to them individually, they shared similar stories of ‘Aha!’ moments of learning as they reflected on their learning experiences.

Because the teachers knew each other well, their collaborations were broad. They were never off topic even though they spoke about many school topics, far and wide, and always personally. They were the kinds of conversations that spring from people aligned with common goals. No

topic seemed outside the ability or informal rules of conversation. It was obvious during the assessment discussions that the teachers considered assessment a broad area of work. They had their own concerns about how assessment worked within each of their classrooms, but moved past those conversations and were engaging and weighing in on each other's issues and concerns. The group of teachers discussed their teaching ideas in a positively student-centered way. With the help of the AAC assessment facilitator, their conversations focused on both the theory of assessment and its practical applications, and the topic of the conversations was student learning.

It was obvious that these participants liked children. Although they were confident, they reported that they were still working with ideas and did not have all the answers. They were proud of their learning; and, during the second data-collection conversation, one teacher led the researcher on an in-school field trip to show the work of one student whose work had been newly acknowledged—a result of the AAC model's assessment work (as she saw it). Earlier, the group had made a video about their learning, and they believed that the video was strong and represented them well. This group could be characterized as confident and caring.

One participant noted that one reason that the AAC cohort worked so well was the common way of planning, working, and sharing materials already in place. The interest, desire, and collaborative relationship were already there, and the model fit perfectly into what was already supported and encouraged in her school.

In terms of shifting attitudes and learnings, one participant commented that she had realized early the importance of linking assessment to the program of studies. She described an early working session in which the members noted that the students were required to “display a scientific attitude and be able to problem solve, trouble shoot, and display perseverance.” This participant emphasized the newfound importance of linking assessment to the program of studies: “It was right there in the program of studies, and we had an opportunity to measure that goal, and we hadn't!” She added, “We were so focused on other things, we were missing much more important and ‘bigger things,’ . . . the skills and outcomes we should have been paying attention to.”

Another participant noted that, instead of a checklist approach to assessment, the cohort had embraced and understood the importance of “notes, observations, interviews, and conversations” in their assessment practice. From our perspective as researchers, we believed that such a change in practice could happen only through a shift that allowed and encouraged teachers to consider the process more important than the content. In general, the participants' practice had come to reinforce the importance of watching the learning process unfold in the classroom instead of students' taking home assignments. This re-vision of the focus, in turn, also encouraged a stronger, clearer realization of the skills that they needed to pre-teach to make the students successful. This participant noted specifically that AAC learning “has also made us go back and realize what we need to pre-teach before we teach a lesson.” One example was that students need to be taught group work skills before a lesson will work. She commented that the cohort's reflection made them all realize at the end of the year the skills that they should have taught at the beginning of the year.

Another participant from this cohort noted, “Something that we sometimes miss, and what I really learned from this cohort, is how we have to model so much of the work. Students have to learn how to work in groups. They have to learn all these steps. We have to teach them and equip them with all these skills, and *then* the project comes where [students] are allowed to put all

those skills into practice. Sometimes as teachers we get so swept up in the final project, we forget about all the important learning along the way.”

The cohorts often learned together from their mistakes. For example, one participant stated specifically, “We didn’t get it right the first time, and we knew there was a better way. It just took us time to figure it out.” She added, “Our rubrics [changed] in every regard; whether it was a social studies rubric or an art project rubric, they all changed.” Asked to share a specific change, she explained, “That factor of how beautiful student work looked had to disappear from our rubrics. We had to realize that we wanted the authentic work of Grade 3 kids who are 8 and 9 years old.”

This group noted that their AAC learning had touched their whole school because they were sharing with other teachers in the school who had become interested. One participant reported that the school staff had come to realize that they needed a very different focus: “We bombarded our students with exemplars of excellence. . . . And for us now, when we are making our rubrics, we are always going back to the curriculum and seeing that, if it is not in our curriculum, it shouldn’t be in our rubric.” Their work with the AAC assessment facilitator “made us go back and pull out what was really important.”

The teachers also stated that, on their last divisional PD day, the Grade 2 team at this school “came crashing into our Grade 3 collaborative group asking for . . . project materials and rubric-making materials.” It was evident to us, as researchers, that other teachers recognized the importance of this cohort’s work when they mentioned that the Grade 2 teachers, who had been in a divisional PD session on project-based learning, reported that they were “all at a point where we want to change what we are doing, and we talked about how the Grade 3s at our school had done quite a bit of work on project-based teaching, and everyone wants that material right now. And we have 15 minutes to get it and head back there!” The participant noted, “They were so excited. These were Grade 2 teachers at our school who knew the work we had done, and they brought it back to the district meeting.”

One significant change that the participants reported was what they called their ‘tower project,’ a project that all these teachers had assigned to students for years. “We always had the students build towers in science, but we knew [the students] weren’t being authentically assessed. If we wanted authentic assessment material for this project, we needed to see the process. This assignment used to be a take-home project, and not anymore.” One participant explained that, after the changes, “we could see every single bit of this process, and what was completely amazing to me is the kids who sometimes didn’t do well on paper and pencil summative assessments in some cases seemed to have a vision of what they wanted, and they were confident and got right to work. Several of these kids who need so much help with reading and scribing, and all the scaffolding needed for paper-and-pencil things, were so independent in this situation.”

One participant shared a story about the impact of the changed tower project:

[A student] who is far below grade level and struggles in all areas of his education was one of the most successful students during this process. It was heartwarming to see his confidence blossom and the positive interaction with his peers. The next day his mom came to school and was so pleased, because for the first time her son came home from school excited to share his learning with his family.

The teachers reported being surprised for two reasons: Some children whom they thought would never struggle did, and some whom they expected to struggle did not. The participants admitted that they saw things that they never would have seen otherwise, and their new assessment rubric “was a clearer reflection of [student] learning.” Specifically, one struggling’ student “knew exactly what he wanted to do and how he wanted to do it. He handled the falling over, the breaking so well. He had great problem-solving skills. He was done and was looking around, and he just looked around, . . . shocked that everyone else hadn’t gotten their tower done!”

Another teacher stated, “I had the most amazing conversation with [a student’s] parents who have heard, since kindergarten, he is behind and isn’t good at articulating his ideas, that he is a weak reader . . . and is several grades below level in his terms of his writing . . . and has these supports in place. But then he was so brilliant in this process of hands-on problem solving, designing, engineering. It really was amazing! And I thought, We can catch kids like this! So seldom are we able to catch kids like this excelling at something.”

It is interesting that there is an epilogue to this student’s learning. The teacher reported that this boy went home and built a rocket launcher on his own time. He received permission to show it to the class, on the field, and the principal decided to put it into the showcase and allowed him to answer questions about it at recess. The teacher proudly reported that the student was continuing to work on it. “It now has wheels and is continually improving.”

Finally, one participant shared her insights about how her professional learning allowed her to see her students differently:

[One student] shone so bright in this assessment activity that even teachers who didn’t know him stopped to ask, “Who is that student?” This student might have continued to fly under the radar in a traditional assessment situation. But because we were looking for problem solving, troubleshooting, and creativity, his skill set was recognized! He is on cloud 9 today!”

As one participant summed it up, “All you need is one wonderful example of how project-based learning can help bring all kinds of learners to the forefront, and it makes me feel like I just want to do more of this. And we will do even a better job, the more we do.”

In addition to collecting data from the teacher participants, we also gathered data (in the form of stories and insights) from the AAC facilitators. The facilitator who worked with this school and teachers wrote this story:

I’ve spent some time wondering about what makes some people open to thinking about things in a different way, while others (just as capable) hold onto their beliefs no matter what other ideas come their way.

What makes [these two teachers] stand out to me is how they. . . came to the realization that the project they cherished wasn’t connected to any curriculum at all, other than by topic. And they hadn’t actually considered what learning goals they had in mind for their students. They were excited by the idea that they could go back to the drawing board and do better.

The changes came about because the whole team, and [the two teachers] in particular, were willing to question what was really important and make fundamental changes in the way they were doing things, even when they knew there were significant costs involved.

The participants explained that the model has encouraged them to become more reflective as teachers about teaching in general. They considered assessment one of the ‘scariest’ areas for teachers: “Have I done enough, shown enough, seen enough?” The participants suggested that these niggling concerns might actually lead some teachers to avoid assessment learning. We asked the participants in this cohort, “Do you think your work with the AAC has changed the way you ask ‘Have I done enough, shown enough, seen enough?’ in terms of your own practice?” Their answer was that they used less summative assessment and much more evidence along the way, so they were able to articulate *how* they assess.

To quote one participant: “Yes, it even looks different in my marks now. Even in one assignment, I chunk it up into different ways I am assessing it, so I can pull those apart and look at those as an extra tool. For example, I have a separate area where I am looking at problem-solving skills, and it might be across three or four different subjects, not just math. So chunking that information apart allows me to look across different subjects and allows me to see information about where a child fits on that skill.”

Now, after the AAC model project has ended, the team continues to plan together. The teachers continue to meet after school to plan together. The planning group also includes a teacher who moved to another school but attends the school’s Friday planning meetings and (because she is teaching Grade 4) comes back to plan for the Grade 4 students.

**Cohort 2: Impact snapshot.** This group came together from a number of different schools within one division. Although only one teacher in this cohort had participated during year 1 of working with the AAC assessment facilitator, the group seemed as though it had worked together for a long time. The open ethos and sharing created during the history of the work with the AAC assessment facilitator made it sometimes (but not always) difficult to tell the new participants from the old (in terms of the length of time with the cohort).

The makeup of this cohort included junior high, K-9, and secondary (high school) teachers who taught a variety of subjects that included language arts, math, and physical education. Many members were strangers at the beginning; yet one participant, who was working with the cohort for the first time, described how closely and well they worked together. She noted that, because the cohort was “strong” and “pretty solid” (in terms of their working dynamic), it was easy for them to accept new members into the cohort.

