Formative Assessment

Rick Johnson
Saskatchewan Learning, Canada
Formative Assessment

Making Student Understanding Visible
So teachers can decide what they can do to help students progress

To teachers:
Assessment for Learning

To students:
Assessment as Learning

Sacred Heart School Project

• Determine what students know
• Gain insights into how they know it
• Ascertain what confusions or misconceptions they might have
• Determine what they need to do next to move their learning forward

Differentiated Learning
Formative Assessment

Making the Teaching and Learning Process Visible
So teachers can work collaboratively and make meaningful interventions to improve student learning and well-being

- Review data as indicators of student knowledge, skills and practices
- Reflect, share and discuss teaching practices and systemic processes
- Ascertain what appears to be working and what isn’t
- Determine what they need to do next to move their teaching forward

Professional Learning Community
Motivations for Introducing the Initiatives

• Violence and Vandalism
• Challenging Student Groups
• Meeting the Needs of the Students – The Catholic principle of the “Christ-child”
• Common Agreement: “Things aren’t working. We need a change.”
• Principal’s Leadership
• Community School Philosophy (a forerunner to SchoolPLUS)
SchoolPlus - Effective Practices Framework
Motivations for Introducing the Initiatives

• External pressure for accountability
• Living beside Alberta – high-performing jurisdiction
• Limited success in leveraging provincial-profile results
• Call for improvement … and to know if interventions are having desired effect
Brief Background

Purpose - Use assessment data to **improve student learning outcomes**
- Stimulate and inform discussion around student performance
- Assist identification of areas of focus for school and division planning
- Promote a teaching and learning community across grade levels
- Strengthen capacity to provide and use data for improvement

Components
- **Opportunity-to-Learn Measures**
- **Student Achievement Assessment**
- **Increased Assessment Literacy**
What is the picture?

- A snapshot will be shown to you several times, each time revealing a little more detail about a picture.
- When you think you know the setting of the picture, I invite you to raise your hand.
- When you think you could describe the activity or actions in the picture in some detail, I invite you to stand.
# Education Indicators

<table>
<thead>
<tr>
<th>Definitive</th>
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</tr>
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<tbody>
<tr>
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**Student Evaluations**

**System Evaluations**
Indicators (and summative assessments) are seldom definitive, but ...

over time, with multiple snapshots, they can serve as useful barometers.

Indicators do not so much provide the answers, but ...

they can inform the good questions for further investigation.

The power is not so much in the numbers themselves, but ...

in the discussions around those numbers.
Strategies for Addressing Educational and Organizational Challenges

- Effective and Meaningful Partnership – with school division administrators, students, family and community
- Broaden ownership – students, family and community
- Shared Leadership and Respecting Innovation - with teachers and others
- Planning Structures to Promote and Expect Teamwork
Sacred Heart School Project

Resulting Actions

Organizational

• Change duration and activity of school breaks
• Re-distribute savings as rewards to students
• Unique grade splits (Grade 2/6)
• Open school concept for students, family and community (nutrition programs, activity programs)
• Reduced teacher isolation - teamwork

Educational

• Student mentoring
• Valuing and respecting the person
• Valuing multiple intelligences
• Constructivist learning approaches – active learning, dynamic and effective grouping, differentiated learning, descriptive feedback
• Monitoring and self-monitoring learning progress through electronic portfolios
Strategies for Addressing Educational and Organizational Challenges

- Effective and Meaningful Partnership – with school divisions and Partner organizations
- Broaden ownership – AFL Reference Committee – allowing partners to shape the project
- Shared Leadership and Respecting Innovation - with teachers and others
- Planning Structures to Promote and Expect Teamwork
Resulting Actions

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<td>• Building capacity and infrastructure in the Department</td>
<td>• Clarity of purpose – use of information</td>
</tr>
<tr>
<td>• Building capacity in the school divisions – division coordinator role – instructional leadership teams</td>
<td>• Addressing teachers’ concerns</td>
</tr>
<tr>
<td>• Structures and time – efforts to communicate – efforts to share decision-making</td>
<td>• Building learning communities</td>
</tr>
<tr>
<td>• Volunteer participation on the part of the school division (about 90%)</td>
<td>• Action research approach</td>
</tr>
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<td></td>
<td>• Collaborative follow-up and division and school initiatives</td>
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How to engage all teachers, not just the advocates:

**The Serpent**
- Value those questioning voices and respect different perspectives – the role of the “resisting” teachers
- Establish a working/learning community based on shared vision, goals and principles

**The Trapeze Artist**
- Establish a trusting environment – Re-establish in a new context (don’t assume)
- Celebrate successes and lessons learned

*Never Close the Door!*
Successes and Failures in the Implementation Process:

It’s a Continuum:

Failure → Success

**Effects:**

- Significantly reduced violence and vandalism (sustained effect)
- Improved self worth and eagerness to learn
- Strong teamwork
- Reduced staff turnover
- Shared and adaptive leadership – survived a change in principalship

**Working Toward Success:**

- Seek commitment
- Set focus
- Plan collaboratively
- Act on the Plan
- Monitor the effectiveness of the interventions (adjust as required)
- Persist in the Improvement Process
Discussion
Brief Background

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- **Student Achievement Assessment**
- **Increased Assessment Literacy**
Large-Scale Assessment Data Collection
(An Indicators Approach)

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Gathering evidence on student understanding – which evidence?

Why?

- To make student learning visible, informing what interactions work best for which students

What?

- Student knowledge and skills (achievement measures)
- Student opportunity-to-learn measures (e.g., persistence)
- Conditions for optimum learning – for the majority; for the individual
Gathering evidence on student understanding – which evidence?

**Where?**
- Collected in the classroom
- Collected through large-scale assessments

**How?**
- Appropriate, multiple assessment approaches, aligned with the purpose of the assessment
Using Evidence to Monitor Individual Student Progress and to Tailor Teaching:

**An Opportunity-to-Learn (OTL) Formative Assessment Example**

- The Shared Responsibility OTL Model
- An OTL Sample Rubric – Persistence When Having Difficulty
- Formative Use of the OTL Assessment Rubric – in the classroom
Opportunity to Learn – A Shared Responsibility

Readiness and commitment to learn

Support for children to learn

Classroom activities and resources for effective learning
### Sample Opportunity-to-Learn Rubric

**Persistence (Applying Problem-Solving Strategies, Skills, and Resources until the Problem is Solved)**

<table>
<thead>
<tr>
<th>Novice</th>
<th>Expert</th>
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<tr>
<td>Gives up on a problem when encountering a difficulty.</td>
<td>Determined to solve challenging problems independently and only after great effort and time.</td>
</tr>
<tr>
<td>Asks the teacher or peers for help, but only to find out the answer.</td>
<td>Seeks help from the teacher or a peer only after much effort and time.</td>
</tr>
<tr>
<td>Not interested in the process of understanding and solving the problem.</td>
<td>Asks for hints rather than solutions.</td>
</tr>
<tr>
<td>Works to solve difficult problems independently.</td>
<td>Want independently to find the solution to the difficult problem.</td>
</tr>
<tr>
<td>Skips difficult questions.</td>
<td>Concedes to being shown the solution, determined to get the next one on his or her own.</td>
</tr>
<tr>
<td>Seeks hints from peers or a teacher without persevering and thinking</td>
<td>Wants small hints or direction, and then returns to diligent attempts to find the solution on</td>
</tr>
<tr>
<td>critically.</td>
<td>their own.</td>
</tr>
<tr>
<td>Wants to be shown how to solve the problem, not for the sake of</td>
<td></td>
</tr>
<tr>
<td>understanding the problem for future application to similar problems,</td>
<td></td>
</tr>
<tr>
<td>but instead just to complete the task at hand.</td>
<td></td>
</tr>
<tr>
<td>Works to solve difficult problems after some attempts at solving.</td>
<td></td>
</tr>
<tr>
<td>Asks a teacher or peers for a hint.</td>
<td></td>
</tr>
<tr>
<td>Wants to learn and understand how the problem is solved so that they</td>
<td></td>
</tr>
<tr>
<td>can solve similar ones on their own in the future.</td>
<td></td>
</tr>
<tr>
<td>Likes to solve problems independently.</td>
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Formative Assessment Practices in OTL – One Classroom Example:

• Daily reflection questions – introduced at the beginning of the year and frequently reinforced throughout the year

• Defining persistence when experiencing difficulty – the creation of a rubric

• Formal self-evaluation of individual’s persistence when having difficulty
  
  • Reliability
  
  • Teacher and peer coaching
  
  • Identifying and elaborating on effective persistence strategies
Evidence for School Improvement:

• Committing to continuous improvement

• Looking at student outcomes
  • learning achievement
  • opportunity-to-learn
  • well-being (broader goals of education)

• Looking at school as the place to meet student learning and well-being outcomes (Effective Practices of SchoolPLUS)
SchoolPlus - Effective Practices Framework
Knowledge of specific students via assessment

*In-depth knowledge of specific students*

*In-depth knowledge of system*

*Little knowledge of specific students*

Assessments

Individual Classroom School Division Provincial National International

Marazano, 1996
Gaining Knowledge to Guide Learning Improvement Process in the School

Provincial Assessment Activity

Classroom Assessment Activity

Assessment Quality Scale

Person’s judgment of relative contribution potential for guiding a school improvement plan

Assessment Quality Scale

Increasing Potential to Guide Improvement

- confirmation of criteria-based standards achievement
- insight into performance relative to provincial norms
- variety of informative, authentic assessment measures
- multiple snapshots to better indicate individuals’ learning in the classroom

Knowledge and benefit gained from provincial assessment

Knowledge and benefit gained from provincial assessment
Discussion
Using Assessment Information

Judging adequacy of outcomes and processes

Criterion-referenced
Self-referenced
Norm-referenced
Social-referenced
Longitudinal Reference
Assessment for Learning

Because we believe in using valid, authentic assessments ...

*We use a variety of assessment activities including multiple-choice, open-response, and performance-based items.*

*We include teachers in the design and development of the assessments.*

*We field-test assessment items with students to improve appropriateness and minimize bias.*

*We communicate the limitations of the assessment.*
Because we believe in the indicative nature of the assessment data...

We communicate the limitations of the data ensuring that readers know that the assessment data do not tell the whole story.

We encourage the use of other data and experiences to confirm or challenge findings of the assessment data.

We encourage participants to treat the data as points of further investigation and monitoring, not as answers by themselves.

We report the data showing multiple measures and avoid the use of a few summative scores that would invite simplistic conclusions and comparisons among schools.

We state that the assessment data will not be used to judge the effectiveness of teachers during any performance reviews.
Because we believe in practices of inclusion ...

We invite all students at the tested grade level to participate in the assessments (in parts that are appropriate to their program of study).

We encourage any testing adaptations usually made in the classroom to meet the needs of individual students to be extended to provincial assessments.

We encourage involvement of all participants in discussions around the results and in planning and acting for improvement.
Because we believe in continuous improvement ...

We provide multiple measures of opportunity and achievement data offering a diagnostic approach to guide improvement.

We value the inclusion of classroom and other assessment data in informing the improvement process.

We value the discussions, inquiry, action research and monitoring activity of all participants.

We believe time, resources, and professional development need to be effectively planned.

We publish past assessment items to serve as models or part of the analysis related to the data findings.

We look to develop parallel assessments to help monitor improvement over time.
Because we believe in teacher professionalism and the central role of teachers in the improvement process ...

We include teachers in all stages of the Assessment for Learning process (development of assessment items, field-testing, administration, scoring, data interpretation, planning, intervention, monitoring).

We value additional assessment data, experiential data and classroom context to complement the use of provincial assessment data.

We expect teachers to take an active role in reflecting, discussing, planning, acting and monitoring, with respect to assessment data and their practice.

We expect that time, resources, and professional development be made available, and a supportive learning community be fostered characterized by enhanced collaboration among all participants.
Because we believe in shared responsibility and accountability ...

We use opportunity-to-learn measures to inform student readiness to learn, classroom instructional and learning activity, and family support for learning.

We encourage the sharing of the learning context and assessment results with students, parents, teachers, administrators, Board members and the community, and include them in the planning and action for improvement.