Learning Progressions: Informing and Supporting Instruction and Formative Assessment

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Abstract

"Formative assessment is a process used by teachers and students during instruction that provides explicit feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes."(McManus, S. (2006). Formative assessment is a critical component of a balanced assessment system. Classroom-based formative assessments provide evidence of student thinking. The evidence collected enables teachers to differentiate instruction based on students' cognitive strategies rather than on incorrect answers. Teachers practicing formative assessment ask students to perform tasks, explain their reasoning, and prove their solutions. Teachers who engage in formative assessments give continual, explicit feedback to students and assist them in answering the questions: Where am I going? Where am I now? How can I close the gap between the two?

This monograph will share the program AERO SAW that uses teacher and student artifacts to reflect on assessment practices. Research indicates that formative assessment, if well-designed and implemented correctly, is an effective strategy for enhancing student learning. Research concludes that compared to other interventions, formative assessment has the greatest impact on learning gains and is more cost-effective. We will share the journey, the process, the challenges and how they were addressed of a group of schools implementing the AERO SAW model for examining assessment practices.

Introduction

Current discussions about teacher learning stress the potential advantage of embedding that learning in aspects of teachers' practice. (Ball & Cohen, 1999; Cochran-Smith & Lytle, 1999; Lampert & Ball, 1999) Organizing teacher learning around the study of artifacts of practice, student tasks, student work, and student feedback, is one way to embed the learning into practice. Little (1999) contends that " one of the most powerful and least costly occasions of teacher learning is the systematic, sustained study of student work, coupled with individual and collective efforts to figure out how that work results from the practices and choices of teaching" (p.235)

Black and Wiliam (1998b) define assessment broadly to include all activities that teachers and students undertake to get information that can be used diagnostically to alter teaching and learning. Assessments become formative when the information is used to adapt teaching and learning to meet student needs. Formative assessment is tightly linked with instructional practices.

There is considerable evidence that assessment, when practiced effectively, can improve student learning (Black & Wiliam, 1998). One of the most powerful research- based strategies for linking assessment to improved instructional practice is teacher collaboration on analyzing student tasks, student responses, and teacher feedback to student responses. Little et al. (2003) found that teachers who engaged consistently in such discussions were able to:

- assess student performance more consistently, effectively confidently, and fairly;
- build common knowledge about curriculum expectations and levels of achievement;
- identify strengths and areas for growth based on evidence of student learning;
- adjust and acquire new learning by comparing one's thinking to that of another student or teacher;
- share effective practices to meet the needs of all students, monitor progress, and celebrate growth.

Teachers need to consider how their assessment practices (classroom activities and assignments) support learning goals, provide students opportunities to communicate what they know, and how they use this information to improve teaching and learning. Opportunities for professional dialogue about assessment practices bring coherence to those practices, while promoting a climate of inquiry that supports student learning, and challenges teachers to focus future instruction on specific learning outcomes.

The United States State Department Office of Overseas Schools (A/OS) assists 196 schools with an enrollment of about 124,000 students in 136 countries. The purposes of the assistance is to help these independent schools fulfill their mission of providing quality education for children of dependents of American citizens carrying out the programs and interests of the U.S. Government abroad and to demonstrate to foreign nationals the philosophy and methods of American Education.

Background

In the 1990's, the Near East South Asia Council of Overseas Schools (NESA), in conjunction with the US Department of State **Office of Overseas Schools** Project **AERO**, used the NCTM Standards to develop a set of mathematics standards. The project was funded by the Overseas Schools Advisory Council (OSAC). The AERO Mathematics Standards followed the model of standards that was then being developed typically organized into grade spans. The goal of this model was to allow curriculum flexibility with the idea that a student would understand the concept, "By the End of Grade…". The general guide for placement of standards at each grade was the perceived beliefs within the content community of each school about when and how the big ideas of mathematics unfolded.