One participant explained how the cohort had come together: “The group of us sat down with the actual AAC model/diagram and decided what we wanted to focus on and came to agreement very quickly.” A participant noted that as a cohort they chose to focus on how “to best allow our students to show us what they know.” One participant reported, “It can’t all be about the writing and multiple choice [mirroring diploma exams] and has to be about choice, selection, variety, and opportunity for the kids to show what they know.”

When the participants talked about the process and the cohort, one summed up the feelings of the others: “I liked working with [cohort members] who were not in my subject area or in my grade. I like having meetings offsite. One of the challenges is sub time, but I did like the fact our meetings were offsite, and I gained from working with people from multiple schools, multiple levels, and multiple subject areas.”

On her data sheet, one participant had written about her struggle with collaboration. She was new to student collaboration, and it had not been part of her experience as a student. In fact, she believed that it hampered her own learning. She preferred to work by herself and relied on her own abilities, but she said that the cohort had made a difference in her thinking and that she had changed her mind. It “made me feel good about what we were doing and more willing to share with them because people were listening, and it made a difference.” She found that talking with other teachers, sharing, and listening had impacted her work. Through teacher collaborations and cohort conversations, she had learned how to promote student collaboration within her own classroom. She admitted that she had grown in areas of assessment; and, although she was convinced of the value of the work, she was “still learning the nuances of assessment during the cohort’s conversations.”

An AAC facilitator who worked with this cohort made the following comment.

At one of the first meetings, one teacher admitted to being skeptical about how the group would work since we didn’t all teach the same thing. She had never really worked collaboratively with other teachers and was quite happy to do her own thing, and even preferred it that way. The group has changed her thinking from working alone to working collaboratively. . . . This group has made her rethink how she does things and how she can make them better. When she hears an idea, she thinks about how she could make it work in her situation.

The teacher participant in this story shared her own insight:

I used to be scared of collaboration; I liked to work independently. Now I love collaboration, and I want to keep collaborating. I was trying to make an assessment that was multi-leveled. I was having trouble making it Student Choice, but as I collaborated, the group gave me ideas. They said to let students make their own questions to show what they learned. Weaker students really like the new assessment.

We considered this cohort’s conversation to be rich, to the point, and focused. This cohort also acted differently from cohort 1 (whose teachers were from the same school and saw each other every day): Because they came from different schools within the same division and met only monthly, their conversations included insights from different schools, catch-up conversations among the teachers, and friendly banter that seemed to arise because they did not see each other regularly during their school day.

We found it striking that this cohort had worked through assessment and was comfortable with it and that the cohort members had formed what seemed to them to be radical new thoughts about assessment work. One participant reported, “Two meetings into this group, we really jelled in a collaborative way. We trusted each other and began to look for feedback and constructive critique.”

Indeed, we inferred from the cohort conversations that some teachers had either considered ideas for the first time or reversed earlier decisions or ideas about assessment. They had gained deeper-level thinking about how assessment fit their own philosophies and pedagogies. Nothing about teaching or assessment seemed outside the realm of conversation. Again, similarly to other cohorts, these teachers seemed not to fear discussing their own issues and growth, which

sometimes clearly meant revealing mistakes that they had made along the way, thinking them through, and fixing them. Such conversations were part of their assessment growth.

One participant stated, “I like the fact I could create my assignments in a collaborative setting. . . . In my daily practice the issue is whether people actually want to collaborate.” She had joined the group in large part out of a desire to collaborate: “I was starved for it.” Another returned for a second year: “I joined because I had worked with AAC the previous year, so I knew what I was getting into.”

Another participant also emphasized that the model offered motivation and support. It offered an “opportunity to try new and different things and [gave] the push to do them. I would have gotten around to some of those ideas, but I am not sure when. [The model] pushed me to make some of those changes, or try new things sooner.” The participants affirmed that their work together had “moved things up on the priority list” because they had to come back in a month to share their experiences.

One of the AAC facilitators shared a story about this cohort:

To learn more about “typical dash-2 students” and what would engage them in learning, one teacher surveyed colleagues and students in her classes. She created a project for her class that involved art (film, literature, art—their own creations or created by others) in social studies to study the period of time between WWI and WWII. She was impressed by the work she received from her students. She later told me that she created the task with one particular student in mind (a student who she believed could express her learning in art) and was surprised by how much it helped other students demonstrate their learning, where[as] they weren’t able to with more traditional assessments.

As in our focus group interviews with other cohorts, we asked this cohort, “Do you see evidence that convinces you the model made a difference to student learning or to your own practice?” One cohort participant echoed the facilitator’s story: that working with the AAC facilitator had helped her as a teacher by helping her to give her “students choice that validates that their talent *is* valuable. It is a validation of the kids’ talents—valuable for them as learners and for their self-esteem.” She added, “Last year I was teaching dash-2s, and sometimes those kids struggle finding success—not always, and not all of them, but some of them do. So this year I am using [the project] with both dash-1s and dash-2s. We are in the middle of parent-teacher interviews, and today I had anecdotal evidence from two parents that the kids really were engaged in the project and they were working on it. Providing [students] choice allows them to decide, and the more decisions they can make for themselves, the better we are as educators, because that is the point: We are supposed to be leading [students] to a point where they are going to be on their own making decisions, and hopefully, in the long run, good ones.”

Another participant added, “I liked the model. I would participate in it if I had the opportunity again. It is hard being out of the classroom, but the benefits outweigh the struggles. It helped that it was an afternoon away from our particular schools.” A third participant reported, “I wouldn’t have come up with the project without the time and working with [the facilitator] and the group. I wouldn’t have had the time to come up with this [project] without the time and the professional input.”

One participant noted that “reflective practice is built into the [AAC] model. The follow-up piece is what is most effective (unlike the convention-type PD). The idea is that, if we can be brought into a group and continue, it really helps. Not only is there the time to create, but to follow up and debrief.” She reiterated, “Reflective practice is built into this one model.”

A number of the participants explained that the projects that they had undertaken as part of their cohort’s work together had impacted their teaching. One stated, “Although I have always believed kids should be given choice, . . . because of the impact of this one project I was able to create and critique, I will take that chance again next time because it was so successful.” Another added, “These types of projects engage kids to do their work. Engagement leads to understanding—. . . perhaps the opportunity [for one student] to see herself as a better learner than she thought she was, or a more sophisticated learner or a better student. I think all those things positively build for the student.” Finally, one participant remarked, “As a teacher, when you hear parents say, ‘My kid’s been working on this all weekend . . . and is really loving it. He had his dad involved, and they are building stuff.’ Definitely, there is a positive legacy to the project that is observable.”

When we asked the teachers about specific changes from their previous practice, they created a short list:

1. Whiteboards: “Kids love them, and the kids engage with them, so they have that benefit. But also, I rely on them to know where the kids are at. I rely on them now in class, and I never used them before at all. They are a huge part of my formative assessment.”
2. No hands-up classroom (unless they have a question), based on Wiliam’s (2016) idea at the AAC conference: “My willingness to do that and embrace that was because of the group last year. It made me more comfortable trying things and made me more of a risk taker.”

This participant noted that using these simple pedagogical ideas “has changed how I think about teaching and what I do in front of the classroom. It changes how students listen in class, too. . . . It gives them more opportunity and accountability.”

An AAC facilitator talked about working with the teachers as they utilized the ideas that they had learned:

[A teacher] permitted me to video her right from the beginning stages as she implemented whiteboards in her classroom, which is a very brave thing to do. As with the introduction of all unfamiliar strategies or techniques, things did not proceed perfectly. I think [this teacher] would be the first to suggest that there were awkward moments, but she soldiered on. [This teacher] was always forthright in all our conversations and expressed both her reservations as well as the successes that came with the whiteboards. She adapted her use of the whiteboards to fit her style, but early in her use of the whiteboards it was clear to her that she learned a great deal about her students’ learning and where students were at concerning their understanding of the course curriculum. This afforded her the opportunity to make adjustments in her teaching as she proceeded, enabled her to help students who needed her support and, equally important, learn when students were getting it, indicating it was time to move on.

Part of the power of this project has been the way many of the teachers we have been working with have not only extended their own practice, but gone on to share their practice with others. [This teacher] has related to me how she has taken her learning and the confidence she has gained from these conversations and volunteered to share this with other teachers in her district. She has, more than once, presented to groups of teachers her understanding of formative assessment and in particular the technique of mini whiteboards. So [this teacher] is an example of how the professional conversations she has had and the professional learning she has gained, enabled through this project, is now being extended to teachers she is working with. How important is that?

Another participant added, “When [students] do a project, they realize there is a gap in their learning and go back and figure out what they missed. That is learning. They would never do that on a test.” Another added, “For every project/assignment, they have the choice to redo or rewrite.” One participant found that the network of partnerships had changed: “Parents are on my side.” Finally, a participant reported that a student had written a note to her that said, “You made me feel the need to work hard. I feel that I can change the world, and you are helping me on that path.” A participant who had been engaged in AAC filming considered filming important to both her and the class. She noted, “It was very interesting to hear what the kids said afterward.”

During our focus group interview with this cohort, the researcher asked if the model made them more willing to try new ideas; specifically, “You said your willingness to try new ideas was because of the group. Was that because of the support or the learning?” They responded, “We got a push because of the accountability in the group. Trying those things is how you find out what works and what was effective. Then, coming back and being encouraged by others in the group helps. There is a collaborative piece when you are with people; it just goes better.”

The cohort spoke highly about their work with the AAC facilitator. Specifically, they considered the facilitator a good moderator because “she always took notes. She would go back and say, ‘Last time we met, you said you were going to try to do this. Can you speak to this?’ She would hold us accountable and keep us on track. She would keep track of the time. She was very professional. We were always conscious we had a certain amount of time, and everyone had a chance to share.” Another participant echoed these sentiments and described the AAC facilitator as “very good about keeping us accountable for what we said we were going to be doing.” Another noted, “There were things the [facilitator] did that were particularly effective. Keeping us on track was huge. We would each have our moment of time to share and give feedback to the person. Then we would move on the next person, she [the facilitator] was very good at keeping things equitable.”

