Assessment: Formative Assessment
Summative Assessment
Instructional Strategies

When we visit doctors, they assess our health to determine the extent to which we are healthy and to help us modify habits and medication to optimize our health. Teachers do the same with their students: constantly assessing what students know so that they can intervene in their learning. Ideally, every student masters every skill, every bit of knowledge, the first time it’s taught.

Realistically, different student learn information at different rates, or they develop different understandings as set of skills and procedures are introduced. Teachers assess this learning to find the extent to which the student has learned, what misunderstandings the student might have, and what sort of interventions might be required to help the student master the desired content.
Formative Assessment

Mission

To use a variety of formative assessment strategies to determine the extent to which students have achieved a particular standard during the learning process and to respond accordingly.

First Impressions

- How do I know if my students “get it?”
- What strategies can I use to formatively assess student learning?
- At what points in my lesson plans might I incorporate formative assessments?
- How might formative assessment results shape my instruction?
If summative assessments are autopsy reports--evidence of what has already, irrevocably happened--then formative assessments are diagnoses. They tell a teacher which students have met a particular goal or target and which have not. Just as a doctor responds to a medical diagnosis by prescribing a change in lifestyle or medication, a teacher responds to a formative assessment by adjusting instruction to meet the needs of the class or individual students, clearing up confusion, reteaching concepts, increasing the rate of instruction, or challenging students with more complex tasks. Whatever shape they take, formative assessment should be a regular part of every teacher’s instructional planning.
Teachers can choose from a range of formative assessment strategies to find out where their students are. To put the value of formative assessments into context, consider a few strategies that don’t adequately assess students’ readiness to proceed with instruction:

- Saying, “Got it?”

- Asking a question and basing class understanding on the response of a single student.

- Assuming they got it because you taught it, and they looked like they were listening.

As obvious as these non-examples might seem, they are common. They are also easily replaced with a more effective process. Formative assessment really begins with understanding the objective of your lesson and breaking it down to a few basic targets.

For example, if students are learning to solve for x in algebra, their targets might be:

- I can isolate the variable.

- I can use inverse operations.
Or if their objective is to write well-developed paragraphs, their targets might be:

- I can identify a main idea.
- I can select evidence/details to support a main idea.
- I can elaborate on information in a paragraph.

These targets are the ones we need in order to formatively assess where students are in their mastery of the overall objective. We can think about these assessments in two ways: self-reporting and teacher directed.
**Take a Look**

**Self Assessment**

Students are typically able to assess their own learning with some accuracy, but they don’t necessarily offer that information willingly. When the teacher instructs students to raise their hands if they have a question, the likely response is silence. The key, then, is to find more effective strategies for encouraging self-reporting.

**Thumbs:** Ask students to indicate if they are confused (thumbs down), need some more help (thumbs level), or ready to move on (thumbs up).

**Help Cards:** Have students keep a index card on their desk. If they are working (solving problems, completing an activity, reading or writing) and find themselves confused or stuck, they can flip the card over to reveal the word “Help” (or some other distinguishing mark).

**Self Evaluation Rubric:** Ask students to assess the quality of their own work using the same rubric you might use to assess them.

**Digital Surveys:** Using one of the tech tools described here, ask students a multiple choice question: a. Got it, b. Need practice, c. Help!
Teacher Assessment

While self-reporting allows teachers to quickly adapt the pace of their lessons according to student learning during the course of instruction, teachers can learn a bit more from other types of formative assessment. Here are a few more options for teacher-directed assessments:

**Signs up**: Give students mini whiteboards (the cheap version is to laminate $\frac{1}{2}$ of a manilla folder). Have them answer a question or perform a procedure (like editing a sentence or solving an equation) and hold it up on the count of three. This strategy allows the teacher to determine which students “get it.”

