# Overview: ​​ Measure of Student Learning Focused on Subject Matter Knowledge

icon of pen in ink jar to represent author **CONTRIBUTOR**

Teacher preparation program at a mid-size private college.

Icon of a document with lines of text and a folded corner**WHAT is this resource?**

This is an example of a completed Measure of Student Learning form based on the optional sample CAP Measure of Student Learning Form provided by DESE.

Icon of a calendar with multiple blocks to represent time **WHEN could this resource be used?**

This resource could be used in the practicum semester, starting in Stage 1 of the CAP process, through pre-test, teaching of a skill, administration of a post-test and analysis of results.

Icon with a group of five people standing together  **WHO could use this resource?**

The **Teacher Candidate**, in coordination with the **Supervising Practitioner** and **Program Supervisor** can use this resource to assist in selecting a measure of student learning of a particular skill together with the framing of questions, analysis and reflection of results.

**icon with a checkmark in a circle HOW could this resource best be used?**

A Measure of Student Learning is a required piece of evidence in the CAP and this sample form provides a scaffold to ensure all elements of this evidence are considered and analyzed. In this particular example, Subject Matter Knowledge (exponents and exponential functions) is the focus of measuring student learning. This is a **sample** form for one Teacher Candidate, specific to their practicum situation. It should be used as a guide only, and its information should not be duplicated for other Teacher Candidates.

***Note:*** *This resource was submitted for inclusion in the Candidate Assessment of Performance (CAP) Resource Hub. It is intended to serve as a reference and source of guidance for others engaged in the CAP process. While it reflects one approach, users should adapt its content to fit the specific context and needs of their own evaluations.*

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## ​​ Measure of Student Learning Focused on Subject Matter Knowledge

**Measure of Student Learning Results**

**Teacher Candidate:** \_\_\_\_\_\_\_\_\_\_\_\_\_

The SP identifies at least one measure of learning, growth, or achievement that assesses a meaningful sample of the content the TC is primarily responsible for teaching. After the assessment is administered, the SP and PS support the TC to analyze and reflect on the data in order to continually improve practice.

**Measure of Student Learning:**

Students were given an 18-question pre-test to assess their knowledge of exponents and exponential functions.

The class average on the pre-test was 47%.

At the end of the unit, students were given the same assessment as the pre-test.

On the post-test, all students scored higher than 90%. This result indicates a high impact rating.

|  |  |
| --- | --- |
| **Impact Rating** | **Parameters** |
| * High | Class average greater than 85% |
| Moderate | Class average between 70 and 85% |
| Low | Class average less than 70% |

**Analyze the results:**

* How did the student learning outcomes (as indicated by the post-test) compare to the student learning gains you anticipated?
* Are there patterns that might indicate why some students made higher or lower gains than expected?

For the pre-test results the class average was 47%, however on the post-test the new class average was 94%. All students received higher than 90%. This was a huge jump in the right direction. The impact rating was high for this test. Students showed great improvement and did better than I expected. Since this is an honors algebra course, I knew the students would be able to pick up on concepts. I expected the average would be around 85%, but I was thrilled to see that students got higher percentages. While analyzing the post-test I noticed that students were able to define the two forms of expressions: radical and exponential. In addition, students did very well on graphing and creating equations which was supposed to be the more difficult problem. I noticed that students have memorized the steps and knew when to use them in a specific order.

**Reflect on practice:**

* What instructional practices may have (negatively and positively) impacted students’ outcomes?
* What adjustments to practice could be made in order to continue to improve student learning?

Some instructional practices that positively impacted students were my guided notes. Students were able to reference these throughout the unit and look at the steps we took to solve each problem. Also, the review games I made were fun for students and got them engaged. One negative aspect that students get aggravated with is the amount of work I assign them. Students would complain that they are tired, but I want to push them to be the best. I want to find a happy medium where they are getting work done but maybe use a different form of practice rather than paper. We started the unit by introducing exponents and their qualities. Such as properties of exponents. I reviewed how to put radicals and exponents in the calculator for students to get the exact value for. Students told me that they had no background knowledge with using calculators for these functions, so it was good to teach them a new skill. After exponents came functions where students would plug in, graph, and create equations. We learned about tables and then read graphs to make our own x and y tables.

**Plan next steps:**

* What are the next steps for making those adjustments to practice?
* What supports are needed to be successful?

All students met proficiency on the test. However, for students who are not satisfied with their grade, I could pull them aside and ask what I can do differently to help them reach their goals. I can ask which ways we take notes are most effective for them and in which ways they prefer practicing the content, whether it's games, worksheets, projects, group work, or study guides. Students prefer to take guided notes as a class. All students learn in different ways, so it is important that I accommodate all students' needs.