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A Cross Case Analysis of Teacher Inquiry Into Formative Assessment Practices in Six Title I Reading Classrooms

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Abstract

The study examined the journeys of six Title 1 teachers from a large rural school district in a mid-Atlantic state involved in a process of systematic and intentional inquiry into their formative assessment practices. Three research questions framed the study:

(1) What do teachers learn (professional development) when they participate in teacher inquiry into their own formative assessment practices?
(2) What, if any, new or modified assessment practices do they devise, including both (a) methods to elicit information from students about their understandings and skills; and (b) methods to provide feedback to students in a way that helps them see how to proceed or improve?
(3) What are the results for student learning?

Questions 1 and 2 were answered using qualitative analysis methods that included drafting six within-case (teacher) summaries, testing conclusions by weighing them against all four sources (the teacher and the three researcher/observers) of evidence about the case, and drawing conclusions about the research questions in one cross-case (teacher) summary.

Question 3 was answered by quantitative analyses methods including checking equivalence at pretest (September) and pre-post (September – May) with a t-test. Then, a mixed design ANOVA (pre-post comparisons for pilot and non-pilot groups) was run. “Pilot” students included all children served by a Title 1 teacher who was experimenting with formative assessment in this study; “non-pilot” students were served by other Title 1 teachers.

Summary of Findings:

(1) Teacher learning: Teacher learning about formative assessment
   - Began with “consciousness raising”
   - Proceeded through skill-building, and
   - Resulted in an increased formative assessment repertoire, plus the discovery of the power of sharing information with students even as young as the K and 1 students in this study.

(2) Modified assessment practices: The six Title 1 teachers in this study chose to experiment with one or more of the following:
   - Expanded monitoring and conferencing with students
   - Letter cards
   - Customizing letter-naming drills to include more known than unknown letters
   - Keeping records of the feedback given to students during reading and giving students “goals” on the basis of these notes
   - Progress cards
   - Intentional comments to students regarding specific positive accomplishments
   - Observing the regular classroom’s teacher formative assessment practices to identify similarities and differences.
   - Attempting to construct a definition and observation tool for formative assessment
(3) Results for student learning: In grade 1, there was no significant difference in DIBELS PSF (Phoneme Segmentation Fluency) pretest scores between students whose teachers were in the formative assessment group and those who were not ($p=.38$). All students improved over the year ($p=.00$); however, there was a significant interaction ($p=.02$) favoring the formative assessment group ($d = .63$). In Extended Day Kindergarten, there was no significant difference in DIBELS LNF (Letter Naming Fluency) pretest scores ($p=.43$) and, while all students improved during the year ($p=.00$), the improvement was similar for both groups ($p=.80$).
A Cross Case Analysis of Teacher Inquiry Into Formative Assessment Practices in Six Title I Reading Classrooms

Formative classroom assessment is assessment conducted during instruction in order to give teachers and students a clear idea of how students’ performance levels compare with the learning target (instructional learning goals or objectives), and how they might close the gap between their current level of understanding and the target.

Research suggests that when students experience formative assessment that emphasizes the following methods, they learn more (Black & Wiliam, 1998; Meisels, Atkins-Burnett, Xue, & Bickel, 2003; Newman, Bryk, & Nagaoka, 2001; Rodriguez, 2004) and develop a more mastery-oriented approach to learning (Ames & Archer, 1988; Meece & Miller, 1999):

- Communicating clear learning targets to students;
- Interpreting student work, behavior, and discourse for what it says about their achievement – where and why they are “stuck” or proceeding smoothly; and
- Providing clear descriptive feedback tied to learning targets and informed by knowledge of developmental progression in the area of study (in this case, reading), student needs, and student motivation.

Research on feedback suggests that to be useful for learning, feedback should have the following characteristics (Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Butler & Winne, 1995; Kluger & DeNisi, 1996):

- Frequent and interactive;
- Informational and descriptive (of the work, not the child);
- Focused at an appropriate level of abstraction (which will differ with the task and the child); and
- Involving the student in self-assessment.

Despite the conclusions listed above, much remains to be known. Creating a good formative learning environment is not a simple matter (Blumenfeld, 1992). There are not a lot of descriptions of specific formative assessment practices in specific subjects, and those that have been published have been mostly conducted in the United Kingdom (Torrance & Pryor, 1998, 2001; Tunstall & Gipps, 1996; Wiliam, Lee, Harrison, & Black, 2004). Early literacy teachers’ assessments of students do not always align with the teachers’ conceptions of early literacy, either (Bailey & Drummond, 2006), so the quality of early literacy formative assessment may be in question.

This study sought to involve early literacy teachers in investigating their own formative assessment practices, first identifying what they already do, then reflecting on it and seeking information about their areas of concern and experimenting with improvements in practice in their own classrooms. This study builds on professional development work in reading that the university and school district had conducted in 2004-2005. The reason for selecting reading for emphasis that year was that achievement on the state reading assessment was low. With professional development reading
achievement did, in fact, rise in 2005 in the district. Therefore, the Title I reading teachers who participated in this study already had opportunities to strengthen their knowledge of reading development and were ready to expand their expertise in formative assessment.

The purpose of the study was to answer these research questions:

1. What do teachers learn (professional development) when they participate in teacher inquiry into their own formative assessment practices?
2. What, if any, new or modified assessment practices do they devise, including both (a) methods to elicit information from students about their understandings and skills; and (b) methods to provide feedback to students in a way that helps them see how to proceed or improve?
3. What are the results for student learning?

Method

Participants

The Title I Reading Coordinator for a large rural school district in a mid-Atlantic state selected six Title I reading teachers to participate, because of their interest in inquiry in the area of classroom formative assessment. Two taught Extended Day Kindergarten (EDK) and four taught remedial reading students in the primary grades. Professional development using both face to face meetings and online resources was conducted by two university professors and the Title I supervisor. The online resources, created and maintained by the Center for Advancing the Study of Teaching and Learning (CASTL) at Duquesne University supported the teachers as they employed a process of systematic and intentional inquiry (Moss, 2002) to examine their classroom practices and the beliefs and assumptions that drove those practices. Online chat rooms allowed all participants to communicate synchronously, and asynchronous communication via an online bulletin board allowed conversation threads to develop naturally. The teachers were encouraged to experiment with formative assessment in their own contexts (Wiliam, Lee, Harrison, & Black, 2004).

The EDK teachers focused on students who were experiencing difficulty in being able to identify letters of the alphabet. Two primary teachers focused on the decoding of words with first grade students and two looked at the classroom teachers’ use of formative assessment. These areas of inquiry were selected by the respective teachers.

In this district, Title 1 reading teachers must have a certification beyond elementary education (e.g., Reading Specialist, Masters in Literacy). Students in either Title 1 funded program (Extended Day Kindergarten or reading support in the primary grades) have been identified as achieving below the expected reading standard for their grade level. The only identifiable difference in the professional development opportunities afforded the 17 EDK/Title 1 reading specialists in the district was that six participated in the formative assessment study and the other 11 did not. All EDK and Title 1 teachers followed the same core curriculum and administered the same benchmark assessments at the same intervals. The district used “scripted” curriculum programs in both Kindergarten (The Letter People; http://www.abramsandcompany.com/letterpeople_index.cfm) and first grade (Read Well; www.readwell.net) to ensure the presentation of concepts at a specific pace and sequence.
Data and Analysis

Qualitative data sources (to answer research questions 1 and 2) included:

- Teacher online postings in response to questions (three progress reports and one final report over the course of the 2005-2006 school year),
- Notes from the three researchers from each face to face meeting (2 meetings at the university and 2 at the school district, spread throughout the year),
- Notes from the Title I supervisor as she observed the teachers, and
- Student work samples provided by the six teachers.

Analysis methods included drafting six within-case (teacher) summaries, testing conclusions by weighing them against all four sources (the teacher and the three researcher/observers) of evidence about the case, and drawing conclusions about the research questions in one cross-case (teacher) summary.

Quantitative data sources (test scores) were used to answer research question 3. In all cases, the primary focus of instruction in EDK was the learning of the letter names. First grade concentrated on blending sounds to make words (simple decoding). DIBELS (Dynamic Indicators of Basic Early Literacy Skills; http://dibels.uoregon.edu/) measures are designed for benchmark testing in early literacy.

- All students in EDK (n=117) were tested in September, January and May using the DIBELS Letter Naming Fluency (LNF) measure.
- First grade students (n=151) were tested at the same intervals using the DIBELS Phoneme Segmentation Fluency (PSF) measure.

Analyses methods included checking equivalence at pretest (September) and pre-post (September – May) with a t-test. Then, a mixed design ANOVA (pre-post comparisons for pilot and non-pilot groups) was run. “Pilot” students included all children served by a Title 1 teacher who was experimenting with formative assessment in this study; “non-pilot” students were served by other Title 1 teachers.

Results

First, a brief summary of the results is presented by research question. Then, results for each research question are presented in more depth in separate sections.

Summary

(1) Teacher learning: Teacher learning about formative assessment

- Began with “consciousness raising” (becoming aware that they already do some things that are formative),
- Proceeded through skill-building (developing and using strategies to meet the needs of their own classroom contexts, mostly centered around more intentional recordkeeping and feedback, goal setting, and sharing information with students and/or the regular classroom teacher), and
• Resulted in an increased formative assessment repertoire, plus the discovery (more powerful in some cases, even to the point of surprising some of the teachers) of the power of sharing information with students even as young as the K and 1 students in this study.

(2) Modified assessment practices: The six Title 1 teachers in this study chose to experiment with one or more of the following:

• Expanded monitoring and conferencing with students
• Letter cards (student files cards in a box for letters he says “slow,” “medium,” and “fast” – and “gold medal” for the ones he knows cold)
• Customizing letter-naming drills for students so any given drill included mostly letters known, and one or two unknown, to the particular student; this method was called the “drill sandwich”
• Keeping records of the feedback given to students during reading and giving students “goals” on the basis of these notes
• Progress cards (writing student goals on cards, observing and noting when students worked on their goals)
• Intentional comments to students regarding specific positive accomplishments
• Observing the regular classroom teacher to see how formative assessment uses were similar and different to their own work with students
• Attempting to construct a definition and observation tool for formative assessment in the classroom (this project was still on the drawing board when the school year ended)

(3) Results for student learning: In grade 1, there was no significant difference in DIBELS PSF (Phoneme Segmentation Fluency) pretest scores between students whose teachers were in the formative assessment group and those who were not ($p=.38$). All students improved over the year ($p=.00$); however, there was a significant interaction ($p=.02$) favoring the formative assessment group ($d = .63$). In Extended Day Kindergarten, there was no significant difference in DIBELS LNF (Letter Naming Fluency) pretest scores ($p=.43$) and, while all students improved during the year ($p=.00$), the improvement was similar for both groups ($p=.80$).

