WHAT DO WE WANT STUDENTS TO KNOW AND BE ABLE TO DO?

HOW WILL WE KNOW WHEN STUDENTS UNDERSTAND OR CAN DEMONSTRATE THE DESIRED LEARNING OUTCOMES?

WHAT WILL WE DO TO OPTIMIZE LEARNING FOR ALL STUDENTS?
WHAT DO WE WANT STUDENTS TO KNOW AND BE ABLE TO DO?

- What are the desired learning outcomes for this unit?
- How do these desired learning outcomes connect with enduring understandings and related essential questions?
- What are the specific knowledge and skills students need to attain the desired learning outcomes?
- What cross-curricular knowledge and skills will students need to attain to successfully demonstrate learning on the common assessment (e.g., technology skills, research skills, writing skills, speaking skills)?
- *Information captured in Stage 1 of UbD unit plans in Atlas*

HOW WILL WE KNOW WHEN STUDENTS UNDERSTAND OR CAN DEMONSTRATE THE DESIRED LEARNING OUTCOMES?

- What evidence will demonstrate understanding of concepts embedded in the desired learning outcomes?
- What evidence will demonstrate the skills required for the desired learning outcomes?
- What formative assessments (assessment as and for learning) should be built in to check understanding throughout the unit?
- What common assessment(s) of learning should be given at the end of the unit to measure the degree to which students learned the desired outcomes?
- How will we ensure we are interpreting “proficient” the same way?
- What do the results of the common assessment tell us about student attainment of the desired learning outcomes?
- *Information captured in Stage 2 of UbD unit plans in Atlas as well as in PLC reflection notes*

WHAT WILL WE DO TO OPTIMIZE LEARNING FOR ALL STUDENTS?

- What teaching points do we need to focus on to help students learn the desired learning outcomes?
- What differentiation is necessary for students who are struggling with the desired learning outcomes?
- What differentiation is necessary for students who already demonstrate proficiency in the desired learning outcomes?
- What will be the most effective instructional strategy to utilize for each teaching point?
- What technology resources should we use? Other resources?
- What support do we need from technology coaches, literacy coaches, learning support teachers or others?
- *Information captured in Stage 3 of UbD unit plans in Atlas*

SAS Focus on Learning through Professional Learning Communities
Professional Learning Community

Enduring understandings that drive the work of a Professional Learning Community include (Richard DuFour, Rebecca DuFour, Robert Eaker):

1. Learning is a developmental, life-long process that transforms the learner by expanding and deepening knowledge, skills and understanding in support of personal success in life, work, and contributions to others.
2. Helping all students learn requires a collaborative and collective effort.
3. To assess our effectiveness in helping all students learn, we must focus on results – evidence of student learning – and use results to inform and improve our professional practice and respond to students who need intervention or enrichment.

A Professional Learning Community is a collaborative team that is guided by four questions focused on improved student learning (SAS Professional Learning Guidelines):

1. What are student learning targets?
2. What is the evidence that students are learning?
3. What will we do for those students who are struggling?
4. What will we do for those students who exceed our areas of identified mastery?

Professional Learning Communities establish explicit and prioritized expectations and outcomes for how collaborative time is to be used. Specific use of time includes (SAS Professional Learning Guidelines):

- unit review and refinement – establish agreement on learning targets and common assessments; establish agreement on vertical alignment of curriculum and scope and sequence
- look at student work
- analyze data to improve student learning
- develop interventions for students who are struggling
- develop extensions for students who excel
- evaluate the quality of assessment tasks
- review and/or use of new resources (e.g., texts, technology, media)
- develop strategies to support new or on-going school programs (e.g., readers’ workshop)
- engage in professional development as directed by PLC goals (e.g., introduction of new ideas, processes, strategies, and challenge to existing dispositions)
WHAT DO WE WANT STUDENTS TO KNOW AND BE ABLE TO DO? (information captured in Stage 1 of Understanding by Design units)

The answer to this question forms the foundation of a PLC’s work together. This is the area where a PLC is expected to be “tight.” This means that during a unit of study, all teachers in a PLC will focus on the Desired Learning Outcomes, Enduring Understandings, Essential Questions, knowledge and skills that have been collaboratively identified.