The participants reported that regular meetings and release time were essential. They appreciated that they had time to meet together and agreed that they needed release time. Their discussion and input suggested a link to examples of Wiliam’s and Leahy’s (2014) indicators. The participants’ comments included the following:

1. The teachers were given time to meet. The cohort noted that no one missed or skipped a meeting. They could have, but no one did, and “sometimes it took effort with getting subs.”
2. The teachers increasingly acted as critical friends to each other. “We did that for each other, but I even see it here [at my own school]. People will come and bounce ideas

off me, and I feel more responsibility to be honest with them and give them constructive feedback. And I am more confident to do that.”

3. The teachers began to rely more on the increasing prevalence of formative assessment practice. One participant was “more willing to try more. Even previous summative tests are now formative because of the chance to redo.” The same participant added, “This adds two more layers of formative assessment into your work.” Another participant had even added three strategies to her Teacher Professional Growth Plan goals to be used regularly.
4. The teachers realized that their students became more engaged and used the examples of the whiteboards and ‘hands up.’ One participant noted simply that the students “are excited.”

One participant reported that a student had learned how to use an abacus. The participant had teased her students that, if they forgot their calculators, they would have to use an abacus. One student became so interested in the abacus that he took it home, looked it up on the Internet, and came back knowing how to add, subtract, multiply, and divide on it. Then he brought in a video on how to use it that the teacher allowed the student to share with and teach other students in the classroom.

She noted, “I am thrilled that we, as teachers, can inspire kids to want to learn things and to go out there on their own to work on it.” She added, “Like this kid said, ‘I want to work harder.’ The [AAC] model encouraged me to try new things, and then I turned around to encourage the kids to try new things. And [as with the model] I let them have choices. Now it is embedded in me to give choices, and students are so much more engaged in their learning because of it.”

The same teacher wrote:

I teach math. Most math teachers demonstrate, have students practice, and then evaluate. It’s dry. It’s repetitive. It doesn’t really differentiate. . . . So I created a project to use for assessment in my math classroom. Students did a ‘Show Me What You Know’ style of project for the Pythagorean theorem. The students really enjoyed it, and I was impressed how the results correlated with other forms of assessment I used in the classroom. I don’t know if I would have had the confidence or motivation to try it in my classroom without our group.

**Cohort 3: Impact snapshot.** This cohort was working together for the second year. It was an interesting group made up of mostly younger teachers; only one teacher had several years of experience. Most interesting about this particular cohort was how well the teachers got along and worked with each other, although they were from different schools. They have become collaborative friends and a small part of each teacher’s network of support. After one data-gathering session, for example, three teachers met for the rest of the afternoon to work together to help each other plan, despite the fact that they taught different subject areas (the math teacher worked with the social studies teacher and the English language arts teacher to build on ideas for teaching). The group’s conversations had clearly moved past individual classroom assessment ideas (although they were present) to work with each other corporately on assessment to make it a way of classroom thinking. It seemed obvious to the researcher that the teachers cared about

good teaching. Their teaching ideas were creative and engaging and offered space for student engagement in multiple ways. Collaboration within this group of teachers was strongly evident.

Again, as with other cohorts, it was obvious that the teachers had learned a great deal about assessment. In general, their conversations demonstrated that they learned through making (and discussing) their own mistakes. In fact, they made their mistakes part of a learning growth process that they freely shared with the cohort, which had become a safe space for open conversation. Most unique about this particular group was that the researcher had the feeling that they had slowly and naturally incorporated assessment into the whole of teaching—as though assessment and teaching had become the same thing, with no line drawn between them.

In speaking about their specific cohort, one participant noted that “getting to work with teachers from [other schools], but like-minded individuals, pulled me out of my learning and working environment and put me in a fresh one and changed my space a bit. It felt brand new to me, but still comfortable.”

Although some cohort members did not continue after the first year, the participants voiced their wish that the original participants had continued, because the second year was “somehow qualitatively different.” In the focus group interview we asked the participants if they could describe ways that they had changed from the first year of the cohort experience. One participant commented that, after the second year, they saw a “shift in ownership of the reform.” (It is interesting that this comment echoes Wiliam’s and Leahy’s (2014) indicators of success.) According to another participant, during the second year, “we had built more trust, and it allowed us as a cohort of professionals to have confidence in the things we were doing and to express that confidence. Instead of having someone to see that in us, we are now able to see it in ourselves.”

As with other cohorts, we asked these participants to share evidence of their learning. One participant noted, “I was confident enough to say in front of our superintendent [at the AAC conference] that I didn’t think we should give grades.” Another participant now “gathers the evidence to say to whomever might ask, ‘This is best for kids.’” Another suggested, “I have had a dramatic shift in my own brain from being very grade focused to learning focused.” Another noted, “I am able to articulate why I am doing what I am doing.”

One teacher participant related the following story:

There was a lack of interest and engagement in writing assignments. During one poetry assignment, I took students outside to take pictures as inspiration for writing. It was very engaging and some reluctant students who lacked confidence in what to write about had concrete things to write about and describe. Students were given advice as to how to widen or narrow focus of the pictures. . . for writing. They were given freedom to explore and students were very happy to use the time outside. As a result, many students chose this poem as their ‘final’ poem to revise, edit and submit.

One participant suggested that although teachers might often have conversations about summative and formative assessment and their differences, they “don’t absorb that into pedagogy.” She added, “I never used to think about adding assessment into pedagogy. Now talking about formative assessment as part of [one’s] natural teaching pedagogy, that feels right.” She reported that this practice has been a shift for her: “I didn’t realize how important formative assessment really was. I used to think summative assessment answered the important questions.

Now I am able to say it is not about summative assessment anymore. We are hardwired to think that is the case, but . . . that is not teaching kids to learn.”

The participants commented on the changes they observed in their students. Specifically, “[students] trust themselves that they knew what they are doing.” Another noted that, “through being part of this project, I am able to articulate why we are doing what we are doing and why it’s important. Now [students] have the confidence to articulate what they need.” (This comment clearly is an example of Wiliam’s and Leahy’s (2014) indicator of success 4 that students are more engaged in classrooms.) One participant thought that “what success is for kids, and what makes their learning evident, is that they have the confidence to say, ‘That is not going to help us right now. We want to do this.’”

Another participant noted:

A very important part of teaching is observing when you are doing a lesson. Sometimes you can get caught up in the teaching so may miss the student left on his own who doesn’t understand or likes to withdraw/isolate. I had a student like that. Once I realized I was not getting him into the group and engaging with myself and students, I began to think of ways to make sure the student participated. I sat him beside me, asked questions he could answer, paired him with a friend, did a group setting, and more. Over time he became confident and independent.

Speaking about students’ increased confidence and engagement, another participant commented that she now “loves how, if the students don’t like how a project is set out, they ask for modifications. . . . By the end of the year [students] feel confident enough to ask for a modification to an assignment and they recognize that [an assignment] is not a rigid structure.” Although for this participant this student’s behavior clearly indicates a shift in her confidence and perspective of her students, it also is evidence of her learning. She now believes in the importance of her own assignments “being flexible and adaptive,” a fact that she attributes to her increased learning.

When we asked one participant to flesh out why she was “glad I have the evidence to show that this is working if anyone asks,” she responded, “When I am questioned why I only have five marks and an exam, I can say, ‘Here is what [students] have learned.’ Instead of having a percentage, I can connect their learning to the outcomes. And the kids can say, ‘I know this is the outcome that I am doing here.’ They know the curriculum as well as I do, because we talk about it all the time. I think that is the evidence I have that what we are doing is so important.”

One participant who discussed her transition to fewer grades, more anecdotal assessment, and outcomes-based reporting, which meant to her “enacting your new assessment learning in your practice,” responded that it has been “easier for students who are working on these big projects because they have a clearer understanding of what we are doing.” She noted that sometimes parents seem to still “want to know where students are at [numerically], more than how they got there [learning journey].” Thus, parts of sharing assessment remain a challenge.

In speaking about issues of sharing assessment, one teacher participant noted:

There is no question for me that the opportunity to discuss/debate/defend my practice with colleagues has extended/shifted my thinking and broadened my experience/scope of practice. I am still not sure of the efficacy of all my ongoing efforts, but I do feel that

there have been a number of marked shifts to my philosophy and extensions to my scope of practice that represent innovation/change/effort in the constant pursuit of better practice, which is positive.

Discussing parental involvement and the first-year filming component, one participant “tried to approach [the filming project] with the students as something I am working on as an area of growth and study for me,” and she asked them to “let me know how it works.” The filming “made me think even harder about the choices I wanted to make, . . . not just for filming day.” She believed that the component of working on the film of the project helped “me embed even more formative assessment and assessment for learning leading up to the [filming project], so that it was natural.” It needed to be “normal, and powerful, and meaningful” by the time the filming took place.

Because there were cameras in the classroom, the filming catalyzed the parents to ask more about the project. As this participant noted, the parents were generally invested in this activity as “an area of growth for me,” and the filming project “increased interest in the AAC project.” The parents curiously asked, “Can we see what you did?” “Can we see what you made?” The participant explained, “Parents asked me to share information about the project. It seemed to help parents understand my investment in the power of this assessment project.”

**Cohort 4: Impact snapshot.** What was striking about this cohort was that it was made up of relatively young and new teachers. To the researcher’s eyes, these young teachers seemed to be gaining new understandings about assessment and seemed focused on engaging their own philosophies about how assessment impacted their individual work as teachers. Also noteworthy was that the teachers in this cohort group came from a broad Canadian perspective, which seemed atypical in regard to many schools where teachers had graduated from more local undergraduate teacher-education programs. To the researcher, these teachers seemed to be inquisitive, caring young teachers who were learning more about both teaching generally and assessment specifically.