AERO (American Education Reaches Out), a project supported by the U.S. State Department's Office of Overseas Schools (A/OPR/OS) and the Overseas Schools Advisory Council, provides overseas schools with standards for curriculum consistency and for stability of curriculum across grades K-12. AERO helps overseas schools implement and sustain standards-based curricula

that is in alignment with research-based trends in the development of curriculum worldwide, and particularly with standards-based efforts in the U.S. www.projectaero.org

Even though meeting standards was the ultimate goal of instruction in our schools, the AERO standards, like most state standards, did not provide a clear picture of what learning was expected. Since the expected learning was not clear, teachers needed elaboration before they could use the Standards documents as a basis for instruction and assessment. This limited use for planning instruction and assessing learning also hindered schools in developing a comprehensive coherent curriculum, essential in schools where the mobility of students and teachers is very high.

In 2003, Project AERO began a second effort. AREO SAW, with an OSAC grant to NESA and A/OS support. AERO SAW, in collaboration with CBE, was a two-year project, which examined student work. A select group of schools in the region piloted the two-year project, AERO SAW, to examine student work for concrete evidence of what the teacher intended and what the student learned. The process provided a structured format for teachers to examine the artifacts of teacher practice and student learning. Central to the project is the reflection and questioning that guides small critical friend groups of teachers in an analysis of their assignments and student work resulting from those assignments.

AERO SAW: The Process

Schools Around the World (SAW) was a program of the Council for Basic Education. It was multinational professional development model that used world-class standards as the basis for improving student achievement. It gives science and math teachers from around the world the opportunity to use student work to improve achievement by examining and reflecting upon their own teaching practice. In the United States, Schools Around the World worked through a combination of both in school workshops and online seminars.
http://cct2.edc.org/saw2000/frontfrm.htm?saw_ov.htm

AERO **SAW** uses a structured format (See Appendix A) to help teachers examine the artifacts of teacher practice and student learning. It is a process for linking instruction and formative assessment to improve student learning. Through **critical friend** discussions using the structured protocol, Evidence to Excellence (E2E) Placemat (See Appendix B) small groups of teachers discuss and reflect on student tasks, student work, teacher assessment and feedback of the work.

A teacher shares a task he/she has given to students. Using the protocol, the critical friends reflect on their observations. Discussions center on how the task related to the intent of the standard(s)/benchmark(s), the prior knowledge required to be successful, the clarity of the language, the rigor of the task, and what would be sufficient evidence of student learning.

The sharing teacher then presents three samples of student work. Critical friends discussions center on the students reasoning skills and evidence of students learning. Not knowing how the sharing teacher has assessed the student work, critical friends share their assessment.

The sharing teacher then shares how he/she had assessed the work and the feedback he/she provided each student. Critical friends then reflect on the teacher assessment and feedback. (See Appendix C)

AERO SAW: The Model

The quality of work in professional learning communities depends on the quality of collaboration that is embedded into a school's culture. Michael Fullan states that "collaborative cultures, which by definition have close relationships, are indeed powerful, but unless they are focusing on the right things they may end up being powerfully wrong."

So what are the "right things"? DuFours, Barth, Schlechty, etc. have determined that schools which truly embrace a mission of learning for all, there is a focus on four critical questions:

- Ø What is it we want all students to learn?
- Ø How will we know when each student has mastered the intended learning?
- Ø How will we respond when a student does not master the intended learning?
- Ø How will we respond when a student has already learned it? (DuFours. Professional Learning Communities At Work)

E2E conversations provide schools an opportunity to work in professional learning communities where educators can engage in conversations about the many factors that affect student achievement.

