Technology-Enhanced Formative Assessment
A Professional Development Plan
Steven J. Albrecht
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Goal
One hundred percent of Westbrook High School’s classroom teachers will use technology-enhanced formative assessments to monitor student performance, adjust instruction, and facilitate SMART goals.

Professional Development Plan Overview
Technology-enhanced formative assessment training will take place during two half-day sessions at Westbrook High School, the first providing initial training during at the start of the school year, and a follow-up session taking place during the annual October professional development day. Two level-III teachers will co-facilitate both sessions, which the school’s 29 classroom teachers will attend.

Characteristics of Participants
This professional development training was designed for teachers at Westbrook High School, a small, suburban school on the Connecticut shoreline. All classrooms are equipped with a SMART board, and strategically placed routers provide all students and teachers wireless access to the Internet and to the school’s network. Five HP mini laptop carts, each housing 24 computers, are distributed throughout the building, with two being assigned to the English department, one to social studies, one to math, and one to science. Additionally, two computer labs are available on a sign-up basis. While technology is nearly ubiquitous throughout the building, teachers’ proficiency varies widely, and most could be considered level-1 users, using technology for productivity and communication. Each teacher maintains his or her own class web page, which is served by a third-party agency and does not require knowledge of HTML. The district lacks a technology coordinator or director, and one technician services the district’s three schools.

Over the last four years, faculty have been participating in professional learning communities and engaged in SMART goals that center on student learning. As part of this process, teachers turn to formative assessment as a means of collecting data about student learning; however, most formative assessment takes the place of traditional pen-and-paper quizzes that require time to grade and, therefore, have a delayed impact on instruction.

Level-1/Novice Users
Most teachers use technology for productivity, record keeping, and communication. They exclusively use Microsoft Word for word processing and have little or no familiarity with Web 2.0 applications, such as Google Docs.

Level-2/Intermediate Users
In addition to using technology for level-1 purposes, level-2 users have some experience using Web 2.0 applications and have previously used Google forms to create an online survey or quiz. They may also have experience with commercially produced online tutorials, Weebly, or other online tools such as Rubistar.
Level-3/Advanced Users (Trainers)
Level-3 users will serve as facilitators of this training. Few of the school’s teachers have level-3 skills. Those who have know HTML and CSS, design WebQuests, and integrate tools for collaboration, creativity, and problem solving in their classroom. They have used Google Forms to create self-correcting online quizzes.
## SMART Goals

<table>
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<tr>
<th>Specific</th>
<th>By the end of the first training session, 100 percent of users will:</th>
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| Level 1 Users | • Explain the purposes of formative assessment  
• Select an online tool for conducting formative assessment  
• Create an online formative assessment for classroom use  
• Locate and view results  
• Copy and share survey link |
| Level 2 Users | • create a self-correcting quiz for classroom use  
• locate and analyze results  
• share survey with collaborators  
• post survey link on class homework page or wiki |

| Measurable | Results of the district’s technology planning committee’s needs assessment survey, to be administered in January 2012, will be used to identify level-1 and level-2 users and to provide baseline data. End-of-session questionnaires will provide post-test data about users’ ability to perform stated goals. Over the long term, the effect and impact of the training will be measured through a semi-annual exhibition of PLC SMART goals and their inclusion of technology-enhanced formative assessments. |

| Attainable | Given the narrow focus of this training, participants will have two hours to learn and practice during both training sessions. |

| Realistic | This training will serve only those classroom teachers will reliable access to a laptop cart and with obvious need for only survey tools. Training, therefore, will primarily serve academic classes (social studies, math, English, science, world language) and not physical education, band, chorus, or art. |

| Timely | This training will be provided during a two-hour session prior to the start of 2012 – 2013 classes. Thus, teachers will be able to integrate technology-enhanced formative assessment into their lesson planning from the start of the new school year. An October follow-up session will provide additional practice and allow teachers to refine their skills. A mid-year exhibition of first-semester SMART goals will feature the use of technology-enhanced formative assessments. |
Planned Activities: Day 1

Level-1/Novice Users Session
1. Arouse attention by administering short, online survey.
2. Build pedagogical foundation by reviewing excerpts from scholarly articles (see resources).
3. Relate to SMART Goals.
4. Introduce Google Forms.
5. Create survey
   i. Register with Google Docs
   ii. Find Google Forms
   iii. Create new form
   iv. Add questions
   v. Share with collaborator
   vi. View live form
   vii. Edit form
   viii. Copy and paste link to homework page
6. Find results and analyze data
   i. Show summary of responses
7. Close by asking participants to complete a short only survey that asks each to answer with a link to the online assessment he or she created. Share results and demonstrate their assessments at the SMART Board
8. Administer end-of-session surveys/exit questionnaires.