All participants were in their first year of the cohort experience. During the year the participants learned about—and became confident talking about—assessment. In particular, their assessment conversations centered on how assessment has impacted their teaching. During their conversations, the group spent time working out their own ideas on how assessment impacted their practice and listening and attending to their colleagues’ ideas. They considered their learning about assessment significant, and this learning helped them to develop insights into how assessment was impacting their work.

Part of the cohort’s learning was also in respect to the group members’ insights into how new understandings about assessment impacted their relationships with students and with students’ parents. Conversations centered upon aspects of assessment and the impact of learning about assessment on their teaching confidence and, in fact, upon their students’ growth in confidence .

One participant shared a story:

When students receive an evaluation, . . . it is transparent to parents. My Grade 5 students are pretty comfortable asking for support should they not meet expectations. I guess it’s been a work in progress, as I’ve started the year with the notion that we all have strengths and weaknesses and that we are okay with the kids not meeting expectations at this point

as long as they are working towards it. A quiet student in my class regularly comes in for support.

When the researcher asked how the cohort had begun, the participants explained that their school had a PD model in which teachers chose categories of interest for their Teacher Professional Growth Plan. A larger group focused its interest on assessment and broke into smaller groups, one composed of humanities teachers and one of math and science teachers. When the AAC approached the school, the cohort who had formerly been the math/science assessment PD group became a cohort group for the AAC. Uniquely, it consisted of five teachers, all from the same school and all of whom shared the curriculum discipline area of math and science.

During the focus group interview, when we asked what they had learned from their work with an AAC assessment facilitator that would work best, one participant noted, "I am a newer teacher, and what I took from it most was being able to get the chance to talk to my colleagues and take from what they are doing in their classrooms. I really appreciated the chance to talk to the other math science teachers in the cohort." When we asked, "What advice would you offer about scaling the work out to other schools?" another participant focused specifically upon what worked best and shaped his response into advice on how to make the model work at other sites: "In our cohort, people were very good expressing their opinions, and so it was self-running. Everyone was able to share opinions. With smaller numbers, there is a greater ability to share and participate, and there was an expectation that more individuals in the cohort [would] contribute."

According to one participant:

I have always seen assessment as an area to improve. Talking with colleagues has given me numerous ideas of how I can do so. . . . The results are more informed parents and students. Therefore, they know how to better their next steps.

Other advice from a participant was that cohorts should meet at "regular intervals" to get their short-term goals ready before they would have to meet again. One participant responded to a question about the strength of the AAC facilitator: "A good facilitator needed to be there but didn't seem to need to be there." She added, "We say we could have done it without her, but we realize in reflection how essential she was. She was quietly influential."

It is interesting that, when we asked the participants whether or how the group dynamics or group conversations changed, one commented that the conversations stayed the same during the time that the group met. This participant noted, however, that working in the AAC assessment cohort had prompted discussion topics outside of work. The group had "a general respect for each other. We didn't all know each other in the beginning, but we all got along." Several participants continue to meet, although the AAC project has since ended. This participant explained, "School structures are organized around team meetings, so these structures reinforced some of the work that began last year. Two former members have common preps, so they are continuing to meet this year."

This same participant added, "For me, assessment has been a focus since the beginning of my teaching career. Maybe it is my science background, but it is about getting information, useful and concise. So this [working in the model] has taken the next logical progression for me and progressed my desire to get things done." He viewed assessment from a scientific perspective.

“My job is to have a feedback loop for students and for parents. A great deal of time, they want a summary version or conclusion. However, I also need to provide supporting data about how I get to that conclusion.”

This participant related the following story:

[I wanted to be] at a place in my assessment philosophy and practice where I was confident to talk about, defend, and share presentations. [As a result of this work, I have] set up a system that promotes transparency to students and parents; emphasizing that it is a working system and that there is room for adjustment and change; students are encouraged to talk about their abilities and are able to act on information and see results; being open to talk to other colleagues to try to poke holes and find flaws in the system from an educational-values point of view.

One participant emphasized that the school’s culture is based upon the ethos of leadership and “producing exemplary citizens.” The school focuses on “inquiry-based teaching, technology, and outdoor education.” The participants noted that the group’s work on the AAC assessment project fit the school’s focus. One stated that “the school has set planning times, so grade partners have common planning times. This is part of the school’s philosophy—collaboration and dedicated planning time.” Thus, the foundational philosophy of the school encouraged the participants to become members of the cohort.

When we asked the participants how they might know that the assessment model is working, one observed, “I see a difference in my assessment philosophy. I am now using an outcomes-based approach to teach math/science. So break[ing] down the specific skills I am assessing for helps me consider what I am looking for in the types of assignment/project/test/quiz I give. There is a purpose for everything I get students to do. When I assess it and report it back to them, it is reported as how well that student is doing on that particular outcome. Students will be able to identify their strengths and weakness; and, in the way I am assessing now, I provide [multiple] chances for them to improve on these outcomes.”

One participant appreciated “hearing and being exposed to these [ideas] I am trying to work on myself. I took lots of different activities we discussed in our conversations back to the classroom.” Another noted, “The [model] helps. I am continuously growing; and, as a teacher, I know I will continue to improve my practice. But being given that time helps. It is hard to find the time, and I value the time given [in the model].”

### **Role of the Facilitator**

The AAC facilitators described their roles:

- clarify goals
- create safe spaces/environment
- hold spaces where groups could ‘gel’
- explore how the work fit teachers’ current paradigms
- honor the personal agenda (teachers’ professional learning)
- encourage voice and choice versus a school agenda (if they conflicted)
- build a common starting point from a shared teaching background (facilitators were/are teachers, too)

- balance support and momentum: patient, gentle support while pushing practice
- find opening: redirect focus when work/conversation strayed and “nudge” conversations forward.

According to the participants’ data sheets and follow-up conversations, the AAC assessment facilitators’ roles also included the following:

- challenge “traditional ways of knowing”: impart knowledge that changed the participants’ paradigms
- provide an outside perspective
- provide resources and examples
- keep the participants accountable—on track and focused
- guide, clarify, and offer feedback
- create a space for collaboration
- increase confidence to better understand assessment
- encourage personal awareness of assessment growth
- support change through validation and encouragement.

The necessary role of the facilitator was evident in the data. The participants stressed that the AAC facilitator brought the necessary skills and content knowledge to their professional growth and encouraged a more effective use of limited meeting time through their nudging and redirection. They pointed out that the AAC facilitator initiated conversations and offered feedback that would not have happened otherwise: “It [is] impossible to know what we need to learn until we begin to learn.”

Our data also included researchers’ observations of the AAC assessment facilitation during the collaborative cohort meetings in which the teachers discussed their work. In observation notes, the researcher described the ACC facilitators’ skills as a blend of expertise and personality. The facilitators knew about assessment and had clear and specific ideas on how to link the teachers’ classroom assessments with rubrics bridged to curricular outcomes. The researcher also observed that the AAC facilitators promoted assessment conversations because they held the teachers to a gentle accountability for their work.

In the midst of a conversation, the researcher observed a facilitator who looked back at notes from a previous meeting and asked questions such as “Last time we spoke, you noted that you were going to work on implementing (or building) assessment ideas in this area. What did you end up doing? How did that work?” and “How is that progressing?” Research notes and interpretations confirmed for the research team that this facilitation process had two main effects. First, the teachers reported the need to further their work because they felt accountable, and they did not want to let the facilitator or their cohort down by not advancing their work. Second, a teacher might have slipped back into the busyness of teaching or might not have pushed through that busyness to engage in new ideas without the facilitator’s gentle accountability in the conversation.

**Qualities of effective facilitators.** The participants listed several desirable traits and qualities that facilitators need to make their work successful:

- knowledge and competence
- empathy, trustworthiness, openness, and lack of judgment

- ability to be engaging
- time-management and strong speaking skills
- ability to offer tips, techniques, and anecdotes
- respect, respectfulness, and mindfulness
- focus and ability to hold the participants accountable for individual goals and objectives through frequent conversations, one-on-one meetings, and group meetings
- ability to create a safe and nurturing community.

During both the focus-group data collection and the follow-up interviews, we asked the participants how working with an AAC facilitator increased their assessment knowledge and implementation. They responded that having an AAC facilitator guided their collaborative learning. It had a positive impact on their professional teaching capacity; skills, confidence, and awareness; and knowledge of differentiated assessment practices. The participants specifically identified benefits such as refinement in practice, improvement in assessment knowledge, understanding of rubrics and strategies, increased motivation and improved confidence, and improved student learning, attendance, and engagement.

Additionally, the facilitated dialogue and collaboration helped the teachers to recognize and learn from the “talent” and “genius” of their peers what they were already doing in their classrooms, including what they had tried and adjusted. Additionally, they had an opportunity to learn and try new strategies with one-on-one and peer support.

During the focus-group data collection and the follow-up interviews, we also asked the participants how, from their perspective, their students had benefited from the teachers’ work with AAC facilitators. They stated that the AAC facilitators’ guidance of their collaborative learning ultimately had a positive impact on student learning, engagement, achievement, confidence, and self-assessment skills.

Specifically, the participants described the changes when they implemented new assessment practices. They were able to offer the students choices (differentiation), model new collaborative strategies, build better rubrics, teach the students what and how to self-assess, observe the students’ higher sense of ownership of their learning, and observe the improved quality of the students’ work.

As well, several participants noted that student attendance also increased. One particularly interesting finding is a participant’s report that new assessment practices and knowledge helped her and her students to “discover students’ strengths.” Another participant noted that her assessment reporting had become more “fair, accurate, informative, and supportive of learning.”

### **Discussion Synthesis**

In this section we synthesize the data on the research team’s insights. This section emerges from several meetings in which the research team discussed the findings, combined with observations from the cohort collaborations, and analyzed the data they gathered. The synthesis includes three sections: (a) impact of the model, (b) role of the facilitator, and (c) expansion of the impact.