**Exit Slips**: Have students report their learning on an exit slip, or exit ticket, and hand it to you on their way out the door. On it they might explain a concept, make a list, solve a problem, or apply a strategy. This ticket shapes your follow up and review for the next lesson. One variation of the exit slip is **3, 2, 1**, on which students write three facts or ideas they learned, two connections they made, and one question they have.

**Draw it**: Ask students to create a visual representation of their understanding. These drawings might be comics, graphic organizers, or other visuals that help convey conceptual or procedural understanding. Students should also write a few sentences explaining their drawing.

**Quizzes**: Give students quizzes. These quizzes don’t necessarily have to count toward the students’ grades. They should be quick and simple, and they should help the teacher answer the questions, “Do they get it?” and “Who needs help or practice?” Check out some of the technology tools that make this sort of quizzing easy.

Check out this list of strategies compiled by OCPS Curriculum Services for ideas that might work for you.

**Tech Tools**

Technology is at its best when it makes life easy. Formative assessment becomes quick and simple with these technologies, all of which facilitate data collection about the whole class and individual students.

**Edmodo**: Essentially a classroom version of Facebook, Edmodo offers posting features, where students can all reply to a common question; polls, which allow teachers to assess whole-class learning or comfort with a single question; and multiple-choice quizzes.
**Socrative:** A multiple-format tool that allows teachers to create a digital “classroom,” share questions with students, and have them respond via computer, smart phone, or iPad.

**Poll Everywhere:** Best for single-question quizzes and self-reporting, Poll Everywhere is a quick and easy way to have student text responses to short answer and multiple choice questions.

**Clickers:** Made by Smart, eInstruction, Mimio, and several other tech companies, these devices allow students to electronically submit responses to questions. Less-expensive systems offer multiple choice assessments; more expensive options offer short answer responses. These systems typically integrate with software that facilitates delivery, reporting, and even integration into presentation softwares like Smart Notebook and PowerPoint.
Hot Links

Video of Formative Assessment Using the U P S Strategy

Formative Assessment: Improving Learning in Secondary Classrooms

Why Formative Assessments Matter

Formative Assessment: Bridging the Research - Practice Divide

Examples of Formative Assessment

What is Formative Assessment?
In a traditional classroom, a teacher disseminates information and asks his or her students to take notes and do practice problems. After a few topics, the teacher gives a quiz and discovers that half of the class did not understand the concept. How could the teacher evaluate the understanding of the students before a formal assessment is given?

Using formative assessment allows you to monitor student learning and adjust your teaching strategies as needed. It provides you with the opportunity to clear up misconceptions that develop as new material is presented. It also provides clues regarding needs for differentiated instruction.
Watch this video and evaluate what various strategies are used to evaluate student learning.

What were some formative assessment strategies demonstrated in the video?

In what ways, did these strategies affect future instruction?

How could you use at least one of these strategies in a lesson in your classroom?

How does the teacher know mastery has taken place?

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**Web link 1.1** Formative Assessment in the High School Classroom

Check out this video from Hatboro-Horsham School District and answer a few questions about how the teachers used formative assessment in their classrooms.
Review

• Use any time during the lesson.
• Select clear learning targets.
• Vary the types of formative assessment used.
• Use assessments to monitor student learning.
• Use results to identify students who need help, need practice, or need to move forward.
• Use the knowledge gained through formative assessment to provide students with alternative learning resources when necessary.
Section 4
Resources


Garrison, C., & Ehringhaus, M. *Formative and summative assessments in the classroom*. Westerville, OH: Association for Middle Level Education.


Instructional Strategies

First Impressions

- What do I need to consider when planning assessment strategies?

- When should I consider using summative assessments in my lesson plans?

- Are there specific summative assessment required for the course(s) I teach?

- How do I make sure my students understand why particular assessment strategies are chosen?

Summative Assessment

Mission

To determine the extent to which students have acquired essential knowledge and skills for a particular unit of study.
1. Identify planning considerations for the use of assessment strategies meeting the needs of diverse learners.