Teacher Learning about Formative Assessment

Research questions 1 and 2 asked what Title I reading teachers learned during a program of professional development in formative assessment, and what changes in practice they made. The program of professional development included meetings (for reflection and discussion) about every six weeks between the six teachers and the three researchers. Material on formative assessment and specifically designed resources were available to teachers via the CASTL online environment and included CASTL’s Information/Resource Library and CASTL Paths of Inquiry on Formative Assessment and Strategic Reading Strategies (www.castl.duq.edu). The approach taken was to define and describe formative assessment briefly, and then let the teachers decide how to relate that information to their practice.

Using CASTL’s systematic and intentional inquiry process, each teacher began with a concern, which led to classroom experimentation and reflection. Three of the teachers’ concerns were with specific
children who were not learning as expected. Three of the teachers’ concerns were with the use of formative assessment in the classroom. Of those, one investigated her own formative assessment practices, and two investigated the formative assessment practices of others (the regular classroom teachers they worked with). The summary for research question 2 (above) listed the various assessment strategies the teachers experimented with. Further description of these is found in the case studies in the Appendix.

Cross-case analysis of the six cases surprised the researchers, who had expected that the teachers approaching formative assessment by concentrating on individual children and the teachers approaching it by concentrating on classroom instruction more generally would exhibit different themes or patterns in their learning. However, seven strong themes were common to all six cases, summed up by a developmental sequence:

- “Consciousness raising” (becoming aware that they already do some things that are formative),
- Skill-building (developing and using strategies to meet the needs of their own classroom contexts, mostly centered around more intentional recordkeeping and feedback, goal setting, and sharing information with students and/or the regular classroom teacher), and
- Realizing the double-barreled (both cognitive and motivational) power of sharing information with students, and (when reflecting on the difference between their new formative assessment skills and their previous formative work), the importance of feedback being specific and of note-taking.

This section presents seven of the themes and selected evidence for them. The eighth theme was about student outcomes, and it will be reported in the next section. Evidence was selected from the case study data. Quotations were selected and organized into the tables below to illustrate the themes. Some pieces of evidence were coded into several different themes. For additional reflections that support these themes, see the case studies in the Appendix.

**Mindfulness.** One theme in the case studies was that Title I teachers realized their work already contained a big formative component. Title I reading teachers work one-on-one or in very small groups, and give feedback to students as they read – for example, supplying difficult words as students read aloud. However, while they saw formative assessment as “like what we always do,” they found that as awareness grew – as they focused more intentionally on formative assessment because of the project, and were more mindful of it – their “formative assessment” became better. Thus the project helped teachers see that while their work “always” was oriented to being formative for students, becoming more intentional about that aspect of their work led to more skillful instruction on their part and better outcomes for their students.

<table>
<thead>
<tr>
<th>Table 1. Examples from teacher reflections that illustrate the theme of Mindfulness</th>
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<tbody>
<tr>
<td><strong>Teacher 1</strong></td>
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<tr>
<td>I was constantly thinking about my way of teaching and how I was informing [my] student about his progress. It was very interesting focusing on one particular element of assessment/teaching. It is helpful to have this time to focus. I also learned that I do &quot;formative assessment&quot; all the time and always have. I think I'm better at it now. I consciously think about it more and implement it.</td>
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<tr>
<td><strong>Teacher 2</strong></td>
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<td>I think the big idea here that when you start thinking about formative assessment and it is something most use daily but informally, But if you were to think of it all the time, WOW, what progress we would make.</td>
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</table>
Before I began this project, I really thought of "formative assessment" as assessments that informed teachers of student progress.

I know that I use formative assessment, but I rarely take the time to analyze it, and do something with it. … I plan on reflecting on my instruction on a consistent basis. I assess students weekly on the reading intervention program that I use. I would like to use that assessment as a tool to drive my instruction more. I will also use daily observations of my interactions with students to determine their levels of learning & involvement. I would like to develop some sort of organized tool to record & reflect on my use of formative assessment. … The way that my view of formative assessment has changed is that I have integrated it more systematically into my daily teaching practices. Before I knew what it was. I provided feedback to my students, I made observations, but my feedback was not specific enough and my observations were not noted.

I was unable to see any evidence [in the regular teacher’s class] of the use of formative assessment. I concluded that the teacher was not sure as to exactly what this form of assessment is and how it is used in the classroom environment. My goal was to somehow introduce the use of formative assessment without the teacher feeling that I was telling her how to teach. I shared a copy of the DRAFT written about Formative Assessment Action Tools with this teacher. This seemed to helped this teacher to understand this process. She was then open to experimentation with this assessment process.

I have become SO aware of formative assessment and I never paid much attention to it before.

Specificity. A second theme in the case studies was that at the beginning of the project, teachers thought they were being “specific” with their feedback, but learned that more specificity was needed. They discovered that in many cases they had not been providing students with information that was focused enough to help the student actually do something different that would lead to improvement.

<table>
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<tr>
<th>Teacher 3</th>
<th>Before I began this project, I really thought of &quot;formative assessment&quot; as assessments that informed teachers of student progress.</th>
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<tr>
<td>Teacher 4</td>
<td>/beginning, middle, and end postings/: I know that I use formative assessment, but I rarely take the time to analyze it, and do something with it. … I plan on reflecting on my instruction on a consistent basis. I assess students weekly on the reading intervention program that I use. I would like to use that assessment as a tool to drive my instruction more. I will also use daily observations of my interactions with students to determine their levels of learning &amp; involvement. I would like to develop some sort of organized tool to record &amp; reflect on my use of formative assessment. … The way that my view of formative assessment has changed is that I have integrated it more systematically into my daily teaching practices. Before I knew what it was. I provided feedback to my students, I made observations, but my feedback was not specific enough and my observations were not noted.</td>
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<td>Teacher 5</td>
<td>I was unable to see any evidence [in the regular teacher’s class] of the use of formative assessment. I concluded that the teacher was not sure as to exactly what this form of assessment is and how it is used in the classroom environment. My goal was to somehow introduce the use of formative assessment without the teacher feeling that I was telling her how to teach. I shared a copy of the DRAFT written about Formative Assessment Action Tools with this teacher. This seemed to helped this teacher to understand this process. She was then open to experimentation with this assessment process.</td>
</tr>
<tr>
<td>Teacher 6</td>
<td>I have become SO aware of formative assessment and I never paid much attention to it before.</td>
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| Teacher 1 | We talk about what he [student] could do to better that [reading performance]. For example, he was having trouble with comprehending short stories and answering questions about it. He continued to miss the same genre of questions throughout the testing booklet. He thought that it may be a good idea to read the story 2 times so that he may better understand and to answer the questions better. |
| Teacher 2 | [Name] and I started to monitor his letters through self monitoring, slow, medium, and fast cards of letters, positive reinforcement, and praise. |
| Teacher 3 | By monitoring the students letter recognition, I have noticed that he has trouble recognizing the 3-4 letters that were most recently learned. This leads me to assume that this child needs MORE TIME to practice than average with a letter, number, or word before he can remember it. |
| Teacher 4 | I have also been recording specific notes on students' assessment record sheets. By doing this, I can look beyond whether a student passed an assessment or not... I can look at what they specifically did well with, or what they need to improve on. |
| Teacher 5 | [N/A] |
| Teacher 6 | I try to focus on giving feedback. I guess I kind of always did, but it wasn't until recently that I became aware making it more directed and child specific for a certain purpose. I have discovered that formative assessment can be practiced in most all lessons in one format or another. |
**Recordkeeping.** A third theme in the case studies was that the intentionality and specificity needed for effective formative assessment necessitated more, and more systematic, note-taking and recordkeeping than teachers were used to. The researchers did not tell the teachers to take more notes: teachers discovered that in order to provide specific formative feedback and keep track of what students needed, they wanted and needed to take more notes.

| Teacher 1 | I have changed my thinking in ways of assessing. I take more notes informally...though it's hard to do for all students all the time. I'd like to be more organized when it comes to each individual student's progress files. When I see a need for it, I try new ways of teaching. |
| Teacher 2 | I monitor how my students are progressing, note where they are having trouble, difficulties, strengths, etc, and then I make adjustments in the instruction. |
| Teacher 3 | [N/A] |
| Teacher 4 | Before I knew what it [formative assessment] was. I provided feedback to my students, I made observations, but my feedback was not specific enough and my observations were not noted. Now I realize that my feedback can be more meaningful to my students if it is specific, and that if I note my observations of students' reading progress I am more likely to do something with this information. |
| Teacher 5 | [N/A] |
| Teacher 6 | I learned that formative assessment should occur naturally throughout the student day. However, in many cases, I found that it did not in various classroom settings. I found out that formative assessment happens "mentally" and formative feedback is given to the students "orally or written". I try to practice both. I enjoy making forms that provide students with formative feedback, but I would like a more concrete and specific (yet quick and easy) way to maintain my mental records as documentable items. |

**Student involvement.** A fourth theme was about student involvement. Because these were Title I reading teachers, they already worked more closely with individual students than many classroom teachers do. However, they found that formative assessment requires clear communication with students and requires the students to use assessment information. While this may sound obvious, it resulted in a reported change in focus even for these already fairly student-oriented teachers.

| Teacher 1 | I focused on his strengths and made him feel good about what he could do well. For instance, he used expression really well when he reads...once he knows a story...he likes to add expression. He also TRIES really hard and wants to do well. |
| Teacher 2 | Then what really puzzled me is when he was identify the letter sounds and NOT saying the letters. While seeing these occurrences and noting them, I decided to show him his strengths and not focus on his weakness. |
| Teacher 3 | My idea of "formative assessment" has been drastically expanded through this study group. I now understand how important it is to give STUDENTS quality information/feedback about how they are performing as well. When giving my students informal assessments in my classroom, I realize that the results of those assessments can be formative for the student. Their score or their observable success on the assessment can be formative as well as the specific comments that the teacher gives about what exactly was done correctly and/or how they could improve upon the skill tested. |
| Teacher 4 | I have been trying to use the time that I have with individual students efficiently. I wanted to involve students more with their reading achievement. I wanted to give them specific feedback on what was working for them, and what they needed to improve on. Ultimately, I wanted... |
students to become active participants in their quest to become independent readers by focusing on what, specifically they are doing right & wrong...After I am done assessing students, I record informal observation notes. I tell the student what I am writing down, and what it means. For example, "I am writing down that you did a good job finger tracking today. I am also writing down that you had a little trouble sounding some words out, out-loud. It's really important for you to sound a word out with your voice when you're not sure of it. You will get the word a lot faster that way." After I write the notes on my assessment sheet, I then give the student a kid-friendly note with the same contents. The student can then take this note home to show their parents their reading progress.

Teacher 5
The teacher serves as the model for the students as he/she explains the learning objective being addressed. The goal is for the students to eventually take ownership of this objective as they approach the targeted learning outcome.