Near East South Asia Council of Overseas Schools (NESA) is a non-profit voluntary association of more than 90 private independent international schools in the Near East and South Asia. Regular member schools follow an American/ International college preparatory curriculum and typically serve students of more than four dozen nationalities. http://www,nesacenter.org

The AERO SAW model is a combination of face-to-face and online collaborations. Research studies have demonstrated that the best professional development is not face-to-face only or online only, it's both. "It's a widely held misconception that any form of online learning is second best to any form of face-to-face learning. What research shows us is that online learning and face-to-face learning complement each other in interesting ways. Some people who are silent in face-to-face professional development sessions find their voice in online interactions, for a variety of reasons. Online learning can also extend time, which is perhaps the most precious resource that teachers have, because it allows them to do professional development when they want, where they want. So it has some strengths that are a really good complement to face-to-face professional development." (Dede, C. 2006)
AERO SAW, a NESA project, began with teams of teachers from overseas schools that included all regions of the world. The preconference session provided opportunities for school teams to become familiar with the E2E process and to provide the tools needed to return to their schools to facilitate small group discussions. During the school year, online support was provided and teams were reconvened to discuss successes and challenges at the NESA

Spring Conference. Discussions of teacher and student artifacts combined the discussions of the subject matter, student thinking, and instruction seamlessly. The discussions initiated

questions about the context of the lesson, prior knowledge, evidence of student learning, and feedback to

move students forward. A follow-up program involved fewer schools and included face-to-face meetings at several NESA conferences. School-based training was also provided as well as three-week online seminars. Project AERO provided summer training in AERO SAW (E2E) over a period of three years.

Rethinking Mathematics Standards

Formative assessment is an ongoing process of collecting evidence of student learning and using that evidence to identify next steps for learning. The elements of formative assessment include:

- Being specific about what we want students to learn
- Eliciting the evidence of student learning to identify gaps between current and desired performance
- Interpreting the evidence to identify next steps for learning.
- Providing feedback to students for reflection on their learning and generating next steps

E2E focused on the goals of student tasks, the evidence of student learning, and interpreting that evidence to provide next steps for students and teachers. However, the AERO Mathematics Standards had followed the model of standards development at that time and standards were organized by grade spans. These did not provide a clear picture of what learning was expected. Since the expected learning was not clear, it was difficult for teachers to determine where students were relative to the standards. By its very nature, learning involves progression and it was imperative teachers understand the pathways along which students were expected to progress before they could make decisions about what the next steps in learning should be. Without an understanding of the continuum of learning for the domain, conversations were restricted to the task given to students to meet the goal of the lesson and evidence of success.

> "Placement of the standards should reflect the grade level at which mastery is expected, and standards should not be repeated from year to year." National Mathematics Advisory Panel

To address this challenge and to provide greater consistency to the mathematics curriculum in A/OS schools, AERO developed a Framework for Mathematics (www.projectaero.org). The National Council of Teachers of Mathematics Curriculum Focal Points (NCTM, 2006) and the international benchmarking guided the development of the document. The Focal Points specify for each grade level the most important mathematical ideas that a student needs to understand in-depth for future mathematics learning. The K-8 document was designed so that teachers could view progression points of the learning continuum across grade levels. This articulation of learning progressions described a pathway of learning that would assist teachers in planning instruction, tying formative assessment to the expected learning, and pinpointing where students' learning was on the continuum. Identifying where each student is on the continuum of learning in the various domains of mathematics has

been facilitated with the use of Adaptive assessments. The results provide many practical applications for teaching and learning.

Rethinking Professional Development for Teachers

Seventy-five A/OS schools use the North West Evaluation Association (NWEA) Measure of Academic Progress (MAP) assessment to gather this information. MAP is a computerized adaptive math test that reflects the instructional level of each student and measures academic growth over time, independent of grade level or age. MAP is aligned to the AERO Framework

The purpose of formative assessment is to adjust teaching based on evidence about learning so that students can close the gap between where they are now and the desired learning goal. If teachers are not clear about next steps for moving student learning forward, then the promise of formative assessment to improve student learning is greatly diminished.

To know what to do next in response to formative assessment evidence, teachers need a clear understanding of how learning progresses. However, learning progressions, by themselves, are not sufficient. A deep knowledge of the content represented in the learning progression is also needed. Effective formative assessment, requires optimization of mathematics knowledge, pedagogical content, assessment knowledge, and knowledge of students' previous learning (Heritage, 2007). If teachers are clear about these aspects, they will be better prepared to respond to them when they show up in formative assessment. A recent study, Heritage et al. (2009) found that teachers had the skills to use data and draw inferences but fell short with respect to planning "the next instructional steps" (Heritage, 2009,p. 31).