2. Justify why specific summative assessment strategies are selected in lesson plans.

3. Articulate the purpose of the selected assessment strategy and describe ways students are informed of the purpose.
Summative assessment, which typically follows instruction, is used to determine how much students have learned at a particular point in time in order to report that status to others. Teachers use the data gathered to plan for future instruction, and administrators use the data for decision-making purposes.

Summative assessment is used to determine final achievement for assigning grades or certifying mastery. It is an assessment of learning, typically requiring a minimum of 20 minutes to complete.
Take a Look

How do you use higher order questioning effectively?

**Identify purpose of assessment.** As a teacher, you must understand the clear purpose of why you need to assess, who will use the results, and what will be done with the results.

**Select clear learning targets.** When planning your lesson, you must choose learning targets that are focused on the most important concepts students need to learn and be able to do. These learning targets emerge from the curriculum standards that you are responsible for at your grade level, as well as the specific learning needs of diverse students. Having clear targets will enable you to select a summative assessment technique that yields clear results during or after instruction.

**Consider communication.** When assessing student learning, the quality of the feedback rather than its existence or absence is what determines its power. The feedback needs to be specific, focused on progress, and indicative of corrective action. *(Bangert-Downs, Kulik, Kulik, & Morgan, 1991; Sadler, 1989).*

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<td><strong>Users of Results</strong></td>
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Hot Links

Writing and reviewing assessment items: Guidelines and tips

Technology-based classroom assessments: alternatives to testing
Summative assessment has many forms: quizzes, unit or chapter tests, end-of-term exams, benchmark or interim assessments, and state-mandated examinations. Summative assessments are used as accountability for students, teachers and schools. A teacher must understand the goals and objectives of the end result before developing lessons for teaching.

The assessment in the next column is a question on a summative assessment for an interior design course:

What objectives might this question assess?

How will the teacher know if the student has mastered the content?

In what ways is this an effective summative assessment question? In what ways might it be improved?
Study the room pictured and answer the following questions.

1. How does the room apply the principles of design (balance, gradation, repetition, contrast, unity, harmony, dominance)?

2. What changes might you make to this room to improve upon any one of those principles?
Review

Summative assessments are used...

- at the closure of a lesson.
- to collect data.
- to refine and differentiate instruction.
- to motivate students.


Garrison, C., & Ehringhaus, M. *Formative and summative assessments in the classroom.* Westerville, OH: Association for Middle Level Education.


Career & Technical Education

Instructional Strategies

Subject Specific
Formative and Summative assessment is the process of gathering data about student learning. According to Hanna & Dettmer, (2004) assessment allows instructors to gather data about their teaching and their students’ learning. Formative assessment is most often used in the context of “practice” to help both student and teacher determine how effectively students have learned the targeted learning outcomes. Whereas summative assessment takes place after the learning has been completed and provides information and feedback that sums up the entire course or year of teaching and learning. The Career and Technical Education program offers several assessment products that teachers can incorporate into their curriculum to assess student learning. In addition the CTE curriculum provides opportunities for students to take tests to gain software certifications.
Exploration

Using [Browzine](http://browzine.com) or [ECU OneSearch](http://onesearch.eastern.edu) please find and read an article dealing with one of the following topics:

- Formative Assessment
- Summative Assessment
- CTE Certification

Reading this article will prepare you for viewing the instructional strategy that deals with formative or summative assessment.
CTE Applications

Now that you have completed the exploration portion of the module we will examine how the use of assessment might look in CTE classrooms. The CTE Applications section will provide the context for the lesson, lesson agenda, the individual video segments you will watch, the expanded lesson plan, and a student work sample. Following the CTE Applications section, you will be required to complete reflection activities.

Context for Learning

Teacher: Mr. Kurt Garner

Course: Microsoft IT Academy – Excel and Access (Honors)

Students typically have completed Microsoft IT academy Word and PowerPoint before this class but these courses are not prerequisites.