## Impact of the Model

### **Finding 1: The increased time that the teacher participants worked with the AAC facilitators shaped their conversations, behavior, and work.**

**Behavior and insights.** Cohort observations and data suggest differences between the level and content of the participants' conversations and the confidence with which they talked about their work. Specifically, our findings show that the teachers engaged with assessment as a topic of study in itself and moved beyond only thinking of it as a specific tool to use in their classrooms and with their students. However, as they spent more time discussing and engaging assessment ideas in conversations, both practical and philosophical, they became more engaged in conversations about assessment as a philosophical way of teaching beyond the more practical aspects of how it specifically works in their classrooms. This finding is interesting because it shows the conceptual growth of teachers who participated in a study of assessment. This finding also speaks to the process that helped the teachers to grow in their facilitated assessment conversations.

***Evolving theoretical and epistemological foundations.*** The researchers' observations of teachers engaged in assessment conversations revealed cohorts engaged in the powerful work of lingering, talking, and planning—activities in which tacit beliefs and assumptions emerged to become visible. Such talking and planning are part of an essential process of focusing teachers' attention, questioning, and moving from discussions about what assessment has historically valued towards imagining it differently. This work was weighty and necessary before and during the doing phase. Brian Huot's (2012) work supports this finding: "We must be able to do more than just change practice; we must disrupt theoretical and epistemological foundations upon which assessments are developed and implemented" (p. 176).

***Enhancing assessment capacity takes time.*** The advantage of continuing the work with an AAC assessment facilitator became obvious as the researchers met with the cohorts. The content of the cohort conversations shows that the more that the participants engaged in assessment conversations, the deeper their understanding became of how good assessment works contextually.

Some cohorts worked together more than others, a virtue of their increased time together. Obviously, such engagement grew as the cohort members achieved a trusting collaboration with their colleagues. It is interesting that the teachers' mistakes became an easy aspect of the discussion as part of their learning and growth process.

The pattern that the researchers observed was that the cohorts' conversations began with individual teachers discovering more about using assessment to address their own classroom needs and practices. However, in the cohorts' extended conversations and collaborative activities, the teachers spent more time sharing their work with each other in ways that went beyond personal classroom needs and practices. The collaborative conversations expanded beyond individual teacher practices to include assessment as a way of thinking about teaching. The teachers became interested in each other's work and, as our observations showed, improved their teaching by considering both their colleagues' and their own classroom work. That is, as they learned more about their colleagues' work, they also learned about their own. Perhaps it is trite to suggest, but increased collaborative conversations also increase teachers' professional learning.

As well, the research observations show that the teacher cohorts spent more time discussing assessment as a field of study. As their assessment conversations advanced, the teachers spoke about both assessment as a field of study or inquiry and assessment for their own uses. Thus, part of the work of these cohorts involved important dialogical exchanges, “acts of articulating the many ways assessment permeates practices in and outside the classroom,” which are necessary to make assumptions more apparent and enabled and encouraged the teacher participants to “revise assessment in the service of teaching and learning” (William & Leahy, 2014, p. 11). These assertions, foundational to this AAC model, are reminders of the importance of small steps and the knowledge that sustainable (and scalable) change takes time. Our findings from the data align with this work.

We believe that good work occurred in all of the cohorts, although we found differences. The cohorts in which the assessment conversations were only starting (cohort 4, for example) began their focus on the need for teachers to learn more about how assessment impacts their own practice. It then expanded to an increased focus on teachers’ implementation of these changes and sharing the implementations with each other; and then to their learning more about assessment in general and enhancing their personal practice specifically by understanding and learning about their colleagues’ assessment practices in their classrooms.

**Finding 2: The original first-year video component is important.**

Both the AAC assessment facilitators and the participants noted that the video component completed in the initial year of the program’s implementation indicated a common direction that brought everyone together and helped them to “keep goals in mind.” The construction and filming of these videos were powerful events that acted as catalysts to merge a common ‘curriculum’ of assessment practice.

The participants saw this video as a powerful force that moved planning into action, which was not a requirement for the cohorts who joined during the second year of the process. Because the videos were a requirement during the first year of the AAC model, they moved the created and planned idea to an actualized and implemented event. The videos encouraged teachers to think more deeply about their practice and helped them to understand the ways in which their goals were being actualized or that they were not there yet. A facilitator observed that these videos resulted in “moments of epiphany” in that the teachers became better able to understand differently what was necessary for them “to give/create” to build the classroom environment that they sought. The filming of these videos promoted changes in practice.

The transformational effect of engaging in this video activity and process was not part of each cohort’s experiences. The cohorts with only one year of experience had not had that learning opportunity, nor were they held to the gentle accountability and common curriculum that the activity required. We consider this different professional learning opportunity an important difference between the one-year and two-year cohorts.

**Finding 3: The cohort structure and organization are important.**

**Voluntary collaboration.** One strength of the AAC model that the participants identified is that their work and assessment engagement were voluntary. One participant noted the positive nature of the work because they were “volunteers, not volun-tolds.” As noted, this research involved only participants who were volunteers; however, sometimes the teachers reported that in past

professional development activities, they (or colleagues) had been identified as needing support. The findings from this research remind us that increasing assessment capacity does not require ‘fixing’ teachers; rather, it requires supporting a teacher’s chosen direction. Teachers face myriad challenges when they work in a system with deadlines and complications that do not allow sufficient time for collaborative planning and in which groups function in protected time. It seemed to be important to these teachers that they volunteered for this work and that time was made available for them to meet. It is hard to expect teachers to find more time at the end of their days. Giving time is giving agency and assigns value to their work.

**The power of a positively functioning collaborative group.** The participants reported that it sometimes took two or three meetings for a collaborative group to become comfortable or for the group to ‘gel.’ It is important to note that this process seemed to be the most successful when everyone in the room clearly understood the goals. Sometimes when the groups were confused about their goals, one of the most important tasks of the AAC assessment facilitators was to clarify the goals. This finding also highlights why the year-one video requirement was so significant to the participants’ learning.

A number of other concomitant effects of collaborative work are worthy of note. Often collaborative professional learning is commonly grouped under Professional Learning Communities (PLCs). However, interpretations and misinterpretations of what PLCs are and how they are actualized and implemented have permeated educational conversation and colored teachers’ professional learning experiences. Over the years, collaboration, framed within a PLC context, might have had a leveling effect that has made teachers used to working collaboratively in a setting without facilitator expertise. This research shows the power of working with facilitators who have content and skill expertise, as these AAC assessment facilitators did. This finding is important in terms of exploring the power of groups organized around a facilitator who brings specific expertise to a collaborative group setting.

**The power of gentle accountability.** The participants clearly articulated that, unlike PLCs, which are intended to hold teachers accountable for their professional learning, these cohorts’ goals centered on core values that included the belief that everyone can “grow and feel safe.” In the research-team discussions on the participants’ data, we labeled the effect *gentle accountability*, which became a noticeable byproduct of the safe, exploratory spaces that the participants believed were created to discuss assessment practices. The participants described gentle accountability “not as hard-core accountability, but rather comradeship” and a “healthy obligation” that resulted from a desire to ensure that the group members would not let each other down.

Because in the cohort meetings the teachers returned each time to explain what they were trying to do, that activity kept them focused and attentive to their professional learning. In other words, one positive result of this group dynamic was that it seemed to ensure that the work remained a current priority amongst the many other demands that are part of teachers’ lives. That the groups met on multiple occasions was important. Inherent in this process of groups’ coming back together was a reinforced commitment from the group members to “focus on the goals.”

One facilitator reported that a teacher with whom she worked had meticulously explored her data, encouraged because she was sharing and reporting to her group. In the second year of the project, participants in one cohort travelled to common meeting places and met on their own time, which demonstrated the importance of the work and group commitment. A participant

reported the common opinion that the groups had developed into dialogical spaces that “carved out spaces for conversation.”

**Finding 4: The transformative power of assessment is reaffirmed.**

One significant finding affirmed the essential role of assessment in enhancing teaching and learning. The data confirmed their powerfully transformative effects. The findings support both the important impact of assessment and the participants’ growing awareness of the powerful results of enhancing their assessment capacity.

The participants maintained that they could achieve greater assessment authenticity by improving the overall assessment structures to include working in a collaborative format with facilitators to design assessment techniques that effectively capture or reveal hidden and latent student talents—talents that current assessment methods have underrepresented or overlooked. They also affirmed that the more they employed assessment techniques that engaged and guided their students toward their own learning goals and experience, the more the students were engaged and focused.

The participants observed that, as students became more involved and engaged in their educational direction and outcome (so that their own input guided their learning experiences), they demonstrated a sustained surge in on-topic engagement, focus, and time on tasks. Better assessment practices helped the students to work with little distraction, even in difficult subjects such as math.

**Assessment reform helps teachers to focus on students whom they miss.** Perhaps one of the most important findings was the teachers’ realization that the assessment ideas and strategies that they were learning from AAC assessment facilitators were having the biggest impact on children in their classrooms whom they missed. Huot (2012) described assessment as “a vital and important site for social action; . . . an important means for ensuring the values and practices that promote meaningful [educational] experiences and instruction for all students” (p. 177). Our findings strongly support Huot’s assertion.

The participants commented that conventional assessment practices worked for students who did well on schoolwork but that they tended to ignore students who did not and were unable to do well with more typical and historical assessment practices. Participants offered stories and testimonies of how lower-achieving students who were part of the class were now “showing up.” They were on the teacher’s radar because they were more engaged as they responded to new ways to assess their work, were showing more confidence in their work, and seemed to be on an upward spiral.

Two additional comments on this finding are noteworthy. First, that the teachers dared to suggest that they had been unsuccessful with some students was revealing. It is hard for teachers to admit that they failed or were “not reaching” some children, which suggests that this finding mattered very much to the teachers. Second, some students in the classroom, although they have frequently been unsuccessful, are still working hard and will (because they now can) respond to creative, new assessment practices that match their unique needs.