To help all students learn mathematics, teachers need to understand the mathematics they teach and, when possible, to understand it in several ways as well as several kinds of knowledge about learning. Teachers need to see how ideas connect across fields and to everyday life. This kind of understanding provides a foundation for pedagogical content knowledge that enables teachers to make ideas accessible to others (Shulman, 1987). Acquiring this sophisticated knowledge and developing this practice is different from what most teachers have experienced as students and it requires providing learning opportunities that are more powerful than simply reading and talking about mathematics (Ball & Cohen, 1996). Teachers learn best by studying, by doing and reflecting, by collaborating with other teachers, by looking closely at students and their work, and by sharing what they observe. This kind of learning cannot occur in environments divorced from practice or in school classrooms divorced from knowledge about how to interpret practice. Good settings for teacher learning must provide lots of opportunities for research and inquiry, for trying and testing, for talking about and evaluating the results of learning and teaching. The combination of theory and practice (Miller & Silvernail, 1994) occurs most productively when questions arise in the context of real students and work in progress and where research and disciplined inquiry are also at hand.

The depth of teacher knowledge of K-6 teachers, particularly as it relates to teaching mathematics, is an issue and "too many professional development programs fall into the category of 'tips for teachers' rather than extending knowledge about how learning develops

in a domain that can be applied and enriched as teachers acquire experience teaching" (Heritage, 20).

To support teachers as they develop their understanding of learning progressions and the mathematics content, AERO is piloting a two-year, content-oriented professional development experience for K-8 teachers in four NESA schools. The project: *Meeting The Challenges of the 21st Century (MCI²): Transforming Teacher Learning to Student Learning* will engage teachers in experiential activities designed around the AERO Mathematics Curriculum Framework.

The Project has three foci:

1. Building mathematical content knowledge and pedagogical expertise for the teachers of mathematics and subsequently improving student understanding of mathematics.
2. Creating and building a network of teachers who will model effective teaching, sharing mathematical content knowledge in their schools, guiding and contributing to decisions about district (school) curriculum and professional development.
3. Creating a supportive family of international educators drawn together by the common experience. The ultimate goal is for this network to build its own capacity to facilitate similar conversations in their own schools.

"A focused, coherent progression of mathematics learning, with an emphasis on proficiency with key topics, should become the norm in elementary and middle school mathematics curricula. Any approach that continually revisits topics year after year without closure is to be avoided." National Mathematics Advisory Panel

Discussions on specific learning progressions will occur in each school, a week in the fall and a week in the spring. The conversations will focus on Making Sense of Number Sense, Algebraic Thinking in the K-5 Curriculum, Data Analysis in the K-5 Curriculum, and Problem Solving. MCI² is designed to help K-5 teachers revisit and extend their mathematical knowledge and build it into this specialized kind of knowledge needed for effective mathematics teaching and learning.

Rethinking: The Mathematics Curriculum

Another challenge facing teachers was the curriculum. The curriculum of most schools is a textbook or it is organized around scope and sequence charts that specify procedural objectives to be mastered at each grade. Usually, these are discrete objectives and not connected to each other in a larger network of organizing concepts. Most textbooks cover a wide array of topics, not always organized in a logically connected way leading to a "mile wide and an inch deep" curriculum (Schmidt, McKnight & Raizen, 1997:1)

Curricula organized into "units" of instruction around particular topics present better opportunities for instructional planning and formative assessment. When 'units' are described in terms of a core concept or "big idea" and supporting sub-concepts teachers are more easily able to map formative assessment onto these learning goals. However, this approach to organizing content has its own set of drawbacks. Units are often not connected to each other in a coherent vision for the progressive acquisition of concepts and skills, and

therefore limit teachers' ability to see how learning develops in a specific domain (Heritage, 2009). Schools participating in MCI[2] are building their units around the big ideas in mathematics.