**Standards and Outcomes**

Standards and outcomes are found in the SAS curriculum. The *standards* are generally broad in scope and span several, if not all, grade levels. *Sub-standards* provide further definition of what is contained in the standard. *Outcomes* explain what students must do to meet the standards; they focus on explicit behaviors or particular products and are usually specific to a grade level or course. The curriculum can be accessed either through Atlas Rubicon or online ([http://www.sas.edu.sg/page.cfm?p=443](http://www.sas.edu.sg/page.cfm?p=443)).

**Desired Learning Outcomes**

*Desired learning outcomes* answer the question ‘What do we want students to know and be able to do by the end of the unit?’ Desired learning outcomes are selected from the SAS curricular standards and outcomes, represent what a PLC has collaboratively agreed is essential learning for a unit, and should be summatively assessed. In educational literature, these are often referred to as “power standards.”

Determining what is essential should be based on the following three-part test (Doug Reeves):

a. Does it have endurance? Do we really expect our students to retain the knowledge and skills over time as opposed to merely learning it for a test?

b. Does it have leverage? Will proficiency in this standard help the student in other areas of the curriculum and other academic disciplines?

c. Does it develop student readiness for the next level of learning? Is it essential for success in the next unit, course, or grade level?
Enduring Understandings and Essential Questions (Jay McTighe and Grant Wiggins)

Enduring Understandings are statements about what big ideas students should grasp during a unit. Enduring understandings are typically a concept, theme, paradox, theory, underlying assumption or principle.

Essential Questions guide student inquiry, help students develop understanding, and focus instruction. They do not yield a single straightforward answer but produce different possible answers about which knowledgeable people may disagree. There should be a clear connection between the Essential Questions and the Enduring Understandings. Think of questions as doorways for exploring the big important ideas leading to the understandings.
Knowledge and Skills (Larry Ainsworth; Rick Stiggins)

Each desired learning outcome needs to be ‘unwrapped’ to identify what specific knowledge and skills are necessary to achieve the outcome. This helps with calibration of expectations because it ensures that everyone in the PLC is interpreting the outcome the same way.

**Knowledge** can be either conceptual (i.e., facts, concepts, generalizations) or procedural (i.e., knowing how to do or use something).

**Skills** can be either reasoning (e.g., mental processes like making inductive and deductive inferences, analyzing, comparing, classifying), demonstrating something (e.g., oral fluency in reading, giving an oral presentation, demonstrating movement skills in a sport) or producing something (e.g., research paper, lab report, piece of art).
Cross-curricular Skills

Cross-curricular skills cut through traditional subject matter lines and explore relationships of subjects to one another. Examples include technology, writing, reading, speaking, and research skills.

**How will we know when students understand or can demonstrate the desired learning outcomes?**

*(information captured in Stage 2 of Understanding by Design units)*

The answer to this question provides the evidence PLCs need to make informed decisions. PLCs should be “tight” with common assessments. The specific design of “other” assessments is up to the individual teacher based on what best suits the needs of the class.
**Assessment Method** (Rick Stiggins)

Accuracy requires selecting the best *assessment method* for the desired learning outcomes. Each assessment method has unique strengths and limitations, and works well for some types of outcomes but not others. The four basic categories of assessment methods include Performance Assessment, Personal Communication, Extended Written Response, and Select Response. To help guide decisions about the best assessment method for a desired learning outcome, refer to the chart below:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Examples</th>
<th>Strong Match for Assessing...</th>
</tr>
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<tbody>
<tr>
<td><strong>Performance Assessment</strong></td>
<td>Assessments that are based on observation and judgment; a teacher looks at a performance or product and makes a judgment as to its quality. Performance assessments have two parts: a performance task or exercise and a rubric. Complex performances include: playing a musical instrument; carrying out the steps in a scientific experiment; speaking a world language; or working productively in a group. In these cases it is the process that is important. Creating complex products such as a term paper or work of art are also examples of performance assessments. In these cases, what counts is not so much the process of creation but the level of quality of the product itself.</td>
<td>• Knowledge – <em>poor</em> match – too time consuming to cover everything • Reasoning – <em>limited</em> match - can watch students solve some problems and infer reasoning proficiency • Demonstrating skills – <em>strong</em> match - can observe and evaluate skills as they are being performed • Ability to create products – <em>strong</em> match - can assess the attributes of the product itself</td>
</tr>
<tr>
<td><strong>Personal Communication</strong></td>
<td>Assessments that require teachers to interact individually or in small groups with students to determine what has been learned. Conferring; teacher observation; looking at and responding to students’ comments in journals; asking questions during instruction; and listening to students as they participate in class.</td>
<td>• Knowledge – <em>poor</em> match – can use to assess mastery of elements of knowledge, but very time consuming • Reasoning – <em>strong</em> match - can ask student to think aloud or can ask follow up questions to probe reasoning • Demonstrating skills – <em>limited</em> match – strong match when skill is oral communication proficiency; otherwise not a good match • Ability to create products – <em>not recommended</em></td>
</tr>
</tbody>
</table>

