Key Licensure Assessment #6: Professional Knowledge and Skills  
AYA Science: EDUC 564  
Overview  
Graduate Initial Teacher Preparation Program  
Educator Preparation Unit  
Muskingum University

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

It is expected that secondary school science teachers will identify with and conduct themselves as part of the science education community. Issues of professional development and reflection are important habits to begin during teacher preparation. The **Professional Knowledge and Skills** assignment is therefore designed to assess a candidate’s understanding of how to continuously improve his/her knowledge and understanding of the ever changing knowledge base of both science content and science pedagogy. The assignment is completed as part of EDUC 564: Adolescent/Young Adult Science Methodology, and is assessed by the course instructor.

To be admitted into clinical practice at Gateway 3, a candidate must complete Key Licensure Assessments #6 and #7 (**Professional Knowledge and Skills** and Safety Inquiry Activity Project) with at least 80% of the elements of the NSTA standards across the two assessments rated at *meets element* and no element rated *unsatisfactory*.

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.

<table>
<thead>
<tr>
<th>NSTA Element #</th>
<th>NSTA Element Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6a</td>
<td>Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.</td>
</tr>
<tr>
<td>6b</td>
<td>Engage in professional development opportunities such as conferences, research opportunities, or projects within the community.</td>
</tr>
</tbody>
</table>
3. **The Assessment Instrument**

**Professional Knowledge and Skills Assignment Guidelines**

*As you complete the following, refer to the scoring guide for Key Licensure Assessment #6 to ensure that you include all expectations for this assessment.*

**Purpose of Assignment:** To document your understanding of how to continuously improve your knowledge and understanding of the ever changing knowledge base of both science content and science pedagogy.

**Directions:**

**Part 1:** Complete one of the following.

1. Actively engage in an in-person or an on-line talk/symposium focused on the teaching of science content. Documentation of your active participation in the talk/symposium must be submitted to the course instructor. Following the talk/symposium, submit a detailed reflection of your learnings.

2. Write a research paper that answers an inquiry concerning current research on science teaching. Submit the research paper to the course instructor along with a detailed reflection of your learnings.

3. Develop and carry out a program with a local school that enhances science learning for a group of students. Submit your plans for the program to the course instructor along with documentation from school personnel that your program was carried out. Following completion of the program, submit a detailed reflection of your learnings.

4. Develop a science inquiry unit for a particular grade level based on current research. Assessments, plans, and needed equipment are to be included. Submit the unit and its respective materials to the course instructor. In addition to the unit and its respective materials, submit a detailed reflection of your learnings.

**Part 2:** Complete the following tasks.

1. Read the following text:


2. Complete all required assignments based on the book, making sure to be cognizant of Marzano’s rubrics which may be located at [http://www.ssd.k12.ak.us/Docs/Rubrics_complexthinking.pdf](http://www.ssd.k12.ak.us/Docs/Rubrics_complexthinking.pdf). Required assignments will be provided to you by the course instructor.

3. Submit completed assignments to the course instructor.