Level-2/Intermediate Users Session
1. Arouse attention by administering short, online survey.
2. Build pedagogical foundation by reviewing excerpts from scholarly articles (see resources).
3. Relate to SMART Goals.
4. Retrieve previously administered Google Forms survey/quiz with student results.
5. Format cells to assign a point to correct student responses; apply formula to a field.
   a. Resources
6. Format a cell to tally student points; apply formula to a field.
7. Create a new online assessment and format cells so that spreadsheet is self-scoring.
8. Close by asking participants to complete a short only survey that asks each to answer with a link to the online assessment he or she created. Share results and demonstrate their assessments at the SMART Board
Planned Activities: Day 2

Level-1 Users Session
1. Arouse attention by administering short, online survey.
2. Build pedagogical foundation by reviewing excerpts from scholarly articles (see resources).
3. Relate to SMART Goals.
4. Retrieve previously administered Google Forms survey/quiz with student results.
5. Format cells to assign a point to correct student responses; apply formula to a field.
   a. Resources
6. Format a cell to tally student points; apply formula to a field.
7. Create a new online assessment and format cells so that spreadsheet is self-scoring.
8. Close by asking participants to complete a short only survey that asks each to answer with a link to the online assessment he or she created. Share results and demonstrate their assessments at the SMART Board

Level-2 Users Session
1. Arouse attention by administering short, online survey.
2. Discussion forum: How have you used technology-enhanced formative assessments in your classroom?
   i. What impact have the assessments had on your instruction?
   ii. What impact have the assessments had on student learning?
   iii. What impact have the assessments had on your SMART Goals?
3. Introduce alternatives to Google Forms:
   a. Survey Monkey: [http://www.surveymonkey.com](http://www.surveymonkey.com)
   b. Quiz Star: [http://quizstar.4teachers.org](http://quizstar.4teachers.org)
   c. Zoomerang: [http://www.zoomerang.com](http://www.zoomerang.com)
4. Provide time for participants to explore Survey Monkey and Quiz Star, making a short assessment in each.
5. Close by asking participants to complete a short online survey that asks their impression of Google Forms, Survey Monkey, Quiz Star, and Zoomerang.
6. Administer exit survey.
Expected Outcomes
Given the growing availability of technology throughout Westbrook High School, it is expected that all classroom teachers will use technology-enhanced formative assessment to monitor student learning and use the resulting data to adjust instruction with increasing frequency and comfort. As teachers build proficiency, they will also format Google Forms to create self-correcting assessments, thereby working more efficiently and collecting data related to PLC SMART goals.

Measuring Participants’ Learning
As the district’s long-range technology plan expires in June 2012, the technology committee will convene throughout the spring semester to write a new plan. As part of their process, they will administer a needs-assessment survey to the faculty in January 2012, which will provide baseline data about teachers’ technology needs and proficiencies, including needs and proficiencies related to using technology to conduct formative assessment and to collect and manage data. The district’s professional development committee will also administer an end-of-year survey that will inform professional development planning.

Pre-tests
The technology-planning committee’s needs assessment will be delivered online, serving as a pre-test, asking, in part, questions about teachers’ use of technology to create and deliver formative assessments. The needs assessment will also ask questions about teachers’ collecting and analyzing data as a tool for adjusting instruction. Responses will be reviewed to assign teachers to a user level (1, 2, or 3) and to schedule groups for training.

Post-tests
An end-of-year professional development survey will ask same questions related to formative assessment and the collection and uses of data as given in the pretest. Data will be disaggregated by PLC and compared to pre-test data. Findings will be reported to the building principal, the professional development committee, the technology-planning committee, the district leadership team, and the district IT technician so that needs (training, support, and access) for the new school year can be planned.

Exit Surveys
Each training session will conclude with an exit survey that asks participants to rank tools, activities, and the likelihood that they will use technology-enhanced formative instruction in their classroom. The exit surveys will also ask teachers about remaining needs that must be met in order to develop and implement these surveys.

Facilitating Return of Learning to Classroom
Curriculum leaders will play an essential role in facilitating the return of learning to the classroom. Working with his or her professional learning community, each CL will ensure that SMART goals include the use of technology-enhanced formative assessments. CLs will also
check for use of such assessments during routine classroom observations and provide coaching, modeling, or assistance as needed.

1. PLC SMART Goals
   a. Require the use of technology-enhanced formative assessment as a tool for monitoring understanding, collecting data, and reflecting on instruction.
   b. Hold semi-annual school-wide exhibitions of SMART Goals, including a digital gallery of technology-enhanced formative assessments.

2. Classroom Observations
   a. Curriculum leaders will conduct classroom observations and note when technology-enhanced formative assessments are used.

3. Teacher Reports
   a. Require teachers reflect on the use of technology-enhanced formative assessment as part of their annual self-evaluation.

**Measuring Outcomes on Student Learning**
The outcomes on student learning will be measured over time through PLC SMART goals, classroom observations, and teacher reports.

4. PLC SMART Goals
   a. What increases in student performance are reflected in SMART goal data?

5. Classroom Observations
   a. Do students appear to understand better given timely adjustments to instruction?

6. Teacher Reports
   a. What changes in student performance do teachers report anecdotally?
Resources


