Key Licensure Assessment #5: Effect on Student Learning  
AYA Science: EDUC 466  
Overview  
Undergraduate Initial Teacher Preparation Program  
Educator Preparation Unit  
Muskingum University

1. **Description of the Assessment and Its Use in the Program**

The **Effect on Student Learning** assignment serves as an assessment of a candidate’s ability to impact student learning as a result of planning and teaching sequences of lessons at appropriate levels of rigor and inquiry. Pre- and post-assessments serve as the means for determining the degree of impact. The assessment also assesses a candidate’s skills in describing and documenting individual and small- or whole-group student progress. The candidate is charged with carrying out the work of this assessment during student teaching and to then include documentation of the work as a component of the Professional Portfolio at the conclusion of student teaching. The Portfolio is a requirement for the Professional Practices course (EDUC 466); a course that is taken during a three-week period prior to the beginning of student teaching.

*This Key Licensure Assessment #5 is accompanied by Key Program Assessment #8. Both focus on the Effect on Student Learning. One portfolio product is developed for these two assessments, using the directions noted below. The product is then assessed using two different scoring guides – the Key Licensure Assessment is aligned with the standards of the respective specialized professional association (SPA) while the Key Program Assessment is aligned with candidate proficiencies of the conceptual framework.*

To exit the licensure program at Gateway 3, a candidate must complete Key Licensure Assessments #3 - #7 (Ability to Plan Lessons, Student Teaching, Effect on Student Learning, Professional Knowledge and Skills, and Safety Inquiry Activity Project) with at least 80% of the elements of the NSTA standards across the five assessments rated at *meets element* and no element rated *unacceptable*.

2. **Description of How the Assessment Specifically Aligns with the National Science Teachers Association (NSTA) Standards (2010)**

The following elements of the NSTA standards are evaluated through this key licensure assessment.

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<thead>
<tr>
<th>NSTA Element #</th>
<th>NSTA Element Description</th>
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<tr>
<td>5a</td>
<td>Collect, organize, analyze, and reflect on diagnostic, formative, and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.</td>
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<tr>
<td>5b</td>
<td>Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science.</td>
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<tr>
<td>5c</td>
<td>Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.</td>
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3. **The Assessment Instrument**

**Professional Portfolio**

**Effect on Student Learning Assignment Guidelines**

*As you complete the following, refer to the scoring guide for Key Licensure Assessment #5 and the scoring guide for Key Program Assessment #8 to ensure that you include all expectations for this assessment.*

**Purpose of the Assignment:** To provide a structured experience in which you document the impact of your teaching on the P-12 learners in your classroom.

**Directions:**

A. Select a group of students for whom you will document the impact of your teaching over time. For candidates with multiple classes of students, you may select one class of students (the entire class, not just a small group from it). For candidates with similar students across content areas, you may select one of the content areas for which you provide instruction to this group of students. For candidates who only work with small groups of students, the minimum size of the group needs to be five students, unless otherwise approved by your seminar instructor.

B. Complete the Class Environmental Form for this group, noting in narrative format any additional background knowledge and skill variation, differences, or concerns.

C. Determine a unit or sequence of instruction in which you will document student progress, develop the instructional objectives for that unit or sequence of instruction, and establish expected level of performance on those objectives. **Make sure to refer to the scoring guide for Key Licensure Assessment #5 in selecting the unit or sequence of instruction to be taught and assessed.** The unit or sequence of instruction needs to be of sufficient length to be able to:

1) conduct one or more pre-assessments to determine students' current levels of knowledge and/or skills,

2) develop and provide differentiated instruction to build on the students' current levels of knowledge and/or skills,

3) conduct one or more post-assessment to see if instructional objectives were met at the expected level,

4) provide additional instruction to those who have not met the expected level of performance, and

5) conduct a second post-assessment for students who received additional instruction.

D. Determine on which objectives you will develop the pre-assessment. The pre-assessment should be such that you will be able to ANALYZE the work students complete. It should permit error pattern analysis. Develop the pre-assessment and have it approved by your cooperating teacher before administering it to students.
E. Administer the pre-assessment and then develop a chart of the levels of student performance. Develop a one-half to full-page narrative that describes how what you learned from the pre-assessment will be used to develop the lesson plans for your unit or sequence of instruction.

F. Develop the lesson plans for your unit or sequence of instruction and then have the plans approved by your cooperating teacher prior to implementing them.

G. Teach the lessons as planned, making changes as student needs develop.

H. After you have taught the objectives on which you are collecting data, administer the post-assessment. The post-assessment should (1) parallel the pre-test and (2) measure what you have just taught.

I. Analyze post-assessment results, with respect to the entire group, any subgroups for which you differentiated instruction (content, process, or product) or any other identified subgroups, and with respect to individual students. Chart your findings. Develop a narrative that interprets your findings and, unless all students met the initially expected level of performance, develop a plan to re-teach/intervene so that those students who did not meet the expected level of performance have the opportunity to do so.

J. Re-teach and/or provide intervention for those who did not meet the expected level of performance.

K. Administer a second post-test to those students to whom you re-taught the content and/or intervened, chart your findings, and develop a narrative that discusses the progress made, or lack thereof, and what next steps you might take.

L. Develop a graph to display student scores and their progress across the three assessments. Be sure to label all components of the graph.