Teacher 6
For example, when I introduced writing workshop to the classroom which I service, I set up a format which would promote formative feedback for the teachers to use when conferencing with the students. I did this to make sure that all students knew what their strengths were and what specifically I wanted them to work on for next time.

Teacher #4 used “postcards” with formative feedback and goals for reading improvement. She sent these home with students. She found a developmental difference in students’ responses to this strategy. Third graders loved it, and were active participants in the strategy. First graders responded well to the feedback and goals presented orally, but did not respond as well to the progress cards. Teacher #4 wrote:

I have found that certain students were motivated to monitor their own progress, while others were not. I found that I have a few younger students that kept their goals in-mind, but my older [third grade] students were much more involved in the process. They reminded me to tally when they worked towards their goal. They got excited when they met those goals. Using the progress cards with them seemed effective...My younger [first grade] students did not respond as well to the progress cards. They did however, respond to the specific feedback that I would give them during those weekly assessments.

This makes sense, in that students would have to be able to read a little bit to use the cards. Third graders could do this, but first graders were still working on letter recognition.

**From achievement to motivation.** A fifth theme is teacher movement from an achievement orientation to a focus on motivation, too. Most of the teachers’ statements of concern began with a concern about student learning (for example, a student not knowing the letters of the alphabet), and all of them quickly enlarged to become statements of concern about motivation, as well. This was primarily a result of their observing how excited students got when formative assessment practices gave them some awareness of and control over their own learning needs.

| Table 5. Examples from teacher reflections that illustrate the theme of Moving from a Focus on Achievement to Motivation |
|---|---|
| Teacher 1 | *From:* My concern is with a particular student [1st grade] and his inability to retain skills taught and to apply them and also to transfer into the regular classroom for independent work and for assessments.  
*To:* I focused on his strengths and made him feel good about what he could do well. For instance, he used expression really well when he reads...once he knows a story...he likes to add expression. He also TRIES really hard and wants to do well. I comment on his efforts and enthusiasm. On the other hand I also inform him about his weaknesses. |
Teacher 2

**From:** …right now I've been studying the behavior of a child who is not grasping letters/numbers at steady rate, but shows great oral language skills and assessment. I am going to take a look at his rate of learning numbers/letters, look at his assessments, and go from there.

**To:** What I can continue to do to help my student to continue his success, motivation and to improve his metacognitive skills when it comes to sounding out words, reading, and tying it all together without setbacks that alter his performance?

Teacher 3

**From:** How can I help a [EDK] student to recognize individual letters, numbers, and sight words that have no apparent visual meaning. What tools can I give them to help them to identify these letters, numbers, and words. What kind of things will help them to see meaning in the symbol or group of letters that is in front of them?

**To:** What strategies can I use to help a student that is struggling to recognize letters, numbers, and sight words. What tools/strategies can I give them to help them to identify these letters, numbers, and words. Furthermore, what methods will MOTIVATE this student to want to learn these concepts?

Teacher 4

I want to look at the impact that formative assessment has on the students that I teach. Ultimately, I would like to see my instruction make a positive impact on my students' abilities to read & on their image of themselves as readers.

Teacher 5

[N/A]

Teacher 6

I believe that student achievement would be higher in those who receive a lot of formative assessment feedback. However, when I used my tool [to observe the regular classroom teacher], the teacher directed 67% of their (quality) feedback on one particular student who is the most academically needy in the class. This student is still performing very poorly on summative assessments. But, the student has increased dramatically since coming into this teacher's class at the beginning of the school year. Now, I am thinking that I should use the child's growth—not grades or benchmark assessments—to measure with my tool.

**Formative assessment as instruction and differentiation.** A sixth theme comes from the way teachers described their formative assessment practices. Teachers’ language about formative assessment was not “assessment language.” They talked about formative assessment as an “instructional strategy,” and they linked it with differentiating instruction. Use of formative assessment and differentiating instruction were seen to go together. Teachers assumed, and stated, that if one does formative assessment seriously one will necessarily end up differentiating instruction.

**Table 6. Examples from teacher reflections that illustrate the theme of Seeing Formative Assessment as Instruction**

**Teacher 1**

[same sequence of comments as in Tables 1-5]: I used one of my Title I students as part of this study on formative assessment. I chose a student who was a puzzle to me and a student whom I was particularly worried about academically. I focused on his strengths and made him feel good about what he could do well. For instance, he used expression really well when he reads...once he knows a story...he likes to add expression. He also TRIES really hard and wants to do well. I comment on his efforts and enthusiasm. On the other hand I also inform him about his weaknesses. We talk about what he could do to better that. For example, he was having trouble with comprehending short stories and answering questions about it. He continued to miss the same genre of questions throughout the testing booklet. He thought that it may be a good idea to read the story 2 times so that he may better understand and to answer the questions better.

**Teacher 2**

[during discussion, researcher noted this teacher talked about:] “studying one particular issue” “know more about formative assessment as a teaching strategy.”
The particular student that I have a concern with challenges my previous belief that students can learn to identify letters, numbers, and words through the use of flashcards and "hearing" the name of the letter or number in a repetitious manner.

Formative assessment can also be observations that the teacher makes of her students progress & feedback that she provides to her students in return to help them progress further. Formative assessment can also be used as a tool for reteaching. Through monitoring student progress, teachers can see exactly where certain students are having trouble, and offer them instruction in those specific areas. Teachers can lead their students to take part in formative assessment, by informing them of their specific strengths & weaknesses, helping them discover ways of improving their needs, and then helping students recognize when they utilize those techniques.

Researcher noted that Teacher #5 said in discussion, “I didn’t gear [my project] to one kid – I geared to the teachers I worked with… one of the teachers started to understand what it was, built groups – she seems to be now, even if I’m not there, differentiating groups. If kids are having a hard time, she stops.”

I have discovered that formative assessment can be practiced in most all lessons in one format or another.

**Self Efficacy to Artfully Deliver Scripted Instruction.** A seventh theme emerged as the teachers began to demonstrate an increase in self efficacy which resulted in a more artful delivery of scripted instruction. Instruction was modified according to the feedback they were receiving from the students. Being able to maintain the integrity of the instructional script and at the same time adjusting delivery based on the direct feedback of students resulted in more focused, artful teaching.

<table>
<thead>
<tr>
<th>Teacher 1</th>
<th>Teacher #1 modifies student materials to provide cues to make the student more successful. She uses DIBELS data to make instructional decisions about instructional strategies. During instruction, each student identified an area of fluency that he/she needed to work on (pause at punctuation, not like a robot, sound like the character).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher 2</td>
<td>Teacher #2 provided an alternative selection for more proficient readers. She has devised a “recipe box” to motivate her students to develop automaticity in identifying letters. Teacher #2 has supplemented the Letter People instruction in an effort to help the students retain the letter names.</td>
</tr>
<tr>
<td>Teacher 3</td>
<td>Teacher #3 is examining ways to motivate student learning beyond the traditional flashcards.</td>
</tr>
<tr>
<td>Teacher 4</td>
<td>Students reviewed their personal reading goal (“When I don’t know a word I will sound it out”) and compared their performance to the goal. DIBELS data is used to determine what materials are most appropriate for students. Students were asked to restate the directions for reading and charting progress.</td>
</tr>
<tr>
<td>Teacher 5</td>
<td>Teacher #5 clearly understands the connection between formative assessment and student achievement. She uses the TIL resources to enhance her instructional skills.</td>
</tr>
<tr>
<td>Teacher 6</td>
<td>Teacher #6 has accessed the TIL website to find research and observation tools. She is using her research into formative assessment to inform classroom instruction. Teachers are actively engaged in the in-class lessons.</td>
</tr>
</tbody>
</table>

Teacher #4 augmented the Read Well program’s scripted fluency checks by developing a more sophisticated monitoring system that provided students with the feedback needed to help them improve their fluency and decoding skills. By the end of the project year, several Title 1 teachers had adopted this method of recording feedback and concurrent reading performance.
In a summary posting at the end of the project, Teacher #6 wrote the following. Notice that all eight themes (the seven just presented and the eighth, presented below, about effects on students) are reflected here, summed up in a kind of “logic model” that reflected the way Teacher #6 processed her year-long formative assessment project. This kind of integration represents a desired outcome of the professional development, the importance of formative assessment, and the reflective skills of the teacher, all together. She wrote:

When I tried testing and using this tool I attempted to create [to observe regular classroom teachers’ using formative assessment], I noticed that many times, students were not receiving feedback that could be used to improve a skill. They tended not to pay much attention to the content being offered. When I designed a lesson to be implemented into that classroom that would allow for formative assessment, the students had a reason to listen and something to practice applying. It gave them purpose and everyone seemed more on task during the lesson. I was never ultimately able to fully research and adapt my tool to meet my needs, but I did notice greater achievement when the students had something to focus on improving.

**Student Learning as a Result of Increased Formative Assessment**

This section will first detail the seventh theme from the qualitative data, which was about perceptions of student outcomes. Then, it will present the quantitative analyses of student test data.

**Student outcomes.** The eighth theme from the case studies was about the holistic results of using formative assessment. The Title I teachers were very concerned about achievement, of course; learning to read (or not) is absolutely critical. However, they discussed formative assessment as causing an observable increase in student achievement, motivation, time on task, and engagement. Thus teachers observed as effects of formative assessment for their students both learning outcomes and motivational outcomes.

| Table 8. Examples from teacher reflections that illustrate the theme of Student Outcomes |
|---------------------------------|-------------------------------------------------------------------------------------|
| Teacher 1 | My formative assessment with him is ongoing. He monitors himself [outcome – self monitoring] and he catches himself doing things incorrectly. I point out the positives for him. |
| Teacher 2 | I wish I would have known about this [slow-medium-fast-gold recipe box] while [Name] was learning his letter identification. The box is a great way to track, pace, and motivate [Name’s] learning and progress. He LOVES it. [outcomes – motivation and letter learning] |
| Teacher 3 | With both of these methods, I was able to help the student gain more self-confidence in his ability to recognize and name letters. He was much more willing to practice when he felt confident. His letter recognition scores improved through his participation in these practice sessions. [outcomes – motivation, self-confidence, and letter learning] |
| Teacher 4 | I have learned that my use of formative assessment can be a powerful tool to help my students make reading progress. [outcome – reading progress] |
| Teacher 5 | [N/A] |
| Teacher 6 | Researcher noted that Teacher #6 said in discussion: “I noticed differences in students when I changed lessons over to formative assessment – students were less off task and more engaged.” [outcomes – being on-task and engaged] |

**Test results.** Students’ DIBELS scores were grouped according to whether the students’ teachers were in the formative assessment group or not. The reasoning behind this was that, whether the teacher chose to focus special attention for her professional development project in formative assessment on one student (as did Teachers #1, #2, and #3) or groups of students, changes in her own classroom practices would affect all the students she instructed. The comparison group was
comprised of the other students in the district in first grade or Extended Day Kindergarten, respectively.