Conclusion

When AERO SAW was first introduced to A/OS Schools, the process gave schools an opportunity to engage in conversations about formative assessment and teacher and student learning. However, as teachers engaged in the process, it became clear that if formative assessment was to be an integral part of the professional practice in schools and if there was to be rich conversations about student learning, our standards must be more clearly defined.

Learning progressions have been a powerful model for re-envisioning our standards, assessments, instruction, curricula, instruction, and professional development in mathematics in a way that is grounded in current research on mathematics learning.

Learning Progressions offer a clear picture of where the students have been and where they are headed. They can be used to map and align K-12 curriculum, guide resource selection, and as jumping off points for professional conversations about methods and approaches to improve mathematics teaching and learning. Learning progressions have the potential to expand and enhance the AERO SAW E2E conversations and to provide teachers greater opportunity to make instructional decisions grounded on the learning research.

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Section II

Replicating AERO SAW

It's very difficult for teachers to critically examine the quality of their assignments, assessments, and feedback in isolation. At the same time, critical, constructive feedback from peers is not often welcomed. But without critical feedback, it is difficult to improve teaching effectiveness. The E2E protocol is a set of guidelines to promote these meaningful conversation about teaching practice. Having a structured agenda provides a safe environment for a teacher to share their students' work and reflect on the probing questions of critical friends about the quality of an assignment, the resulting student work, and teacher feedback. The protocol structure helps the group focus for a set period of time and gives them permission to ask challenging questions of each other and builds in time for the presenting teacher to listen and reflect back. The use of a protocol is one way to make the most of the small bits of time that teachers have to engage with their peers. The point is not following the protocol exactly but to have in-depth, meaningful conversations about teaching that lead to improvements in practice.

How can a collaborative reflective process be implemented by others? Evidence to Excellence can flourish in small learning communities within schools if it is approached in an organized manner. The protocol, its implementation, and application along with a particular focus for the work (e.g., reflection on intellectual quality of the tasks, assessments, student work, units) must be approached carefully and purposefully if teacher learning is to occur,

Form teacher groups of 6-10 people, add a well trained facilitator armed with a good protocol and you are on your way to a successful professional experience. However, creating an effective and sustained program is more complicated than described. If the process is to be implemented, trained facilitators are needed to lead such groups.

Trainings:

The first step in a successful E2E experience is facilitator training. Training facilitators is critical to the success of the program. Teachers usually work in isolation, rarely discussing with other teachers what works or doesn't work in their classrooms. Collaborative groups provide a safe, non-judgmental place where teachers can have their work sympathetically critiqued. A critical friend partners you on the journey of reflection and learning. Yet, while their main purpose is to provide support, they are not afraid to confront, with questions, in order to stretch thinking and help one become more reflective on their practice. Good facilitation of the process is key to the success.

The AERO SAW materials can easily be adopted by any entity interested in examining teacher assignments, student responses to those assignments, and the feedback given students on those assignments. All of the materials and protocol are available at no cost. To implement the program would require training facilitators in the process. Face to face and online seminars can also be made available.

Seminars

AERO SAW was a two year plan with Year 1 workshops 1 and 2 completed in the first face to face and workshops 3 and 4 completed in the second face to face workshop. The same process was used in Year 2. In each seminar, discussions used student and teacher work to ground the conversations.

Seminar 1: Introduction to looking at student work, focusing on standards and inquiry.
Online Seminar 1: Interactive collaboration to reflect on the process of learning through inquiry.

Seminar 2: "Meatiness" of the assignment
Online Seminar 2: Interactive collaboration to analyze and reflect on the rigor of assignments.

Seminar 3: Formative Assessment
Online Seminar 3: Interactive collaboration to reflect on the assessment of student work and feedback given students.

Seminar 4: Knowledge vs. understanding
Online Seminar 4: Interactive collaboration to analyze and reflect on assessing for understanding.