Modifications: This class has no students with special needs.
D H Conley High School Information

School location:
2006 WORTHINGTON RD
GREENVILLE, NC 27858
(252) 756-3440

School district:
PITT COUNTY SCHOOLS

This high school has a total enrollment of 1413 students with approximately 84 full-time teachers. It has a student to teacher ratio of about 17 students per teacher. The average student-teacher ratio for Pitt County is 15 to 1.

Enrollment by Grade Level

- 9th Grade Students: 448
- 10th Grade Students: 361
- 11th Grade Students: 328
- 12th Grade Students: 276

Total students: 1,413
Total Full-time teachers: 83.9
Student / Teacher Ratio: 17:1

Students eligible for free lunch: 317 (22%)
Students eligible for reduced lunch: 48 (3%)
Lesson Agenda

A lesson agenda is a brief synopsis of a lesson plan that may be submitted to administration.

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<td><strong>Objectives</strong></td>
<td>1.00 Apply Basic Spreadsheet software skills using Microsoft Excel.</td>
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<tr>
<td><strong>Materials</strong></td>
<td>Microsoft Access, MSITA resources from Moodle</td>
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<td><strong>Activities/Agenda</strong></td>
<td>Students will complete a simulated excel certification exam in preparation of their certification exam. After 50 minutes teacher will show students how to complete the exercises correctly. (Teacher will note which students have problems with which problems during the simulated exam or those that receive help and teacher will ask those students to complete those specific questions when reviewing the correct way.)</td>
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<td><strong>Evaluation</strong></td>
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Video Segment

Prior to watching the video segment if you are unsure of summative assessment please click on the link.

As you prepare to watch the video on summative assessment think about how the teacher is providing instruction and direction for students to set the stage for the lesson.

Think about how the teacher prepares the lesson taking into account students prior academic learning and personal/cultural/community background to support learning.

Did the teacher use learning objectives and examples to lead students to make clear and consistent connections to the subject matter?

Additionally, think about what your response would be to the following questions.

- What do you think will happen in the video segment?
- Do you think instruction will be teacher centered or student centered?
- Do you think students will be engaged with the lesson?

Now watch the video.
This is an example of an expanded lesson plan that accompanies the video that you just reviewed. Teacher candidates at ECU are expected to create a similarly constructed expanded lesson plan for the edTPA.

Lesson By: Kurt Garner

Lesson based on the research: Revised Bloom’s Taxonomy present in A Taxonomy for Learning, Teaching and Assessing; A Revision of Bloom’s Taxonomy of Education Objectives

Lesson Title: Review and practice for Excel Certification Exam.

Grade level for the lesson: 9th-12th grade

Essential Standards Curriculum (Subject) Area(s): Microsoft IT Academy – Excel and Access

Essential Standard Statement and Number: BM20 1.00 Understand basic, intermediate and advanced spreadsheet software skills using Microsoft Excel.

Essential Standard Clarifying Objective Statement and Number:

BM20 1.01 Understand how to manage the worksheet environment in Excel.
BM20 1.02 Understand how to create cell data in Excel.
BM20 1.03 Understand how to format cells and worksheets in Excel.
BM20 1.04 Understand how to manage worksheets and workbooks in Excel.
BM20 1.05 Understand formulas and functions in Excel.
BM20 1.06 Understand how to present data visually in Excel.
BM20 1.07 Understand how to share worksheet data with other users in Excel.
BM20 1.08 Understand how to analyze and organize data in Excel.
**Baseline Data:** This class is an honors level course. Students typically have completed Microsoft IT Academy Word and PowerPoint before this class but it is not necessary. This class has no students with special needs.

**Materials:** Moodle PLC Worksheet, Computer LCD projector, LAN school Classroom management software, Microsoft Excel 2010, online timer.

**Lesson Objective:** After the lesson, students will be able to:

1. Complete all tasks required of them to become industry certified in Microsoft Excel.

**Assessment Strategy:** Students will be given a practice certification exam to assess their ability to complete all Excel concepts learned thus far in the course. The following day students will complete the actual certification test and must receive a 700 out of 1000 to become certified.