In grade 1, there was no significant difference in DIBELS PSF pretest scores between students whose teachers were in the formative assessment group and those who were not \((p=.38)\). All students improved over the year \((p=.00)\); however, there was a significant interaction \((p=.02)\) indicating more change for the formative assessment group. Effect sizes were moderate. The FA group’s post-test mean was .63 standard deviations higher than the non-FA group’s post-test mean \((d = .63)\). Partial eta-squared (estimates of variance accounted for) were .05 (5% of variance) for group and .04 (4% of variance) for the interaction.

### Table 9. First Grade DIBELS PSF Results

<table>
<thead>
<tr>
<th></th>
<th>Pretest Mean (s.d.)</th>
<th>Posttest Mean (s.d.)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA* group</td>
<td>40.63 (16.53)</td>
<td>60.20 (11.18)</td>
<td>109</td>
</tr>
<tr>
<td>Not in FA group</td>
<td>38.10 (13.89)</td>
<td>50.81 (14.95)</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>39.93 (15.83)</td>
<td>57.59 (13.00)</td>
<td>151</td>
</tr>
</tbody>
</table>

ANOVA – Time (pre, post) by Group (FA, not)

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>15,798.62</td>
<td>1</td>
<td>15,798.62</td>
<td>122.17</td>
<td>.000</td>
<td>.451</td>
</tr>
<tr>
<td>Group</td>
<td>2,157.53</td>
<td>1</td>
<td>2,157.53</td>
<td>7.88</td>
<td>.006</td>
<td>.050</td>
</tr>
<tr>
<td>Interaction</td>
<td>712.24</td>
<td>1</td>
<td>712.24</td>
<td>5.51</td>
<td>.020</td>
<td>.036</td>
</tr>
</tbody>
</table>

* FA = Formative Assessment professional development group

**Kindergarten test results.** In Kindergarten, there was no significant difference in DIBELS LNF pretest scores \((p=.43)\) and, while all students improved during the year \((p=.00)\), the improvement was similar for both groups \((p=.80)\).

### Table 10. Extended Day Kindergarten DIBELS LNF Results

<table>
<thead>
<tr>
<th></th>
<th>Pretest Mean (s.d.)</th>
<th>Posttest Mean (s.d.)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA* group</td>
<td>9.94 (12.75)</td>
<td>47.94 (13.67)</td>
<td>31</td>
</tr>
<tr>
<td>Not in FA group</td>
<td>8.16 (10.52)</td>
<td>45.35 (15.73)</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>8.64 (11.13)</td>
<td>46.04 (15.19)</td>
<td>116</td>
</tr>
</tbody>
</table>

ANOVA – Time (pre, post) by Group (FA, not)

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>64,208.48</td>
<td>1</td>
<td>64,208.48</td>
<td>542.11</td>
<td>.000</td>
<td>.826</td>
</tr>
<tr>
<td>Group</td>
<td>215.25</td>
<td>1</td>
<td>215.25</td>
<td>.91</td>
<td>.343</td>
<td>.008</td>
</tr>
<tr>
<td>Interaction</td>
<td>7.48</td>
<td>1</td>
<td>7.48</td>
<td>.06</td>
<td>.802</td>
<td>.001</td>
</tr>
</tbody>
</table>

* FA = Formative Assessment professional development group
Discussion

The first grade test score findings were consistent with classrooms observations. The Title I supervisor reported that as the study group progressed, the first grade Title I teachers began to demonstrate an awareness of the use of formative assessment in providing specific feedback that could be used to help students (1) better understand what they specifically knew and did not know about the decoding process, (2) recreate a successful decoding experience, and (3) self-monitor each decoding experience. Although they were following the instructional script of the reading program, these teachers began to look for specific indicators from each child that would provide the instructional compass for each lesson. For example, she reported, one student was decoding a word incorrectly because he could not distinguish between a lower case b and d. Another did not consistently and independently produce the short “i” sound. Both experienced difficulty with the word “dig,” but for entirely different reasons. As these teachers became more incisive in the use of formative assessment as an integral part of their instructional practice, they began to honor the interpretive “voice” of each student in the reading process. They began to look for the subtle differences in each of their students’ learning, and they began to help the students acknowledge their learning and the reasons for their successes.

The Title I supervisor observed a similar change in instructional delivery for the Kindergarten Title I teachers, although their student achievement data were not different from the other Kindergarten teachers’ student achievement data. The lack of significant differences in Kindergarten test scores may be because the skill of letter naming, which the Kindergarten students worked on, is a far less complex process than the skill of decoding, which the first graders worked on. The fact that the EDK students in this study received twice the instructional time as regular kindergarten students to learn the same number of letter names may have insured success regardless of the instruction methods used.

If these positive outcomes for six teachers in one district represent the kind of outcomes other teachers may have when they use formative assessment, the implications for teaching are dramatic. Note that these six teachers’ discoveries as they explored formative assessment in their own practice mirrored what is known about good feedback. Their involvement in professional development in formative assessment showed them the importance of specificity in feedback, of systematically comparing student work with learning targets, and of student involvement in their own assessment (Ames & Archer, 1988; Bangert-Drowns, Kulik, Kulik, & Morgan, 1991; Black & Wiliam, 1998; Butler & Winne, 1995; Kluger & DeNisi, 1996; Meece & Miller, 1999; Meisels, Atkins-Burnett, Xue, & Bickel, 2003; Newman, Bryk, & Nagaoka, 2001; Rodriguez, 2004). It is also interesting that in their reflections, the Title I teachers who worked with individual students for their project (Teachers #1, #2, and #3) were grappling with their own understanding of what a child’s early literacy should look like (Bailey & Drummond, 2006). The unexpected cases—the unsuccessful students whose learning did not follow patterns that were familiar to the teachers—were the source of these reflections.

It is especially important to note that each teacher did somewhat different things with the information they received in their teacher professional development. The opportunity to choose what seemed important to work on in their own context was part of the reason for the professional learning, and probably for the student learning, outcomes. All of the participants developed a real working knowledge of the term “formative assessment.” Although they initially agreed that they all used formative assessment, but just didn’t know what to call it, as the study group process developed they realized that the depth of their initial understanding had been very shallow. The focus of teaching
moved from covering content and following the script to masterfully using the feedback that students gave to hone each instructional lesson to its most purposeful state. Feedback given to students moved from the generic “Nice job!” to a specific accounting of what each student could do well and a rendering of the discrete skills necessary to improve future performances. Teachers became more focused on unlocking each child’s specific abilities and less focused on delivering a particular unit of instruction. Teachers and administrators developed a common language around the topic of formative assessments that allowed for a more scholarly discussion of instructional practices.
References


Appendix

Case Studies
Case Study – Teacher #1

Teacher #1 is a Title 1 Reading Specialist at L Elementary. L is the largest elementary building in the district, at 900+ students, and houses all of the K-6 emotional support students for the district. Teacher #1 also taught at the local Catholic school and has been in L’s Title 1 program for the past three years. She serves students in grades 1-3 in a more traditional pull-out setting. She is very involved in planning and promoting literacy programs for the school (i.e. Read Across America week). She also is not currently enrolled in a graduate program.

The district required her to use a structured reading program called ReadWell. Her school day includes teaching small groups of mostly first grade Title I students, and one group of third grade Title I students. From the beginning, Teacher #1 was concerned that ReadWell did not deal well with words in context and story vocabulary. One of the researchers reported her comment: “It’s hard to examine the question of transfer (to the regular classroom) if there is nothing to transfer.”

Her initial concern was about a first grade student with whom she worked. He seemed unable (3/10/06) to retain skills taught and to apply them and also to transfer into the regular classroom for independent work and for assessments. I have found this student to be regressing as he takes a nose dive with his classroom reading grades and also as informally assess his.” She used as some of her evidence the DIBELS phonemic awareness and fluency measures.

She wrote (1/16/06): “I'm TRYING to figure this out why things are not transferring. I try modeling, repetition, re-teaching even though they prove to me that they can do it. They struggle to do it independently at times and also in the regular classroom. I will need to make regular classroom observations and monitor this more closely.”

During a formal classroom observation (1/16/06) it was noted that “each student identified an area of fluency that he/she needs to work on (pause at punctuation, not like a robot, sound like the character). Students were asked to restate what they had read to practice comprehension skills.”

She kept the child’s parents informed (3/10/06): “I'm going to continue to inform the parents of strengths and weaknesses...as it seems to help him somewhat...they know what he is doing behaviorally and academically and address it at home. I send home things for them to do at home to support us. We've also inquired about after school tutoring to support him. He might benefit from that also. We will see.”

She blamed herself for the student’s lack of progress (3/10/06): “I see some success with more focused support at home...but not as much as we thought we would...but will still give it little bit more time. It gets frustrating that we seem to not make substantial gains...it's just frustrating and I feel badly...and feel partly to blame that i can't make a bigger difference.” Researchers’ notes corroborate that she expressed this frustration during discussion time.

She tried more intentional use of formative assessment strategies. Having to do this brought instructional strategies to the forefront (or to the conscious level) and led to constantly thinking about her teaching (see below). She wrote (3/10/06): “I have changed my thinking in ways of assessing. I take more notes informally...though it's hard to do for all students all the time. I'd like to be more organized when it comes to each individual student's progress files. When I see a need for it, I try new ways of teaching. I'm somewhat limited with my trying of new ideas because I have a program that is directed instructions which doesn't allow for flexibility. I add things here or there to help this student when I can. I send more notes home for the parents asking for support in certain areas...I explain to the student what I'm asking of them...and what I'd like them to work on or focus on for
class or at home. He has lately shown an effort to do that. Though progress is minute. ...though i'm happy with SOME success...even if it is an increase in desire to TRY! I'm thinking it's the parent's doing and support at home.”

The researchers’ notes from 3/10/06 describe that Teacher #1 reported that she was verbally telling what she wanted him to work on, e.g., left to right, not right to left. She reported he was starting to not say “I forget” (a strategy he had used in the past) as much. She reported trying to make things more concrete for him, not just giving verbal praise.

By the end of the project year (5/24/06), when asked ‘What is your current understanding of the term "formative assessment" in the classroom? How (if at all) has that changed during this project?’ she wrote: “Formative assessment is an ongoing and repetitive measure that informs me the teacher and also the student of skills that are mastered. It provides them feedback about their progress of strengths and weaknesses. As I began to re-learn more about the process, as with any new way of thinking, it becomes a focus for me and I implement it. I was constantly thinking about my way of teaching and how I was informing student about his progress. Toward the end of the year, we have been working on independent reading skills. With my project student, I would do a few stories with him and we would discuss each question and the answers together. I would model for him how and what is expected of him. He would then do a story on his own. I would remind him of what he needed to be thinking of during his silent reading time. (no robot reading, learn decoding skills etc.) He continues to struggle with his short and long vowel sounds. This is a problem and holds him back in the fluency department. My formative assessment with him is ongoing. He monitors himself and he catches himself doing things incorrectly. I point out the positives for him.”