Seminar 5: Intellectual quality of student work
Online Seminar 5: Interactive collaboration to analyze and reflect on the intellectual quality of student work.

Section III

Materials

Materials needed for successful implementation are the E2E protocol, Facilitator training materials, workshop and online seminar materials. All materials are in English.

AERO SAW is focused on improving student learning. An important part of this work is an improvement in instruction. Meaningful professional development can not take place without rigorous standards and a means to assess student learning. Examining teacher and student artifacts is useful in making educational decisions regarding student achievement. To do this effectively, teachers need to have in mind **a continuum of how learning develops in mathematics** so that they are able to locate students' current learning status and provide feedback and decide on pedagogical action to move students' learning forward. Without this understanding of the learning continuum, the conversations focus only on the task and student product.

Effective implementation of E2E requires the following elements
(1) establishing critical friends groups with exemplary facilitators,
(2) providing administrative support, and

(3) creating relevance to context and curriculum.

Establishing critical friends groups with exemplary facilitation, a true learning community of practice is key to engaging teachers in the discussions of tasks, assessments, and feedback. The importance of active administrative support for teachers' planning and collaboration is critical. Without dedicated time, critical friends groups cannot be sustained. Administrators' support and explicit expectations are a key element to negotiating the logistics of school schedules and teachers' competing time commitments and priorities. Examining teacher and student artifacts must focus on the tasks from the teachers' classroom. Research confirms that student work from a teacher's own classroom is a critical source of evidence for learning how well a lesson was taught, what improvements are needed, and how to improve student learning.

An analysis of student work on a particular topic helps teachers to differentiate instruction so that all students in the classroom can master the concepts being taught. It provides the tangible bridge between students and teachers and provides concrete, direct evidence of what the teacher intended and what the student learned from assignments. Student work is the data that provides crucial and telling information about a classroom, and it is the focus of AERO SAW's Evidence to Excellence (E2E) process.

1
Monograph Learning Progressions: Supporting Instruction and Formative Assessment

Appendix A: E2E Process

Feedback

Reflection

1. How **clear** was the language?
2. Does the assignment provide students an opportunity to work with significant ideas and relationships that are in the **standards**?
3. How does the assignment stimulate **higher order** thinking and discussion?
4. What **evidence** would you use to determine if the student understood the content of the lesson?

What adjustments will you make to the lesson and assignment ?

Assignment

1. What is the evidence that the student used good thinking and reasoning skills in completing the assignment?
2. How does the student connect the mathematics/science they were learning to the real world?
3. What is the evidence that the student achieved the goal of the lesson?
4. How would you assess for evidence of student learning?

What adjustments will you make to instruction ?

Student Work

- Does the assessment of the student work fairly reflect the objectives of the assignment?
- How does your assessment of the work compare with the teacher's assessments?
- Does the assignment provide an opportunity to pinpoint areas of student weakness in content and thinking ability that need more intensive practice?
- What kind of feedback can be given to students?

What **interventions** should be considered to help students who do not yet meet expectations? Who meet expectations? Who exceed expectations?

Assessment

Appendix B: Evidence To Excellence; Looking At Student Work Process Placemat

Step # 1

The sharing teacher shares **a copy of the question or task** and explains the context of the lesson.

Facilitator Questions:

1. How **clear** is the language?
2. Does the assignment provide students an opportunity to work with significant ideas and relationships that are included in the district's **standards**?
3. How does the assignment **actively engage** students in constructing their own knowledge?
4. How does the assignment stimulate **higher order** thinking and discussion?
5. What **evidence** would you use to determine if the student understood the goal of the task?

Step # 2

The sharing teacher shares **three samples of student response to the question or task**, WITHOUT identifying teacher evaluations of the work. The other members of the group analyze the student work samples and provide their assessment of each sample of work.

Facilitator Questions:

1. What is the evidence that the student used **good thinking and reasoning skills** in completing the assignment?
2. What is the evidence that the student **achieved the goal** of the task?
3. How would you **assess** the work? Which piece of student work would exceed your expectations? Meet your expectations? Not yet meet your expectations?