**Focus/Review:** Students will complete a timed practice certification exam for Excel.

**Statement of Objective:** Today, we are going to complete a practice certification exam to prepare you for the actual certification exam tomorrow.

**Academic Language:**

Certiport: Testing organization that delivers industry tests

Microsoft Certification: A program that allows individuals to become certified in various Microsoft programs through the completion of a performance assessment.

**Teacher Input:**

Teacher will explain the testing procedure for tomorrow. Students will complete a simulated excel certification exam in preparation of their certification exam. After 50 minutes teacher will show students how to complete the exercises correctly. Teacher will note which students have problems with which tasks during the simulated exam or those that receive help and teacher will ask those students to complete those specific questions when reviewing the correct way.
Teacher Input Continued:

Briefly review topics from the previous days practice that students had trouble with:

1. Inspect spreadsheet and backstage view
2. Conditional Formatting
   i. Data Bars
   ii. Sparklines

Guided Practice:

1. Students will be called upon to complete various questions on the practice certification exam in front of the class after they complete the independent practice.

Independent Practice:

Monitor students as they complete Excel Certification Practice Simulation 2 Independent Practice DataFile

Closure: Review testing procedures for tomorrow and how to study tonight for test.

Modifications if any: None

Works Cited


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**Independent Practice Instructions**

**Excel 2010 Certification Simulation 2**

Directions: Open the Certification Simulation #2 spreadsheet from the shared folder and perform the following tasks.

1.) Rename the sheet Payroll and recolor the tab to be Red, Accent 2, Darker 25%.
2.) Merge and center the title over the entire spreadsheet.
3.) Insert the current date function in A2. Merge and center the date over the entire spreadsheet.
4.) Edit the function in H9 using order of evaluation to produce an accurate result.
5.) Use AutoFill options to copy the formatting of cell A5 on cells A6:A30.
6.) Insert a comment on cell L4 to read “Based on the week of February 21st. Delete All Comments from columns I and K.
7.) Create a copy of the Payroll sheet and place it...
### Payroll for XYZ Distributing

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|    | Total |      | $14,946.00 | $1,458.75    | $16,404.75  | $630.95   |

Averages: $15.54, $23.31, 41.06
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**Total**
- Regular Pay: $14,946.00
- Overtime Pay: $1,458.75
- Gross Pay: $16,404.75
- FICA: $630.95
Reflection 1 of 3

Brainstorm how you would use games as assessments. Share your sketch with your instructor by clicking the icon to the right.

---

Reflection 2 of 3

How well do you understand the differences between Formative and Summative Assessment. Click the icon to the right to test your understanding.

---

Reflection 3 of 3

Now that you have completed the CTE Procedural Assessment Module click the link to open TaskStream in your browser. Login to respond to the reflection questions.


### Credits

Development of the ISLES modules was supported financially by the Teacher Quality Partnership grant program of the U.S. Department of Education, Office of Innovation and Improvement.

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**Instructional Strategies**

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89.5

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Creation, development, and editing were provided by the following individuals:

Adu-Gyamfi, Kwaku; Barker, Renea; Berry, Crisianee; Brown, Cindi; Eissing, Jennifer; Finley, Todd; Flinchbaugh, Michael; Garner, Kurt; Guidry, Allen; Harris, Julie; Hodge, Elizabeth; Hutchinson, Ashley; Jenkins, Kristen; Kester, Diane; Knight, Liza; Lewis, Greg; Liu, Yan; Noles, Stephanie; Nunns, Kristen; Passell, Robert; Pearce, Susan; Perkins, Ariel; Phillips, Joy; Phillips-Wagoner, Ashleigh; Ross, Chad; Sawyer, Eric; Smith, Lisa; Smith, Jedediah; Steadman, Shari; Swope, John; Thompson, Tony; Todd, Clinton; Ware, Autumn; Williams, Scott; Zipf, Karen.