She described the formative assessment practice(s) she experimented with during the project (5/24/06): “I used one of my Title I students as part of this study on formative assessment. I chose a student who was a puzzle to me and a student whom I was particularly worried about academically. I focused on his strengths and made him feel good about what he could do well. For instance, he used expression really well when he reads...once he knows a story...he likes to add expression. He also TRIES really hard and wants to do well. I comment on his efforts and enthusiasm. On the other hand I also inform him about his weaknesses. We talk about what he could do to better that. For example, he was having trouble with comprehending short stories and answering questions about it. He continued to miss the same genre of questions throughout the testing booklet. He thought that it may be a good idea to read the story 2 times so that he may better understand and to answer the questions better.

Asked about the student’s response to her program of formative assessment, she wrote (5/24/06): “He likes the 1 on 1 learning. He responds well. As he does well, he gets excited. As he makes mistakes and or does poorly in an area, he gets sad. I try to turn the weaknesses into happy things that we work on.”

About her own learning, she wrote (5/24/06): “I was very interesting focusing on one particular element of assessment/teaching. It is helpful to have this time to focus. I also learned that I do "formative assessment" all the time and always have. I think I'm better at it now. I consciously think about it more and implement it.” Researchers’ notes confirm her expressing these same feelings during discussion. One of the researchers noted (5/24/06) a telling, if convoluted, comment that Teacher #1 made: “It has been very helpful for me assessing myself concentrating on one student.” She clearly felt the assessment had been a two-way street.
Case Study – Teacher #2

Teacher #2 is a certified elementary teacher and the Extended Day Kindergarten teacher at S Elementary. Teacher #2 formerly taught at the local Catholic school and spent a year substitute teaching—this is her second year in Extended Day Kindergarten (EDK). Teacher #2 has a very good rapport with her students and is able to present material in a myriad of ways to help them understand new concepts. The EDK program has currently introduced 3 new research-based, direct instruction programs—Calendar Math, The Letter People and Language for Learning—and Teacher #2 has been very diligent in following the instruction-assessment sequence. She is not currently enrolled in a graduate program.

Her initial concern was about an EDK student with whom she worked. He speaks well orally and achieves well on language assessments, but takes more time with letter and number recognition, counting, and the basic kindergarten assessments. This particular student lived with his grandparents; his mother was in jail. Teacher #2 wondered (1/11/06): “Why can a child make the connection of after seeing a picture of not ever seeing or knowing before (such as what a boat oar is and identifying it), and keep it in long term memory ,but seeing the alphabet daily in a variety of ways throughout the kindergarten day, can't recognize the letters accurately at a steady rate, varying day to day. Able to identify new items and pictures but not letter symbols and numbers.”

During a formal classroom observation (1/6/06) is was noted that “Teacher #2 collected a variety of student data points to illustrate her concern that despite the child’s verbal skills, he is unable to reliably identify letters in isolation.” Lesson plans indicated that “she had supplemented the Letter People instruction in an effort to help the student retain letter names.”

She noted (1/11/06): “At the beginning of the school year I can say that 95% of my students can't recognize most letters. Mostly, they know 1-2, maybe 7-8 after summer. At the beginning of the school year, my instruction with letter and number recognition is the same for each child excluding the repeater. (I differentiate for them) I provide may different ways for the children to learn and recognize letters and numbers. At the end of the first nine weeks and the beginning of the 2nd, I can say that most students have learned each letter and number that we have been working on during that period of time. If a child isn't grasping the letters/ numbers, a flag goes up and usually there is a speech/language problem involved. However, right now I've been studying the behavior of a child who is not grasping letters/numbers at steady rate, but shows great oral language skills and assessment. I am going to take a look at his rate of learning numbers/letters, look at his assessments, and go from there. There's lots to investigate, It is a very unusual case for me.”

She tried a strategy using a recipe box with slow-medium-fast-gold sections. A card for each letter was filed in the appropriate section, and as he learned he got to see the cards move through the sections. Teacher #2 reports that the student said: “I got these because I practiced those cards you gave me.”

During a formal classroom observation (3/10/06), it was noted that she was modifying instruction by “going back through the Letter People books to help build fluency and confidence.” The recipe box was being used and “provided motivation for students to lean their letters.” She was able to “articulate her student’s needs and areas of progress and make appropriate instructional decisions.”

By March (3/16/06 posting), Teacher #2 still listed as her area of concern “Why is it that a child can't recognize letters of the alphabet in isolation, but IS able to sound out their sounds and begin sounding out words?” The researchers' note corroborate this concern. However, her language suggests she had enlarged her concern from strictly learning letters to motivating the student: “What I can continue to
do to help my student to continue his success, motivation and to improve his metacognitive skills when it comes to sounding out words, reading, and tying it all together without setbacks that alter his performance. What other ways can I incorporate Formative Assessment to benefit the child further??? Where do I go from here?”

She observed (3/16/06): “Motivation plays a BIG role in a child's own success and taking ownership and self-monitoring of their learning. A child's own monitoring of learning along with the teacher helps motivate him/her to continue to do well and feel good about their work.”

She described her work this way (3/16/06): “Right now, I am making more observations, making new assumptions and changing MANY ASSUMPTIONS, and implementing new ideas. I am currently trying more motivational techniques because they seem to work well with my student. I plan on trying the drill sandwich which was posted earlier and that was mentioned from Erica at our last meeting at Duquesne. I also have implemented the slow-medium-fast-graduate box to help with vocabulary words. Erica and I had learned about this during our LiPS training. I wish I would have known about this while Brandon was learning his letter identification. The box is a great way to track, pace, and motivate Brandon's learning and progress. He LOVES it. If you would ever see this little guy you would all fall in love. He is so special!”

By the end of the project (5/24/06 posting), when asked about her current understanding of the term "formative assessment" in the classroom and how (if at all) it had changed during this project, she wrote: “When we first started the TIL process and formative assessment was our topic, I was thinking, "okay, I haven't really thought or heard of the actual words FORMATIVE ASSESSMENT since college, maybe in a Test and Measurements class." At that same time other assessment words were coming into my mind at that time .......Formal assessment, informal assessment, authentic assessment, summative assessment, traditional assessment, nontraditional assessment................wait what kind of assessment did Sue and Connie say again.......oh formative assessment. So needless to say after racking my brain and thinking way to much about assessment, I was thinking hey......"This is exactly what I do everyday in Extended Day Kindergarten, I just didn't call it that." I monitor how my students are progressing, note where they are having trouble, difficulties, strengths, etc, and then I make adjustments in the instruction in order for them to become“

A researcher noted (5/24/06) Teacher #2 made this comment during discussion: “I think a lot of regular teachers don’t do formative assessment. We [Title I teachers] don't give a grade. We don’t have that burden of the grade – but we do it [FA] so they [students] do well in the regular class.”

Her summary description at the end of the project year, to describe the formative assessment practice(s) she experimented with, were as follows (5/24/06): “I focused on one selected student that was having trouble in the beginning/middle of the school year with identifying uppercase/lowercase letters and vocabulary. He was doing well in oral language, listening skills, and comprehension but was not recognizing his letters consistently. The reason why I chose this particular student is because he was doing so well in many areas BUT could not recognize and learn his letters. This really was an interest to me because I haven't ever seen a child be so successful early in life in many areas, and not be able to retain letters recognition. It was just a weird combination to me. So I decided to track the formative assessment process throughout our "formative journey."

So I started tracking [Name’s] letter recognition accuracy, fluency, etc.............. knowing some letters day to day, letter recognition from teacher to teacher, home to school. I realized that he was knowing some letters on some day and other letters different days. Just very different from the norm. Then what really puzzled me is when he was identify the letter sounds and NOT saying the letters. While
seeing these occurrences and noting them, I decided to show him his strengths and not focus on his weakness. [Name] and I started to monitor his letters through self monitoring, slow, medium, and fast cards of letters, positive reinforcement, and praise.

She concluded (5/24/06): “In all, I have learned so much from this process. Like most of us in this group, I feel that formative assessment is something many teachers use mentally but aren’t aware that this is what formative assessment is. I think the big idea here that when you start thinking about formative assessment and it is something most use daily but informally, But if you were to think of it all the time, WOW, what progress we would make.

The researchers’ notes (5/24) captured her comments that she was “studying one particular issue” and now “know more about formative assessment as a teaching strategy.” This leads to the same conclusion as for Teacher #1 – formative assessment is seen as similar to the Title I daily routine but adds power (and focus and specificity and usefulness) when made a conscious effort.
Case Study – Teacher #3

Teacher #3 is in her second year as the Extended Day Kindergarten teacher at E Elementary—the first teaching experience in her career. E Elementary is also very small but has the highest proportion of students in need of EDK and Title 1 services. Teacher #3 is very strong instructionally and is willing to try new programs and strategies to improve student learning. Although she is new to the EDK group, she has begun to emerge as a leader during planning and inservice sessions. She has expressed interest in entering a graduate program in the very near future.

Her initial concern was to help an EDK student to recognize individual letters, numbers, and sight words that have no apparent visual meaning. She wrote (1/6/06): “What tools can I give them to help them to identify these letters, numbers, and words. What kind of things will help them to see meaning in the symbol or group of letters that is in front of them?”

She observed that simple repetition did not help him to learn to identify letters or sight words (flash cards). She wrote (1/6/06): “The particular student that I have a concern with challenges my previous belief that students can learn to identify letters, numbers, and words through the use of flashcards and "hearing" the name of the letter or number in a repetitious manner.” The researchers’ notes corroborate this.

Teacher #3 wrote (1/6/06): “I have started to explore using the Letter People to provide "background information" or something to trigger their identification of a letter that is on a flashcard. I have began exploring using songs and flashcards with pictures of the Letter People or other graphics next to the letter/number to help the student associate meaning with the symbol.”

Continued observation of the student gave her more detailed information. In February, (2/3) a researcher noted she observed the student had trouble recognizing the 3 or 4 most recently learned letters and concluded he needed more time for learning to settle in.

Additionally, Teacher #3 moved from a concern with the student just learning letters to a concern about motivation. She wrote (3/9/06): “What strategies can I use to help a student that is struggling to recognize letters, numbers, and sight words. What tools/strategies can I give them to help them to identify these letters, numbers, and words. Furthermore, what methods will MOTIVATE this student to want to learn these concepts? … Can I find activities that will be structured for his level of understanding, at his pace, and so that he can self-monitor his own progress?”