Assessment details should be captured in Stage 2 in Atlas Rubicon. Select “Add New Assessment” to begin.
<table>
<thead>
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</tr>
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</table>
| **Extended Written Response**                                             | Assessments that require students to construct a written answer in response to a question or task rather than to select one from a list. These assessments have two parts: a task or exercise and a rubric. | • Knowledge – **strong** match – can tap understanding of relationships among elements of knowledge  
• Reasoning – **strong** match - written descriptions of complex problem solutions can provide a window into reasoning proficiency  
• Demonstrating skills – **poor** match - can assess mastery of the knowledge prerequisites to skillful performance – but cannot rely on these to assess the skill itself  
• Ability to create products – **strong** match when the product is written, **poor** match when the product is not |
| **Select Response**                                                       | Assessments that require students to select the correct or best answer or to generate a brief ‘right or wrong’ response.                      | • Knowledge – **strong** match for assessment mastery of elements of knowledge  
• Reasoning – **limited** match – good match only when assessing understanding of basic patterns of reasoning  
• Demonstrating skills – **poor** match - can assess mastery of the knowledge prerequisites to skillful performance – but cannot rely on these to assess the skill itself  
• Ability to create products – **poor** match - can assess mastery of the knowledge prerequisites to skillful performance – but cannot rely on these to assess the quality of products themselves |

The appropriate **assessment method** should be selected from the drop down menu in Stage 2 in units in Atlas Rubicon.
Assessment Type – Common v. Other (SAS Assessment Guidelines)

Common assessments are those created, evaluated, and revised collaboratively by teachers of the same course or grade level. “Common” goes beyond just using the same rubric or assessment tool. It means that the assessment is developed collaboratively, administered in a standardized way, scoring is calibrated, and results are analyzed collectively. This is the area in assessment where expectations are “tight.”

Other assessments represent all of the other assessments that a teacher might use in addition to the common assessment(s). The specific design of “other” assessments is up to the individual teacher based on what best suits the needs of the class. When combined with the common assessment(s), these should include a combination of assessments as, for, and of. The expectation is that teachers will incorporate an appropriate balance of all three during the course of the unit.

Balanced Assessment System: Assessments as, for, and of Learning (SAS Assessment Guidelines)

A balanced assessment system requires the use of a variety of assessments from each of the following categories: assessments as learning (self-assessment); assessments for learning (formative assessment); and assessments of learning (summative assessment). Increasing the amount of assessment as and for learning and minimizing the amount of assessment of will have a positive impact on student learning.

Assessments as Learning focus on building the metacognitive skills of self-assessment and self-reflection. Assessments as Learning are formative assessments which increase student ownership and responsibility for attaining the desired learning outcomes. Example tasks include asking students to set learning goals, share learning intentions and success criteria, and evaluate their learning through self-assessment and self-reflection.

Assessments for Learning are formative assessments which provide students with insight to improve attainment of the desired learning outcomes, help teachers diagnose and respond to student needs, and help parents support learning. Example tasks include the use of strong and weak models, peer assessment, teacher feedback, and formative assessments to check understanding.
Assessments of Learning are summative assessments that happen after a period of instruction to determine to what degree the desired learning outcomes were attained. Example tasks include simulations, presentations, written responses to prompts, and exams.

Whether an assessment is as, for, or of depends on how the results are used. If students use the results to manage their own learning, it is as. If students use the results to better understand the targets and what they need to do to improve or teachers use the result to make decisions regarding instruction, it is for. If the results are solely used to determine a grade, it is of.

Performance Standards
All standards have two critical components – content and performance. Performance standards state how well students are expected to demonstrate the specified learning outcomes. Examples include “meets expectation,” “exceeds expectation,” “below expectation.” Performance standards should be used to:
  - Focus conversations on the degree to which content or skills have met grade level expectation. Teachers would have a consistent concept of what is the expectation. Students (and parents) would know what is expected for meeting the expectation.
  - Guide the development of descriptors on each level of a rubric.
  - Facilitate the selection of exemplars or anchor papers. These would enable students and teachers to see actual examples of performance at various levels.