Step # 3

The sharing teacher presents their **assessment** of the student work.

Facilitator Questions:

1. How did the teacher's assessment **reflect the objectives** of the assignment?
2. How does the teacher's feedback provide students with an opportunity to grow?
3. Why do you **agree or disagree** with the teacher's assessment?

Step # 4

Both sharing teacher and colleagues **reflect** on the question (task) and student responses.

Facilitator Questions:

1. What **interventions** should be considered to help students who do not yet meet expectations?
2. What **interventions** should be considered to help students who do not yet meet expectations?
3. What additional evidence is needed to make this collection of student work a more complete picture of student understanding of the concepts addressed?

Appendix C: Evidence to Excellence Process

Looking collaboratively at student and teacher work is a key focus of Evidence to Excellence as we work to improve student learning. Looking at student work enables participants to understand what students know and are able to do; align curriculum with district/state standards, assess academic growth over time; and design instructional practices to reach all students.

Evidence to Excellence provides a protocol, a structured format that helps participants engage in the process of collaboratively analyzing and discussing teacher and student work. The protocol helps to create a safe climate for sharing work and looking at it from multiple perspectives.

Teams: Each study group **consists of 4 to 6 people**

Grade level teams
Discipline based teams
Vertical teams

Teams need to work together over time in order to build trust that sustains open and critical conversation. It may take some teachers several months before they begin to feel truly comfortable with either showing their own work or providing critical feedback to colleagues. Teams should establish norms for the group.

Time: To foster a thoughtful and reflective discussion, the protocol requires between 75 to 90 minutes. In many cases, the time frame can be altered to accommodate the time limits of the school day.

Facilitator: Team members take turns facilitating. The role of the facilitator is to support the group's thinking and learning. Although they may participate in the discussion, they often serves best by listening and using their questions and comments to refocus the group, broaden the discussion, or summarize several points. They are responsible for creating a sense of community that values all ideas and comments and gives all individuals an opportunity to speak, A facilitator keeps the group focused, keeps the process moving along. It is critical that the concept of critical friends is kept

Presenting Teacher: At each session, one teacher agrees to bring a case of student work (described below) to share with the group. It is important teachers take turns bringing student and teacher work to share. Everyone must take a turn sharing teacher and student work.

Procedure:

Facilitator reviews the norms the group has established (5 minutes)

Presenting teacher presents the context of the work (describes the unit in which the assignment was used, including where the task (assignment) fit in the unit.
Facilitator asks participants if there are any clarifying questions, questions which involve only a very brief, factual answer. (10 minutes)

Presenting teacher presents task (assignment) just as it was given to students and participants try to complete the assignment in silence, making brief notes (10 minutes)

Facilitator proceeds with Step 1 of the Placemat. At this time the presenting teacher sits silently reflecting on the discussion of the assignment. It is important for the facilitator to remind everyone that this is not an evaluation of the teacher or the work and the teacher is not there to defend what they have done. It is a time for reflection. (10 minutes)

Presenting teacher shares three sample of student work, one which met expectations, one which exceeded expectations, and one which does not yet meet expectations. All names and no marks should appear on the samples. Participants observe or read the work in silence, making brief notes about whatever they observe in the work.(10 minutes)

Facilitator proceeds with step 2 of the placemat. Again the presenting teacher is silent, reflecting on the conversation taking place. At no time should the student be discussed, only the work. (10 minutes)

Presenting teacher presents their assessment of the work. (5 minutes)

Facilitator proceeds with step 3 of the placemat (5 minutes)

Facilitator proceeds with step 4 of the placemat allowing the **presenting teacher** to respond and share reflections on what they heard and potential changes to the assignment, assessment, and instruction. (10 minutes)

Facilitator invites all participants to share thoughts they have about their own teaching, students' learning, or ways to support student learning. (10 minutes).

For additional information on implementing AERO E2E in your school
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