**Assessment requires constant conversations.** The work of building assessment capacity, as this research has shown, resulted in a change of focus to learning and teaching from teaching and learning. Our long-held observation is that teachers cannot (and do not) separate their teaching

from student learning. When we asked a teacher how her work was progressing, it was striking to hear her say, “Ask the kids.” Our research found that teachers had come to better understand their own work through the lens of student learning rather than through the lens of their own teaching. The focus had changed from a focus on teaching to a focus on learning. The teachers who worked with an AAC assessment facilitator made a shift to understanding that they could not answer for their students: students must answer for themselves. One concomitant learning from this research was the insight that teachers, who once thought that they understood their students, admitted that the students surprised them. As teachers increased their assessment capacity, they were surprised, and this surprise encouraged them to implement new assessment practices that improve student learning.

**Assessment is solidified as a valid discipline of study.** The data clearly suggest that the teacher participants further reaffirmed their understanding of the power of assessment as an area or discipline of important learning. This theoretical and epistemological shift evolved with the teachers’ growing understanding of the impact and power of positive assessment practice.

### **Role of the Facilitator**

#### **Finding 1: The facilitator plays an essential role in enhancing capacity.**

**Slinky effect.** In his article “A Synthesis of Action Research on Coaching,” Day (2015) articulated the educational importance of recognizing the *slinky effect*. “The concept of the *slinky effect* acknowledges the necessity of following logical connections between an action—and the subsequent essential steps—before the measurable result” (p. 94). Our findings reveal a similar slinky effect. Assessment learning begins with a process in which a facilitator’s interactions with participants act as a catalyst for teachers’ professional learning; once that learning occurs, teachers implement it in the classroom, and these assessment practices enhance student learning. This positive cycle continues and builds teachers’ assessment capacity. However, it begins with the essential role of the facilitator, as our findings support.

**Goal setting.** Our findings suggest that the process began when the participants’ engagement with the assessment facilitators helped the teachers to set personal goals and the facilitators held them gently accountable for applying the acquired assessment techniques in their classrooms. The participants believed that their better understanding of overall assessment processes and their implementation across a broad educational setting resulted in their commitment to apply the newly acquired assessment techniques and increased their accountability to student learning outcomes. As a note, this accountability that emerged in the data aligns with Wiliam and Leahy’s (2014) description of accountability as (a) inextricably connected to support and (b) related to the ability to “render an account of why they have chosen to develop one aspect of their practice rather than another” (p. 13).

**Support and momentum.** Part of the articulated role of the assessment facilitator was to balance support and momentum based on the cohort’s needs. The psychology of the facilitator presence and gentle and direct feedback supported changes to individual practice and the sociocultural makeup of the schools. During this research, some of the conversation revolved around how the role and work of AAC assessment facilitators shifted from provider of content and skills to support for planning and ideas. The data imply that the conversations moved from the AAC assessment facilitators’ leading professional learning to participants involved in ‘professional doing.’

The participants also reported feeling empowered because their assessment learning was broadened and refined in a sharing and collaborative format, which led to a step in the process that we observed: the increased confidence of teachers.

**Confidence to be transparent.** Working with an AAC assessment facilitator increased the participants' confidence about sharing their personal assessment practices. The participants revealed that, prior to their involvement with an AAC facilitator, their overall confidence in sharing personal assessment methods (i.e., assessment transparency) dropped dramatically as the "burden of expectation" to justify their assessment methods to the broader community (parents, peers, staff, district and board office, and students) increased. Several participants noted a concern about their assessment's transparency to the broader community. However, following their collaboration with an AAC facilitator and subsequently fine-tuning their assessment methodology and techniques, the respondents' confidence in that transparency to the community increased.

**Confidence to better engage all students.** Working with AAC assessment facilitators increased the participants' confidence in their ability to engage all students. They revealed that the group shared common levels of concern and self-doubt regarding their current assessment methodologies. The participants reported that summative assessment alone did not completely capture the best within each student and expressed a desire to create and strive for authentic assessment techniques to more fully engage students in learning.

Part of this increased confidence was a shift in the participants' attitudes. Many articulated the belief that, as the number of collaborative meetings with an AAC facilitator increased, their outlook became more positive with regard to improved assessment skills, which they linked to the corresponding benefit to students' academic learning and confidence. The participants believed that, as their confidence, knowledge, and competency in their assessment skills increased, their personal teaching rewards correspondingly increased. Specifically, they became more caring and involved educators with a greater focus. These personal factors improved their morale, which the teachers believed results in positive student learning outcomes.

**Increased student learning and satisfaction.** The participants reported that, as their newly learned teaching ideas and personal assessment skill sets improved with facilitator collaboration, their students' satisfaction with and joy in their learning also increased because they were now actively participating in their own learning direction, process, and outcomes.

Exploring the findings from the perspective of the slinky effect demonstrates the important role of the AAC assessment facilitator as a starting point to enhance teacher assessment capacity. The facilitator's job was to encourage the participants' ownership of their professional learning, help them to understand how the program might support the personal agendas that they brought to their professional learning, and encourage each teacher's voice and choice. The facilitators began by building a common starting point from a shared teaching background and balanced support and momentum.

This expertise also affected the participants' desire to engage in collaborative cohort work. They found that, as their trust increased in the assessment facilitators' competence (the ability to offer the participants pertinent and useful assessment techniques within a nurturing collaborative group or 1:1 engagement), their desire to participate in future meetings with the facilitators increased; therefore, they continued to enhance their classroom assessment capacity.

## Expansion of the Impact

The question is simple. How can the positive impacts of the AAC model of at-elbow facilitation to support enhanced classroom assessment capacity be expanded? During our initial interview with the AAC assessment facilitators prior to the collection of data from the cohorts, we were reminded that one goal of the final research report was to address the potential scalability of this model within the broader system. What did this research study tell us about sustainability or scalability? What did we see within this research study that might become sustainable or scalable? Specifically, our agenda was to realize movement from individual data to scalability in the system.

As applied researchers, we desire to use research to answer the questions (a) What? (What did we find?); (b) So what? (What does this mean?); and (c) Now what? (How does what we have found inform us about what we should do?). Specifically, we care how the findings of this research might become more scalable in environments where people are not considered interested or intrinsically motivated, as these participants and the AAC assessment facilitators were, to further the work that the findings of this research suggest are successful.

The data from this research study reveal that the participants desired expanded roles for AAC facilitators. They hoped that the facilitators would become ambassadors in the system for assessment change. They noted that if the AAC facilitators were equipped with knowledge, teachers themselves would become better equipped. Within this consideration, the participants expressed a desire for more cohorts and colleagues to ‘come onboard.’ The participants in this research study were volunteers, several of whom asked the rhetorical question, “Wouldn’t it be better if everyone got on board?” Some participants also (perhaps erroneously) recommended that the AACs’ responsibilities include serving as a teacher support body to further publicize, recruit, and encourage more people on board.

We believe that this research, at its core, was about teachers’ professional development or professional learning. What is the best way to engage teachers in professional learning? Typically, teachers’ professional development or learning has leaned on the idea of valuing insights from outside experts who are invited to conferences of teachers, receive information or ideas, and then are commissioned to return to their sites to promote new classroom or teaching ideas within those sites. Although there is good reason to believe that the old pattern of professional development is shifting towards professional learning through teacher collaboration (Klassen et al., 2014), there are good reasons to see the actions of the teachers in this research as still working within the context of an older culture. Our research shows that the AAC assessment facilitators’ at-elbow model of facilitation increased the assessment capacity of the 26 teacher participants at four sites within this research study; however, how to scale this work remains a conversation.

Some participants in this research felt unsupported, even in schools and divisions that support teachers’ attendance and work with AAC facilitators. Because these comments were not pertinent to our research question per se, we did not include them specifically; however, several teachers noted a fear of resistance in bridging their assessment learning to their worksites. The teachers contended that the larger system must be committed to enable them to take full advantage of their work with the AAC assessment facilitators. Some teachers openly perceived their assessment learnings as not fully accepted, even at sites where they had received support.

We observed growth in teachers' professional learning in their work with AAC assessment facilitators. Simply, the more they worked in collaborative cohorts with the facilitators, the less they asked the facilitators for resources that they could transfer from site to site without contextual considerations, and the more they worked to contextualize new assessment ideas for their own work. Such is the professional learning that emerged from the AAC model.

How does one create scalability with the use of at-elbow assessment facilitators? In our observations, as we spoke to and collected data from different cohorts, although the participant numbers were small, we noted that the participants became more interested in their colleagues' work, more willing to share and listen, and more able to use their colleagues' insights and experiences to further their own learning. Furthermore, this did not change when the cohorts worked at the same school or were constructed of teachers, once strangers, who came together across a division. Both constructs (same school or different schools) have unique advantages, and the efficacy of either construct did not matter. In fact, some participants preferred one construct, and others preferred another.

Our research observations have made us confident to suggest that, the longer that the cohorts spent conversing with colleagues and being coached by facilitators, the more knowledge and assessment insights they gained. The beginning cohorts engaged differently, but not in a less-than manner. Although it is impossible to suggest how the changes occurred because we were not with the cohorts for the entire experience, the responses of even a small number of participants suggest that expanded engagement with an assessment facilitator increased the assessment capacity in all cohorts.

Our observations suggest that the model of using at-elbow AAC assessment facilitators increased the assessment capacity of cohorts of teachers. However, our observations of the AAC assessment facilitators at work suggest there are two aspects of their work that encourage participants to fully engage in the work of formative assessment: (a) the assessment facilitators' knowledge and (b) their interpersonal skills. This finding loops back to a previous discussion of the desired qualities of assessment facilitators. Our observations and the data from the participants suggest that both assessment facilitators' skills and the relational aspects that they demonstrate in cohort collaborations support increased teachers' assessment capacity.