She continued (3/9/06): “By monitoring the students letter recognition, I have noticed that he has trouble recognizing the 3-4 letters that were most recently learned. This leads me to assume that this child needs MORE TIME to practice than average with a letter, number, or word before he can remember it.”

And (3/9/06): “This student's slow progress with recognition supports the idea that all students learn at a different pace and may need more repetitions/practice before they can remember something…I assume that being feeling successful will motivate this student to want to practice more often. I assume that I will need to try several different strategies with this student until we find one that he finds motivating and not overwhelming.

Her focus on formative assessment helped Teacher #3 connect confidence with performance. She moved from a concern with letter recognition to a concern for student motivation. She acknowledged her new found interest in motivation (3/9/06): “Previously, I had not really thought as much as now about how this student's confidence was affecting his performance. When I gave him flash cards with
many letters/numbers/or words that he did not know, he became frustrated and his performance gradually went downhill during the practice session. The drill sandwich method, in which I flash him 3 known letters for every 1 unknown, seems to give him more confidence to keep trying. I have also organized a small recipe box for him and sorted his words and numbers into the categories: slow, medium, fast, and gold medals. This helps him to see visually how well he is progressing toward the goal of having all flash cards in the "gold medal" category.

Using these methods really seem to motivate this student help him to understand his own learning. He often asks ME before I think of it to practice the words in his box- he's motivated! He is often smiling while he's saying his letters and numbers and jumping up and down as he shouts out the words. He asks me regularly if he can count how many "gold medals" he has. He often gives me "five" after a practice now when I tell him he's done well and is trying hard.

Even if he makes SLOW progress, I am most happy that he seems to be more MOTIVATED to practice!"

A week later (3/16/06), she noted: “Through discussion today, I realized again just how important it is to give students a way to monitor and recognize their own progress. I plan to continue the "recipe box" method so that this particular student can have a visual representation of his progress with the letters and numbers he's working with. Also, the "drill sandwich" method really seems to motivate him to continue a practice session because he is NOT overwhelmed by being asked to work with only letters/numbers that he does not know. Also through discussion today, I picked up a new idea of giving students the opportunity to revisit stories that they have already read earlier in the year. When they perceive the text that they are reading as "easy" it gives them confidence and also a better sense of what they have learned and how they have progressed.

By the end of the project year, Teacher #3 had moved from a view of formative assessment to inform the teacher to a broader view, encompassing student involvement.

During a formal classroom visitation (5/4/06) Teacher #3 was observed providing specific feedback to students that they could use to improve their reading performance. For example, following a student’s oral reading of a decodable story she said, “He’s going right across the page pretty quickly—I like that!”

She wrote (5/24/06): “Before I began this project, I really thought of "formative assessment" as assessments that informed teachers of student progress. The DIBELS tests that our district uses to assess reading skill areas in preparation for PSSA testing is an example. Teachers use this information to inform themselves as to what areas their students need more remediation in and what areas of skill instruction were successful. My idea of "formative assessment" has been drastically expanded through this study group. I now understand how important it is to give STUDENTS quality information/feedback about how they are performing as well. When giving my students informal assessments in my classroom, I realize that the results of those assessments can be formative for the student. Their score or their observable success on the assessment can be formative as well as the specific comments that the teacher gives about what exactly was done correctly and/or how they could improve upon the skill tested.”

A researcher notes she also said (5/24/06): “My views have changed a lot. When I first started I thought of formative assessment as informing the teacher (like DIBELS). Now I also think of informing the kid. The feedback on what he could do got him excited. I learned how important it is to give them feedback on why they were doing well or what they could do different.”
Summarizing her project, Teacher #3 wrote (5/24/06): “I experimented with the "drill sandwich" method to help a student improve upon letter recognition. When using flash cards, rather than asking him to name a stack of letters that he did not know, I mixed in a letter that I knew he could identify after every third letter that he struggled with. I used this method to help improve this student's self-confidence because he is much more successful at the task, less frustrated, and willing to work when he feels that he is successful. Because I was not flashing him only letters that he did not know, his self-confidence level was high throughout the entire practice session. I was able to increase his motivation and also inform the student (formative assessment) about how many letters he can recognize. He realized that even though he did not know all of the letters, he DID know others.

I also used a "recipe box" method to again help this student to improve upon letter recognition. I began by assessing the student as to whether he could say the name of the letter that I flashed him at a slow, medium, or fast pace (within 1-2 seconds). After being able to name the letters in the "fast" paced category for three consecutive practice sessions, those letters would be moved to the "gold medal" category. This activity gave my student a VISUAL representation of his success and letters that he still needed to work on. He was proud of himself when he got to the point where there were significantly more "gold medals" and "fast" letters than there were "slow". Again, I was able to increase his motivation in his practice sessions and also give him self-confidence when he visually observed his success.

With both of these methods, I was able to help the student gain more self-confidence in his ability to recognize and name letters. He was much more willing to practice when he felt confident. His letter recognition scores improved through his participation in these practice sessions.

I learned that I am not the only one that will benefit from "formative assessment". My students can be and like to be in control and aware of their own learning. It is helpful for me to inform them of their success and give them specific feedback to improve. I can inform the students of their learning through things like the "drill sandwich" method, the "recipe box", or simply giving my students specific information about their reading when having them read aloud informally. I am much more aware of the need for "formative assessment" for my students now and try include more of it in my everyday teaching.”
Case Study – Teacher #4

Teacher #4 is the Title 1 reading specialist at S Elementary—a very rural, midsized K-6 building that has the highest proportion of economically disadvantaged students in the district. This is Teacher #4’s second year in the district, though she previously provided Title 1 services in the [Name] School District. Teacher #4 provides reading support primarily for students in grades 1 through 3. She is very grounded in current research-based practices and is interested in improving her delivery of instruction. Despite the fact that she is working with a somewhat aging and “stagnant” staff, because of her supportive and unassuming demeanor, she has been able to encourage teachers to implement a number of new instructional strategies in their classrooms. She is certified as an elementary teacher and a Reading Specialist.

Early in the project, a researcher (12/2/05) noted: Teacher #4 reports she used to write down score – right or wrong – from weekly ReadWell assessments.

- now she’s recording how they do it
- putting the performance in context
- taking detailed notes on performance: “Noah did his homework all week & his reading improved.” Told Noah: “Wow, you did your homework all week and it really paid off.”
- feedback is now specific – tell them and give them a little mini instruction [when asked why she decided she wanted to change the way she gave feedback] “I have assessments every week – it’s so direct and all I was doing was going through the process.” Now she feels like she should take the time to do it.

Thus this teacher understood and began to use formative assessment strategies early in the project. She had quite a bit of the year, then, to observe their effects on her students.

Teacher #4 expressed her initial concern as follows: “I would like to examine the role of informal assessment in my daily instruction. I know that I use formative assessment, but I rarely take the time to analyze it, and do something with it. I also want to see what impact formative assessment has on my students, and how I can use it to increase the belief in themselves as readers.

1. I want to be more aware of my use of formative assessment.
2. I want examine the degree of which formative assessment drives my instruction.
3. I want to look at the impact that formative assessment has on the students that I teach. Ultimately, I would like to see my instruction make a positive impact on my students' abilities to read & on their image of themselves as readers.”

She listed her assumptions as follows:

* Many of my students believe that they will never be fluent readers.
* Many of my students do not believe that reading is exciting or valuable.
* I don't use formative assessment enough to drive my instruction.
* Being more conscious of my use of formative assessment will impact my students' attitudes towards reading.”

Researchers’ notes early in the project 12/2/05 noted that Teacher #4 was interested in motivation, and was thinking of ways to get students more involved.

She wrote (1/6/06): “I plan on reflecting on my instruction on a consistent basis. I assess students weekly on the reading intervention program that I use. I would like to use that assessment as a tool to drive my instruction more. I will also use daily observations of my interactions with students to determine their levels of learning & involvement. I would like to develop some sort of organized tool to record & reflect on my use of formative assessment.”
During a formal classroom observation (1/20/06) of Teacher #4’s delivery of the Read Naturally program, students were given the opportunity to decide when they were ready to be assessed on oral reading fluency and then they charted their own progress. She provided specific performance feedback (“I like how you are practicing already.”) and gave each student a sticker to indicate how much they had improved (by calculating the difference in correct words per minute between the previous and current performances).

As for cases #1-#3, teacher #4 echoed the themes of awareness (conscious, deliberate) of teacher use of formative assessment and of its relationship with student motivation.

Teacher #4 summarized her project as follows (3/13/06): “How can I use formative assessment consistently in my instruction to effect my students in such a way that they are aware of their own progress, and can take ownership of their reading achievement?

1. I want to use specific feedback to make myself aware of what my students' strengths & weaknesses are.
2. I want to use specific feedback to make my students aware of what they are good at & what they can do to improve their areas of weakness.
3. I want to record informal observations made.
4. I want to reflect upon these observations to get a better feel for how my students are progressing in reading.

[I assume that]
* By providing students with specific feedback, I will make them more aware of what they are doing well, and what they need to work on.
* By keeping specific notes on students, I will become more aware of skills that I need to target in my instruction.
* Students will use the feedback I give them.

During weekly assessments, I have the opportunity to work with students individually for about 5 minutes each. I have been using that time to provide specific feedback to students on their reading progress. I have also been recording specific notes on students' assessment record sheets. By doing this, I can look beyond whether a student passed an assessment or not... I can look at what they specifically did well with, or what they need to improve on.”

Researchers noted (1/6/06) that Teacher #4 said: “I’m more aware of how I use formative assessment and how it drives my instruction, and its effect on students. If I’m more aware, that will impact students.” They also noted (2/3/06) that Teacher #4 reported becoming more specific. The first few weeks, she said she took no notes, because it took a while to get students used to the routine.

By the 3/13/06 posting, Teacher #4 had identified two more assumptions:
* By keeping specific notes on students, I will become more aware of skills that I need to target in my instruction.
* By involving students with reflection of their reading progress, they will apply the feedback I give them.”

She continued (3/13/06):

I have been trying to use the time that I have with individual students efficiently. I wanted to involve students more with their reading achievement. I wanted to give them specific feedback on what was working for them, and what they needed to improve on. Ultimately, I wanted students to become
active participants in their quest to become independent readers by focusing on what, specifically they are doing right & wrong.

**New Steps Taken:**
After I am done assessing students, I record informal observation notes. I tell the student what I am writing down, and what it means. For example, "I am writing down that you did a good job finger tracking today. I am also writing down that you had a little trouble sounding some words out, out-loud. It's really important for you to sound a word out with your voice when you're not sure of it. You will get the word a lot faster that way." After I write the notes on my assessment sheet, I then give the student a kid-friendly note with the same contents. The student can then take this note home to show their parents their reading progress.

[Researchers’ notes corroborate this report.]