WHAT WILL WE DO TO OPTIMIZE LEARNING FOR ALL STUDENTS? (information captured in Stage 3 of Understanding by Design units)

The answer to this question informs the development of a learning plan. The learning plan should outline what learning activities and teaching methods promote the intended understanding, knowledge, and skills, hold student interest, and generate high levels of performance. The expectation is that the plan will reflect a menu of choices from which members of a PLC may choose to best meet their students’ needs. If there are any key learning activities or teaching methods that all members of a PLC should utilize, these should be indicated.
**Teaching Point**

The *teaching point* is the central concept or skill that a teacher focuses upon during a lesson. During a mini-lesson only one teaching point is addressed. During a full lesson, several teaching points may be addressed.

**Differentiation** (Carol Ann Tomlinson)

A *differentiated* classroom offers a variety of learning options designed to tap into different readiness levels, interests, and learning profiles. In a differentiated class, the teacher uses (1) a variety of ways for students to explore curriculum content, (2) a variety of sense-making activities or processes through which students can come to understand and "own" information and ideas, and (3) a variety of options through which students can demonstrate or exhibit what they have learned.

A class is not differentiated when assignments are the same for all learners and the adjustments consist of varying the level of difficulty of questions for certain students, grading some students harder than others, or letting students who finish early play games for enrichment. It is not appropriate to have more advanced learners do extra math problems, extra book reports, or after completing their "regular" work be given extension assignments. Asking students to do more of what they already know is hollow. Asking them to do "the regular work, plus" inevitably seems punitive to them.

Four characteristics shape teaching and learning in an effective differentiated classroom:

1. Instruction is concept focused and principle driven. All students have the opportunity to explore and apply the key concepts of the subject being studied. All students come to understand the key principles on which the study is based. Such instruction enables struggling learners to grasp and use powerful ideas and, at the same time, encourages advanced learners to expand their understanding and application of the key concepts and principles. Such instruction stresses understanding or sense-making rather than retention and regurgitation of fragmented...
bits of information. Concept-based and principle-driven instruction invites teachers to provide varied learning options. A "coverage-based" curriculum may cause a teacher to feel compelled to see that all students do the same work. In the former, all students have the opportunity to explore meaningful ideas through a variety of avenues and approaches.

2. On-going assessment of student readiness and growth are built into the curriculum. Teachers do not assume that all students need a given task or segment of study, but continuously assess student readiness and interest, providing support when students need additional instruction and guidance, and extending student exploration when indications are that a student or group of students is ready to move ahead.

3. Flexible grouping is consistently used. In a differentiated class, students work in many patterns. Sometimes they work alone, sometimes in pairs, sometimes in groups. Sometimes tasks are readiness-based, sometimes interest-based, sometimes constructed to match learning style, and sometimes a combination of readiness, interest, and learning style. In a differentiated classroom, whole-group instruction may also be used for introducing new ideas, when planning, and for sharing learning outcomes.

4. Students are active explorers. Teachers guide the exploration. Because varied activities often occur simultaneously in a differentiated classroom, the teacher works more as a guide or facilitator of learning than as a dispenser of information. As in a large family, students must learn to be responsible for their own work. Not only does such student-centeredness give students more ownership of their learning, but it also facilitates the important adolescent learning goal of growing independence in thought, planning, and evaluation. Implicit in such instruction is (1) goal-setting shared by teacher and student based on student readiness, interest, and learning profile, and (2) assessment predicated on student growth and goal attainment.

**Instructional Strategies** (Robert Marzano, Debra Pickering, and Jane Pollock)

An *instructional strategy* describes the general components of a set of instructional materials and the procedures that will be used with those materials to elicit particular learning outcomes. Researchers at Mid-continent Research for Education and Learning (McREL) have identified nine instructional strategies that are most likely to improve student achievement across all content areas and across all grade levels.

1. Identifying similarities and differences
2. Summarizing and note taking
3. Reinforcing effort and providing recognition
4. Homework and practice
5. Nonlinguistic representations
6. Cooperative learning
7. Setting objectives and providing feedback
8. Generating and testing hypotheses
9. Cues, questions, and advance organizers