What does collaboration mean? We have discussed the concept of collaborative cohorts, which begs the question, what do we mean by *collaboration*? When we defined collaboration in this research, we articulated a difference between directed or focused collaboration and teachers' getting together to talk about general topics. In this research we also found that collaboration focused on common goals. For example, the AAC assessment facilitators talked about using student-created art or hands-on projects to begin a discussion on goal clarification. In our research observations we found the cohort environment exceedingly conversational, and the conversation was exceedingly positive. It focused on how assessment practices fit curriculum objectives, how these work in practice, and what might be done (how teachers could use learning to expand their teaching practice in positive ways to benefit students).

The data from the participants support collaboration as key to increased assessment capacity. Speaking specifically about collaboration, the participants recommended that (a) collaborative groups be small and meet regularly; (b) activities be focused and guided, with explicit and implicit accountability; (c) teachers become volunteers or be invited to join cohorts; and (d) teachers take an empathetic, culturally sensitive approach to keep the team focused and on

task and create a safe space in which to take risks. Several participants mentioned that, as powerful and positively impactful as the collaborative cohorts and facilitated experiences were, time for collaboration is not a reality for most teachers.

One AAC facilitator reported the following participant comments:

- “Coming here makes me constantly reflect. And throughout other PDs, I’ll think about you guys, about what’s been said. You’re just always thinking about it and trying to make a difference.”
- “We learn so well out of conversation. It really challenges you. I don’t like it when my ideas are challenged. But if you do challenge yourself and you change your thinking, it makes it so much better.”
- “Hearing your ideas changes my thinking.”
- “When I work in a group, it makes me more creative than I am when I work on my own.”
- “I want to say how great group work really is.”

These experiences were not unique. The data from several collaborative cohort groups show the differentiation between hard accountability and commitment. One participant mentioned “not wanting to let the group down.” Another noted the desire “to follow through” because she “felt accountable to the facilitator, the group, and her students.”

**The use of stories as data (research) and insights (professional learning).** On one hand, using the stories that the teachers told us about their successes might seem like a research limitation. Because we were not there, we could not see what happened. We had to assume (as a research assumption) that these stories are accurate. However, stories represent more than only accurate research data. They are also chosen representations of what storytellers believe is important, true, or celebratory about an experience. (This was also true for the cohort participants who returned to their colleagues to share their work as they engaged in new assessment practices.) In much the same way, adults recall good teachers years afterward but never point to anything that they learned, although learning is the key focus of schooling. Those stories represent the true-ness of an event, something worthy of memory. Thus, stories carry hermeneutical value. The stories that we have used here are representational of selected memory of what is key and crucial to learning.

How does one understand the participants’ stories about their assessment success when they worked with AAC assessment facilitators? As we studied these stories, we found a number of themes. The first theme was that the stories told of new strategies implemented, and the strategies implemented equated to what the teachers were doing. The second theme was that stories help the students to take ownership of their own learning. These stories were not about teachers being sages on the stage; instead, the stories highlighted a shift towards student creativity and empowerment. The third theme is the recognition and acceptance of the changes that the teachers saw in how their classrooms were working. The classrooms became more confident places, and “chaos” and “noise” were often new descriptors. Sometimes the teachers wondered whether the classroom was running smoothly but came to see value as students began to express unique “genius” in their learning and the teachers came to new recognitions that this learning enabled them to see their students more clearly in the reflection of new assessment ideas.

The teachers also recognized and appreciated the complexity of assessment as learning. They felt a renewed sense of joy and satisfaction in the process of learning, in part because the students were driving the learning and the teachers were leaving it more open. As a result, the students received more choice and opportunity to demonstrate their learning, and the teachers received positive (as in good things are happening) feedback from both students and parents. In short, as we noted, students were beginning to own their own work. Several were no longer recipients of processes that were happening to them; they were more in charge.

**A better understanding of how the perceived school culture can impact change.** Theorizing about the issue of school culture is beyond the scope of this research study. Our data show that the participants appreciated what outsiders (the AAC assessment facilitators) contributed that helped to address their assessment needs. The coaching work of the AAC assessment facilitators helped the teachers in many ways, as we have noted. Our data also reveal that that teachers did not feel fully supported at their work sites. We will briefly explore the potential of this finding for further research.

Schools are contextually complex, shaped by a long cultural history. It takes time to change that culture, despite educational innovation or changes in educational policy. (William and Leahy [2014] asserted that, unfortunately, ideas that work are not widespread in use and that a gap remains between teacher-knowing and teacher-doing). In fact, often those who live in schools completely understand and support the need for change; yet change comes slowly. Formative assessment has a short history, as we noted earlier in this report, and teachers are believers. Our research findings tell us that teachers agree with the need for assessment changes. However, the philosophy and use of formative assessment has yet to reshape schooling or assessment.

We believe that this current research falls within this cultural history of schooling. We live within a needed reshaping of schooling (the clear focus on valuable and appropriate education for all students within recent provincial policy in Alberta is an example of this change). That context is working itself out within the schools where these participants are teaching. The difficulty of reshaping that culture is apparent. The AAC facilitator coaches teachers and encourages confidence, but teachers must then work within their schools, which, as the participants suggested, they still see as difficult.

Schools have foundationally been created on an ethos of individualization and competition (which has been part of assessment history and policy). Although teachers desire and need to collaborate to promote needed change, changes to school culture remain complicated. Obviously, as we noted, our study does little to address this context, except to remind ourselves of the complexity of schools, which we find a useful consideration as we consider this study's scalability. Specifically, considering how school culture might impact how the positive findings of this study can become useful other places, as they should, seems wise.

The participants in this research study were involved in both the research and the cultural changes in schools that are the context for this research. As we spoke about our findings as a research team, scalability was an area of interest. For example, our engagement with the data led us to believe that the positive actions of AAC assessment facilitators begin to move towards change. Their work impacts a small number of teachers who carry renewed practice to their own classrooms and employ it to good use for their students. Although the culture of schooling can slow change, teachers share that work with other teachers who adopt it and use it in other classrooms with other students.

This is Day's (2015) idea of contagious positive practice. She found that teachers spread change without being aware of it. In her meta-analysis of Cycle Three Alberta Initiative for School Improvement (AIS) coaching studies, the data suggest that, as teachers implement newly gained knowledge in their own classrooms, other teachers embrace these strategies and implement them in their own classrooms. Our point is that change might be slow, but history and research suggest that it will occur. Our finding matches Black and Wiliam's (1998) previous finding that such change can take time.

Our data show that the participants valued the contributions of AAC assessment facilitators as outsiders to their schools because, for some reasons, using in-house people was difficult. We ask why. What do our data tell us about a system in which teachers are working that manifests distrust of those who are our direct colleagues? Why might colleagues who carry new educational change be discounted—even if the change is valuable?

The participants reported that the AAC assessment facilitators brought in news from the outside that the teachers valued and that increased their assessment capacity. They had to share that news with proper motives (which they did) and in ways that would help the teachers to engage in their work effectively (which the process of collaborative community sharing in outside-classroom meetings did).

Finally, if outside facilitators are to be effective, they must focus on positive change. The collaborative cohorts who engaged in assessment discussions were exceptionally valuable because highly skilled, knowledgeable, relationally skilled, and unbiased (neutral) facilitators led them. The participants in this study hinted that the intimidation factor in schools can push teachers to value outsiders and supports, and, at least for now, the use of teacher collaborations led by outsiders with knowledge and skills in an open forum makes teachers feel safe to do this work. All of this impacts the scalability of this work. The question remains: "How/can these safe forums be created in schools?" That an outside facilitator helps teachers to take risks speaks to vulnerability. Schools, as most teachers understand them, can be places where efficacy is doubted, especially when new learning is seen as risky. Does this research study reveal a system issue?

During the collection of the first set of data, the teachers expressed a desire that AAC assessment facilitators go beyond helping them to better understand assessment, to helping them to reshape school culture. The teachers wanted to go back and feel able to do the good work they had learned. In fact, a number of participants reported that they wanted the facilitators to act as ambassadors because they believed that they could not do that themselves. They hoped that the AAC assessment facilitators would work with their peers, principals, their community, the government, and school divisions.

Generally, we believe that these teachers were moving towards enabled capacity. Although the ability to expand from our data is limited by the small number of participants, insofar as our data are representative, we identified growth as the cohort participants expanded their assessment conversations over the course of time. The increased number of assessment conversations increased teachers' growth towards assessment capacity. They reported having grown towards self-efficacy, and this growth was true across the demographic. That is, it was not about being an elementary teacher or an experienced teacher; it was more about whether a cohort had worked with the AAC assessment facilitator for one year or two years. We saw a movement towards teachers' embracement of assessment; ability to apply, create, or understand a broader view of

assessment; and ability not to consider rubrics tools in a toolkit, but models and exemplars of good assessment practice. Expanded work with an AAC assessment facilitator moved the teachers from beginning/emergent stages in their assessment journey to deeper understandings of assessment, which we equated with increased assessment capacity.

### **Issues, Recommendations, and Further Research**

As we complete this work, we understand that much research remains to be completed. We see a number of areas where groundbreaking research should happen. First, and most obvious, is engaging in further research on how to increase teachers' assessment capacity. This research is a beginning, but the insights from our findings are limited in part by the youthful history of the employment of this grant and when and how often the AAC's assessment facilitators worked with the collaborative cohorts of teachers.

Questions remain: Will the differences we observed in the growth that accompanied expanded (longer) conversations always happen? What more might happen if AAC assessment facilitators continued to work with teacher cohorts for a third year (as AISI did during its history of three-year cycles)? How might a year-three cohort translate and bridge their assessment practices into changed school-based assessment? Is there a next step?

Second, and in addition to the value of AAC assessment facilitators, the participants solidly found their work helpful in increasing their assessment capacity. We found much to talk about in the area of how educational change might occur within the complexity that is the school. As we noted, we believe that we completed this research within a contextual paradigm shift that is happening broadly from public and provincial policy to educational research.

Third, because we believe that this research was essentially about teachers' professional development and learning and how to best engage in those activities over the next years, we believe that more research should be done on how best to engage in teachers' professional learning.