**Future steps:**
I am going to add another formative assessment piece to my weekly assessments. Please see the attachments. There is a Progress Sheet that I will keep for each child. The child will take that sheet & record their own progress/ goal statements on the Progress Post Card.

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**Teacher #4’s final (5/24/06) posting:**
1. What is your current understanding of the term "formative assessment" in the classroom? How (if at all) has that changed during this project? Please provide specific examples throughout.

Formative assessment can be any assessment made by a teacher of her students in which a task does not get "graded," and information is gathered from the assessment & used to help students. Formative assessment can also be observations that the teacher makes of her students progress & feedback that she provides to her students in return to help them progress further. Formative assessment can also be used as a tool for reteaching. Through monitoring student progress, teachers can see exactly where certain students are having trouble, and offer them instruction in those specific areas. Teachers can lead their students to take part in formative assessment, by informing them of their specific strengths & weaknesses, helping them discover ways of improving their needs, and then helping students recognize when they utilize those techniques.

The way that my view of formative assessment has changed is that I have integrated it more systematically into my daily teaching practices. Before I knew what it was. I provided feedback to my students, I made observations, but my feedback was not specific enough and my observations
were not noted. Now I realize that my feedback can be more meaningful to my students if it is specific, and that if I note my observations of students' reading progress I am more likely to do something with this information.

2. Describe the formative assessment practice(s) you experimented with during the project. Remember to describe this in a way that someone who wasn't part of this project would understand what you did and why you did it. Include specific examples and detailed descriptions.

I wanted to become more aware of my own use of formative assessment in my classroom. During weekly reading assessments I began to make notes of students progress. I tried to make my notes very specific (ex. Student had trouble with /sh/ sound today). I also took that individual student time to reteach & make the student aware of what they needed to work on to become better readers. Next, I tried to involve the students with that progress by filling out weekly progress cards for each student & sending it home for their parents to see. This card would have a reading strength & a reading goal on it. After I "caught" the student working on his goal 5 times he would "master" his goal & get a new one.

3. What have you learned from the experimentation you described in #2? If possible, please describe your learning in relation to the following two outcomes:

a.) Describe what you learned about your students (i.e., changes in their dispositions or achievement). Provide specific examples and details.

I have found that certain students were motivated to monitor their own progress, while others were not. I found that I have a few younger students that kept their goals in-mind, but my older students were much more involved in the process. They reminded me to tally when they worked towards their goal. They got excited when they met those goals. Using the progress cards with them seemed effective.

My younger students did not respond as well to the progress cards. They did however, respond to the specific feedback that I would give them during those weekly assessments. [This note describes developmental differences in response to formative assessment strategies. The researchers’ notes 5/24 corroborates that Teacher #4 reported this difference.]

b.) Describe what you learned about yourself as a teacher, again providing specific examples and details.

I have learned that my use of formative assessment can be a powerful tool to help my students make reading progress. I have also learned that if I want my instruction to be more effective that I need to keep notations of student progress. I need to review these notations on a consistent basis, and then make observations of my students with these thoughts in-mind. And because formative assessment is done on an on-going basis, I need to take notes regularly, not just on the days that I do my more formal assessments (a thought for next year)!

During a formal classroom observation (5/23/06) it was noted that, prior to being assessed on oral reading fluency, students reviewed their personal reading goals (EX: “When I don’t know a word I will sound it out.”). Following each oral reading assessment, students were asked to compare their performance to the established goal.

Researchers’ end-of-year (5/24/06) notes report that at end of year, Teacher #4 reported she still made notes but didn’t have time for the cards with the end-of-year activities.
**Case Study – Teacher #5**

*Teacher #5* is new to the district this year, but spent 5+ years as a Title 1 Reading Specialist in the [Name] School District. Her assignment is split between K Elementary [where she works with grades 4-6] and [Name] Catholic School [where she works with grades 1-3]. Both schools are very small (less than 30 per grade level) with one or two teachers at every grade level. Although I’ve only worked with Amanda since the beginning of the school year, she has demonstrated that she is very solid in her instructional practices and is very knowledgeable in the area of assessment. Amanda is providing in-class, pull-out and one-on-one remedial instruction to students in grades 4-6.

She notes (1/6/06 posting) her initial area of concern:

“As reading specialists we do a great deal of assessing. We do share this data with the classroom teachers. My area of concern is that I question if this assessment information is being used by the classroom teachers [these would be grades 4-6 teachers] to provide effective differentiated instruction within their learning environment. I know that I use these assessment results as valuable information which play a huge part in the overall focus of my teaching lessons. I tend to work with the children that are struggling in reading. I know that I differentiate my instruction to make these children feel successive when working with me. However, is the classroom teacher doing the same for these children when they are in the classroom setting? What about the other children in the classroom? How are their learning opportunities being enriched.

When I visit the regular classrooms I tend to do whole class lesson that teach the children what I feel to be very useful and effective concept lessons pertaining to a particular skill or strategies. I also do a great deal with writing. My ideas for concept lessons are usually gathered from assessment data. I feel that these lessons all included useful information that can be applied to many of the other content areas. However, when I leave the classroom are these strategies and techniques continually used by the children? Are they being modeled and reinforced by the classroom teacher?

I am under the assumption that often when I am doing a class lesson the teachers become very territorial. I feel that I am invading their space. This is not my goal. My goal is to teach lessons that will benefit the children in that classroom and introduce the classroom teacher to a technique or strategy that he/she might not be familiar with. I am not their to supplant the teacher, observe them secretly for the principal, or to make them feel that I know more they do. I view myself as a resource person and I am will to work as a team. My ultimate goal is to provide effective instruction to meet the needs of the children in the classroom. Age and years of experience also play a big part. Those that have taught twenty plus years often question why someone who has taught ten years is trying to teach them something new. They feel it should be the other way around. I have learned many wonderful things from my fellow "seasoned" educators. I would hope that they would feel the same way about me. “

The Title I supervisor (3/10/06) said that Teacher #4 had real troubles with her teachers – it’s not “her being arrogant” as one might read this post. Another researcher (3/10/06) noted Teacher #5 said: “My teachers just don’t understand what formative assessment is – how do I communicate with them without insulting them?” The Title I supervisor seemed to indicate that the problem (and teacher resistance) was real and particular to K Elementary School. Teachers used tests as “good or bad” and not as information on “what did I do.”

By her 2/27/06 posting, Teacher #5 had refined her statement of her area of concern:

“I am not sure that all educators are aware of the difference between formative and summative assessment. I am attempting to identify which teachers I work with that are aware of these two forms
of assessment. For those teachers that actually use formative assessment in their classrooms, to what extent do they use this type of assessment? How do they interpret the data that they are collecting? How does this interpretation effect the children in their classrooms. Is their instruction being modified to reflect the needs of the students? What key does differentiated instruction play?

**What assumptions are you working on?**

I assume that their are teachers that are not using formative assessment. Could this be an accurate assumption? I assume that if these teachers were aware of the use of this form of assessment they could better address the needs of the children in their classrooms. I assume that the children would benefit both academically and instructionally. I assume that differentiated instruction would be beneficial if it was implemented correctly. Is it also safe to assume that all teachers are aware of differentiated instruction and how to implement it effectively?

**How is your learning connecting to your practice?**

When I visit each of the classrooms of the teachers that I work with I am constantly making observations of what instructional methods are being used in the classroom. I also do a lot of "in-class" lessons. How can I help these teachers to better understand formative assessment and the benefits of its use for the children they teach?"

A researcher noted (2/3/06): “Teacher #5 reported she went in a class to teach – did a successful lesson on point of view (kids could point out first and third person pronouns) – kids heard their regular teacher say “These kids of mine aren’t writers” and then she left the room. Amanda says even the worst behaved kids pay great attention to Amanda’s concept lessons, and students go to her for other help.” This anecdote supports Teacher #5’s assessment that the teachers she worked with were not very “formative” in their approach to their students.

*Unfortunately, Teacher #5’s agenda stalled at this point, except for one teacher (see 5/24/06 posting below). Her 3/10/06 posting sounds a lot like the previous one:*  

**What is your area of concern?**

I first thought that teachers were not aware of the difference between formative and summative assessment. I was not sure if they perhaps knew what formative assessment was but just didn't value this type of assessment. I am now concerned that they just don't understand formative assessment.

**What learning agenda(s) are you pursuing and why?**

How can I convey the importance of the use of formative assessment to the "seasoned" group of teachers that I work with. They have the mind set of doing what they have always done according to the manual........nothing additional. In what manner could I explain formative assessment and how it works without insulting them? I know that it is a valuable tool to be using in the classroom setting that benefits the students. How do I successfully convey this message?

**What assumptions are you working on (revealing, challenging, supporting, refuting)?**

I am under the assumption that the teachers I work with do not understand formative assessment. I want to reveal to the teachers that I work with the importance of the use of both formative and summative assessment. I would like to show them how they could use these assessments to benefit the students in their classrooms.

**How is your learning connecting to your practice?**
I am hoping to learn ways that I can model the use of formative assessment for the teachers I work with. My goal would be for them to be willing to try to use this form of assessment.

**And finally, Teacher #5’s 5/24/06 posting:**

1. **What is your current understanding of the term "formative assessment" in the classroom? How (if at all) has that changed during this project? Please provide specific examples throughout.**

   Formative assessment involves both teachers and the students they teach. This type of assessment focuses on identified learning goals. The teacher serves as the model for the students as he/she explains the learning objective being addressed. The goal is for the students to eventually take ownership of this objective as they approach the targeted learning outcome. Students learn how to monitor their performance through the use of their developing metacognitive skills. They are learning how the actually learn, thus applying it to all of their learning experiences. In addition, formative assessment is used before instruction begins to determine the current instructional level of the students and throughout the instruction for progress monitoring of the students. These assessments are not used for grading. These assessments help to identify areas that students need to improve on and provides direction for the students as to how to remedy these areas of need. The student feedback is positive and provides motivation for the students to take ownership of their learning.

2. **Describe the formative assessment practice(s) you experimented with during the project. Remember to describe this in a way that someone who wasn't part of this project would understand what you did and why you did it. Include specific examples and detailed descriptions.**

   At the beginning of this project I entered the classroom of one of the teachers that I work with in order to observe the types of formative assessment that were actually being used within this particular learning environment. For example, I looked for the use of various informal assessments. I looked to see if the teacher observed the students while they were working. I wanted to see if the teacher took notice of any I looked to see if various discussion or questioning techniques were being implemented. Also, I wanted to see how the instruction was being differentiated. I was unable to see any evidence of the use of formative assessment. I concluded that the teacher was not sure as to exactly what this form of assessment is and how it is used in the classroom environment. My goal was to somehow introduce the use of formative assessment without the teacher feeling that I was telling her how to teach. I shared a copy of the DRAFT written about Formative Assessment Action Tools with this teacher. This seemed to helped this teacher to understand this process. She was then open to experimentation with this assessment process. Once the experimentation process started I feel that she became more receptive to this assessment process.