Fourth, and stemming from this discussion, is how to best utilize professional educational experts. Because teaching is labor intensive and so fully engaged in as a looking-down process (specifically, teachers taking care of their children in their classrooms), we discussed the continuing need and place for the kind of professional expertise that AAC assessment facilitators demonstrate in great measure. We have many educational experts: How can we best use them to advance the larger educational system?

Finally, a specific and complex area of research emerged as warranted from this research. Specifically, it is the complexity of a culture of schooling that might seem to work against increasing capacity within the system (and of using practices that unconsciously isolate teachers from each other). Our research hinted at entrenched historical and cultural system issues within schools. Do teachers feel a lack of support for change? Do teachers believe that effecting change comes best from outside expertise? We have obviously not asked those questions as part of this research; however, as a research team, we have discussed the importance of gaining knowledge in these areas.

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## Appendix A: Data Collection Sheets

### Round 1 of Our Data Collection

#### [Response Sheet 1]

#### Part 1: Evaluating the Capacity of Schools and Teachers to Design Classroom Assessment Experiences for Students

- a) What promoted your involvement in working with the assessment facilitator?
- b) What did the assessment facilitator do that helped you improve your assessment knowledge? [From your perspective, what worked?]
- c) What evidence do you see that your assessment knowledge has increased? What specific “stories” or “actions” represent your collaborative work together?
- d) Thinking specifically of your students’ work, what evidence do you see that assessment knowledge has aided your students? Do you have stories/narratives where students have specifically been aided by your work in assessment? What are these?
- e) What is the value of working with an assessment facilitator?
- f) What should the role of assessment facilitators be in improving the assessment knowledge of teachers and schools?
- g) How do you think the role of assessment facilitators should be improved?
- h) How do you think the role of assessment facilitators can be mobilized?
- i) How do you think the role of assessment facilitators can be used in other settings?
- j) How do you think an ongoing assessment community should be created?

Question 1: [space to answer question given]

Question 2: [space to answer question given]

Question 3: [space to answer question given]

**[Response Sheet 2]****Part 2: Synthesis of Our Conversation**

Directions: Thank you so much for working with us in a study that will help increase assessment capacity beyond your own site. We appreciate the insights you have shared. As researchers, we have attempted to ask the “right” questions, listen carefully to the insights you have shared, and engaged these insights with fidelity. That is, we want to carry forth your ideas as carefully as possible.

Towards this end, and to be transparent, we have designed Part One of this study with three data collection pieces. First, were your answers to the questions on the single sheet of paper. Second will be our notes about the conversations. The third will be your short synthesis of the conversation we have had today plus any added insights you believe will further our joint work.

As you consider our conversation today – and the insights you have had from your work with the assessment facilitators – can you answer the questions below? Thank you.

Question 1: What did our conversation cover? That is, if you were to create 2-3 themes in your own words that would highlight our talk today, what would these themes be? [space to answer question given]

Question 2: What insight (or two) that emerged from our conversation would you NOT want us to miss? That is, what KEY POINT(s) in your own words do you think we should carry forth from this conversation? [space to answer question given]

Question 3: Did we miss anything? If so, what? In other words, in our conversation was there a time when you thought of something that we just didn't get to – or should have noted – but didn't? If so, in your own words, what was it? [space to answer question given]

## Round 2 of Our Data Collection

### [Response Sheet 3]

#### **Title of Study: Evaluating the Capacity of Schools and Teachers to Design Classroom Assessment Experiences for Students**

#### **A Synthesis of Findings and Space for Further Insight**

Note: We had great responses and many examples of personal insights – none of which we will lose; however, below we have listed the common (repeated) findings.

#### **Part 1: The Value of the Facilitator (Condensed Findings from the Data)**

- (a) Challenged traditional ways of knowing – gave knowledge that changed my paradigm;
- (b) Provided an “outside” perspective; (c) Provided resources and examples; (d) Kept us accountable – on track and focused. Translated into actionable results; (e) Provided guidance, clarification, and feedback. Provided a space for collaboration; (f) Increased our confidence that we better understood assessment. Helped us become more personally aware of assessment and growth; and, (g) Supported change through validation and encouragement.

Part One - Question for further insight: In what ways do these initial findings resonate or contradict with your experience? [space to answer question given]

#### **Part 2: Evidence of Benefits and Increased Assessment Knowledge**

Part 1, Question C: Evidence that your assessment knowledge has increased?

- collaborating with colleagues; learning from colleagues’ stories and discussing what works.
- refining my practice, improving my assessment knowledge, rubrics or strategies
- I am motivated, excited and have more confidence
- improvement in student learning, attendance and engagement

Part 1, Question D: Evidence that your assessment knowledge has aided students?

- increased student (and teacher) confidence in authenticity of assessment
- increased student engagement in learning
- increased student ownership and motivation to improve their work
- increase in student achievement and quality of work: discovering student strengths
- increased differentiation; choice for students in demonstrating their learning

Part 2 - Question for further insight: We have descriptions; however, we lack specific stories of your learning and your students' learning. In the space below, write a story or anecdote using a PAR format—describe the P(roblem to solve), A(ction taken), and R(esults). [space to answer question given]

**Part 3: Bigger picture questions we remain interested in**

- a) What should the Alberta Assessment Consortium do next to support teacher assessment capacity? [space to answer question given]
- b) Is there anything we missed that we should not have? [space to answer question given]

**Further demographics:**

I teach at grade level(s) [Circle one]:    Elementary    Middle    Secondary    Multi

I have taught for \_\_\_ 0-5 years \_\_\_ 6-10 years \_\_\_ 11-15 years \_\_\_ 15-20 years \_\_\_ over 20 years

## **Appendix B: Dimensions of Sound Classroom Assessment Practice in Support of Enhanced Classroom Assessment Capacity**

**[Note: This document was used as a foundational framework for the cohort work]**

### **Dimensions of Sound Classroom Assessment Practice**

A study of the Teaching Quality Standard, the Principles for Fair Student Assessment Practices for Education in Canada, and the AAC Key Visual leads to a description of the professional skill set educators demonstrate within an effective classroom assessment program. These qualities are briefly described below.

**A teacher who is an effective assessor plans with the end in mind.** Student learning outcomes and cross-curricular competencies are intentionally integrated into the teaching/learning/assessment process.

#### **A teacher who is an effective assessor (Dimension #1)**

- derives the learning destination through careful study of the student learning outcomes and cross-curricular competencies.
- develops a collective understanding of grade level standards through ongoing conversations with colleagues, the use of exemplars, and collaborative scoring of student work.
- helps students come to an understanding of the learning destination using age-appropriate language. The teacher involves students in helping to describe characteristics of quality work in relation to the learning destination and within the context of the assessment experience.

#### **A teacher who is an effective assessor (Dimension #2)**

- intentionally selects appropriate instructional strategies, teaching/learning resources, and assessment methods that are consistent with the learner outcomes. The teacher understands that the relationship between instruction and assessment, particularly formative assessment, is inseparable.
- selects appropriate methods for gathering evidence of student learning that are consistent with the learning outcomes. For example, careful study of the student learning outcomes and cross-curricular competencies reveals that innovative assessment methods such as performance assessment, observations of students engaged in learning, conversations with students about their learning, and student self-reflection may be the most appropriate assessment methods for many outcomes.
- is a critical consumer of assessment materials. Assessment tasks and tools such as rubrics, rating scales, and checklists are adapted as necessary and developed when required in order to achieve coherence with student learning outcomes and cross-curricular competencies in order to meet the learning needs of the students.

**A teacher who is an effective assessor (Dimension #3)**

- considers the strengths, needs, and cultural backgrounds of diverse learners when designing assessment experiences. Students are provided with respectful tasks and appropriate levels of support in order to assist them in attaining the student learning outcomes and cross-curricular competencies. Opportunities for choice are embedded within the assessment process.

**A teacher who is an effective assessor** understands the purpose for assessment and balances formative and summative assessment experiences. Formative assessment is characterized by an abundance of specific, descriptive, just-in-time feedback that allows the teacher to personalize the learning experience.

**A teacher who is an effective assessor (Dimension #4)**

- understands the importance of engaging students in the assessment process. Engagement in this sense goes beyond mere interest. Rather, it implies a level of commitment to the work in which students are involved. The teacher understands that there are numerous ways to help students meet the intent of the learning outcomes and cross-curricular competencies, and seeks opportunities to involve students in making decisions as to how they demonstrate their learning.

**A teacher who is an effective assessor (Dimension #5)**

- intentionally plans multiple opportunities for students to give and receive formative feedback prior to summative assessment experiences.

**A teacher who is an effective assessor (Dimension #6)**

- encourages students to reflect deeply on their learning and provides time for students to integrate feedback into work in progress.

**A teacher who is an effective assessor (Dimension #7)**

- is able to interpret evidence of learning to determine next steps for students. This includes the results of classroom assessment, both formative and summative, as well as the results of provincial assessments.

**A teacher who is an effective assessor** is able to use sound professional judgment when interpreting results of summative assessment.

**A teacher who is an effective assessor (Dimension #8)**

- is able to arrive at a sound judgment regarding the most consistent level of student performance. Where evidence of student performance is inconsistent or missing, further assessment is undertaken. Most recent evidence is considered to be more credible than earlier evidence.

**A teacher who is an effective assessor (Dimension #9)**

- combines evidence from a variety of sources in a meaningful way, and recognizes that the arithmetic mean is not always the most accurate measure of student performance.

**A teacher who is an effective assessor (Dimension #10)**

- reports the results of student learning to students, parents and others who have a right to know in a manner that is informative, accurate, fair, and designed to support learning.

These qualities are consistent with the goal of inspiring all students “to achieve success and fulfillment as **engaged thinkers** and **ethical citizens** with an **entrepreneurial spirit**.” They reflect the Values, Guiding Principles, Policy Shifts, and Future Curriculum.