   [This anecdote shows the awareness theme found in the other teachers’ experiences, even for a regular (non-study, non-Title I) teacher.]

Researchers noted (5/24/06): Teacher #5 said, “I didn’t gear to one kid – I geared to the teachers I worked with… one of the teachers started to understand what it was, built groups – she seems to be now, even if I’m not there, differentiating groups. If kids are having a hard time, she stops. I have to sell it… I sold the strategy as it’s benefiting the kids…I’m hoping word of mouth and networking [among teachers will get more to use FA].”
Case Study – Teacher #6

Teacher #6 is a Title 1 Reading Specialist at E Elementary School. E Elementary is unique in that it houses 220+ first grade students for the {name} attendance area—Teacher #6 works with all 7 first grade teachers in the building. Teacher #6 came to the district after several years in the Philadelphia school system where she served as an elementary teacher. While in Philadelphia, she received training on the Four Blocks literacy model and uses a number of those techniques in her teaching today. Teacher #6 provides both in-class and pull-out support and serves as an outstanding model for the regular classroom instructors. Teacher #6 is very adept at using assessment to drive instruction and maintains extensive records of her students’ performance. She recently completed a Masters program in literacy and has expressed an interest in pursuing graduate work in the area of testing and assessment.

Teacher #6 approached the formative assessment project more like a “research” project than a professional development project for herself. Her initial “areas of concern” were more like “research questions.” What she ended up pursuing mostly was to try to develop an observation instrument that could measure formative assessment practices in the classroom. She herself did begin to use formative assessment, and got very excited about it. However, most of her own writing was about her “research.” Her own development in formative assessment was only evident from the discussions, not her postings.

Teacher #6’s 1/6/06 posting:
—What is your area of concern?

What are the conditions of learning for formative assessment to take place and be effective?

—What learning agenda(s) are you pursuing and why?

1. I want to find out how much formative assessment takes place in different classrooms with hosts of various teaching styles.

2. I want to find out how the teacher processes the information (formative assessment) and the depth at which they process it in the amount of time it takes to translate an outcome to relay to the students. [Teacher #6 didn’t really get to this by the end of the year. She ended up working on #3 below.]

3. I would like to find out if there is a measure or observation tool available to measure and determine the amount of formative assessment and the quality of feedback, respectively, in a classroom. If there is, I would like to try it in several classrooms and compare the results. If there is not a tool available, I would like to work on creating one.

—What assumptions are you working on (revealing, challenging, supporting, refuting)?

1. I assume that all teachers have a different teaching style.

2. I assume that some teaching styles are better or "more effective" than others.

3. I assume that when teachers provide productive responses to formative assessment, the students will benefit instructionally and perform better academically.
I currently spend 1/2 of my day providing an "in-class" model for the classroom teachers in my building. Therefore, I travel in and out of 8 different classrooms several times weekly and I witness a vast difference in instructional techniques. I would now like to explore what I think I already know about each of the classrooms by looking at how formative assessment is used and the amount in which it is used in these classrooms."

By the middle of the project, Teacher #6 had focused on trying to develop an instrument.

3/9/06 posting: —What is your area of concern?

I am still looking at how formative assessment is being used in the classrooms, how frequently it occurs, and the best environments for it to flourish.

—What learning agenda(s) are you pursuing and why?

As I continue working in a variety of classrooms with many different styles present, I have begun to analyze the use of formative assessment through the observation tools that were provided. Also, I am now looking at individual students and the effect of formative assessment (or lack of). I am pursuing these subjects because I did some reading from the recommended articles on "teaching styles" and the learning that occurs in various classrooms. This is of great interest to me. However, even after using the observation tools that were given for me to try, I still am looking for something different. More along the lines of a time checklist. It would almost be like a student's "time on task" observation form, but would reflect the teacher's "formative assessment techniques". I would then be able to compare and calculate time used for formative assessment vs. type of formative assessment used. This still would not address it's effectiveness, but with a little more thought, I think another tool could either be created or tested for this purpose.

—What assumptions are you working on (revealing, challenging, supporting, refuting)?

I am assuming that students whose teachers are providing formative assessment feedback will be performing higher than those who are not receiving it. I hope to support my assumptions by trying a newly created tool.

[Teacher #6 sounds a little judgmental but in her own teaching she experimented successfully with formative assessment, too – see below – again her writing voice is more that of a “researcher” than someone experiencing professional development. On 2/3/06, all three researchers noted: Teacher #6 was horrified to hear in the hall a teacher say, “I’m not going to go over these tests with you because I’ve already made the corrections on them.” She concluded, “It’s eye-opening how critical formative assessment is.”]

—How is your learning connecting to your practice (e.g., are you making observations, are you trying new ideas, are you challenging previously held assumptions, are you viewing your practice in new or unique ways)?

I have become SO aware of formative assessment and I never paid much attention to it before. As I am in-class with other classroom teachers, I am making so many mental notes. I am hoping that I will
become a better educator as a result of this interest. Also, watching other teachers and filling out the forms helps me to "learn from them" and correct and apply them in my own teaching.

Teacher #6 stuck with her plan of trying to identify, then measure, formative assessment practices and then link them to student achievement – a very ambitious “research agenda” that she was not to accomplish during the year. Her mid-project (3/10/06) posting read as follows:

—What is your area of concern?

I am looking at how frequently formative assessment is being used in various classrooms and the students at which the feedback is being directed to. I am concerned with the results and want to discover the impact on academic achievement.

—What learning agenda(s) are you pursuing and why?

I am going to pursue continued observations and comparisons of times and students receiving formative assessment through my newly created tool. Then, I want to tighten it up and display a way to measure the type of and quality of formative assessment being used.

—What assumptions are you working on (revealing, challenging, supporting, refuting)?

I believe that student achievement would be higher in those who receive a lot of formative assessment feedback. However, when I used my tool, the teacher directed 67% of their (quality) feedback on one particular student who is the most academically needy in the class. This student is still performing very poorly on summative assessments. But, the student has increased dramatically since coming into this teacher's class at the beginning of the school year. Now, I am thinking that I should use the child's growth—not grades or benchmark assessments—to measure with my tool.

[This is an interesting observation Teacher #6 made about self-referenced assessment going better with formative assessment than criterion-referenced assessment. Researchers’s notes (3/10/06) corroborate this statement.]

—How is your learning connecting to your practice (e.g., are you making observations, are you trying new ideas, are you challenging previously held assumptions, are you viewing your practice in new or unique ways)?

This topic is really starting to fascinate me. I am becoming motivated to take apart the pieces involved in formative assessment and compare it. I have also gained so much from observing the other teachers who are involved in this research project. Just listening to all the new ideas they have tried and how it impacts the students (regarding formative assessment), gives me so many things I plan on using in my classroom.

Teacher #6 ran into trouble devising an observation tool because it was difficult to specify what to observe (what counts as an instance of “formative assessment” when observed?). Her 3/29/06 posting read: “I am having difficulty finding the rationale and data to support this observation tool. Does anyone know where I can find additional information about this? Since I am using the idea from that tool for my formative assessment measurement tool, I need to know more about this. Thank you.”

CASTL TR 1-07
During a formal classroom observation (4/25/06) Teacher #6 facilitated a process by which students were able to read at their own pace and chart their own progress within the context of whole group instruction. Using a metronome, she demonstrated what is meant by oral reading fluency. She and the classroom teacher then checked for fluency and decoding skills as children conferenced and read aloud.

Her 5/24/06 posting reflected this search for a “list” of what constitutes formative assessment: “My working definition of formative assessment—the information gathered and reported for use in the development of knowledge and skills. (information for improvement = formative assessment)

Examples of formative assessment:
-redirection
-reminder
-specific positive reinforcement
-establishing a "useful" purpose for doing something
-questioning
-modeling
-written feedback (underwriting) (Teacher #4’s Read Well Post Cards)

I still want to come up with descriptions of quality criteria and a brief code for representation. Also, I want to come up with observable student responses and whether it demonstrates effective feedback or ineffective feedback.

1. What is your current understanding of the term "formative assessment" in the classroom? How (if at all) has that changed during this project? Please provide specific examples throughout.

The term formative assessment was kind of abstract to me when I first began this project. Now, I find myself concentrating and reflecting on how I use formative assessment in each of my lessons. I try to focus on giving feedback. I guess I kind of always did, but it wasn't until recently that I became aware making it more directed and child specific for a certain purpose. I have discovered that formative assessment can be practiced in most all lessons in one format or another. [Here is the awareness theme again, illustrating that despite her declared intention to “research” the practices of others, she had grown in formative assessment as well.]

2. Describe the formative assessment practice(s) you experimented with during the project. Remember to describe this in a way that someone who wasn't part of this project would understand what you did and why you did it. Include specific examples and detailed descriptions.

I attempted to devise a tool that would permit formative assessment to be measured in a classroom lesson for a select time period. I then wanted to monitor the effects of and the quality of the feedback on the students which it was directed towards. I also experimented with different kinds of formative assessment. For example, when I introduced writing workshop to the classroom which I service, I set up a format which would promote formative feedback for the teachers to use when conferencing with the students. I did this to make sure that all students knew what their strengths were and what specifically I wanted them to work on for next time.

3. What have you learned from the experimentation you described in #2? If possible, please describe your learning in relation to the following two outcomes:
a.) Describe what you learned about your students (i.e., changes in their dispositions or achievement). Provide specific examples and details.

When I tried testing and using this tool I attempted to create, I noticed that many times, students were not receiving feedback that could be used to improve a skill. They tended not to pay much attention to the content being offered. When I designed a lesson to be implemented into that classroom that would allow for formative assessment, the students had a reason to listen and something to practice applying. It gave them purpose and everyone seemed more on task during the lesson. I was never ultimately able to fully research and adapt my tool to meet my needs, but I did notice greater achievement when the students had something to focus on improving.

[Two researchers noted, (5/24/06): Teacher #6, in response to another in the group, said “I was thinking the same thing. I’m more aware of it [formative assessment] and I can share it with others and have more of an impact. I wanted to monitor the effects of the quality of feedback on students…I noticed differences in students when I changed lessons over to formative assessment – students were less off task and more engaged.”]

b.) Describe what you learned about yourself as a teacher, again providing specific examples and details.

I learned that formative assessment should occur naturally throughout the student day. However, in many cases, I found that it did not in various classroom settings. I found out that formative assessment happens "mentally" and formative feedback is given to the students "orally or written". I try to practice both. I enjoy making forms that provide students with formative feedback, but I would like a more concrete and specific (yet quick and easy) way to maintain my mental records as documentable items. I think for the upcoming school year I will plan on promoting formative assessment and feedback in all of the classrooms I am involved with. Formative feedback and assessment is the center piece of teaching and cannot be left out of the instructional day.