Assessment #4 – Student Teaching Reflection

At Rhode Island College, the mission of the Feinstein School of Education and Human Development (FSEHD) is to prepare education and human service professionals with the knowledge, skills, and dispositions to promote student learning and development. Building on extensive field experiences, the School develops reflective practitioners who model lifelong learning, technological competence, and collaboration. The FSEHD is committed to facilitating excellence through equity, diversity, and social advocacy.

To better meet this mission, Rhode Island College has changed how it evaluates the success of our teacher candidates. Instead of the exit portfolio we have used in the past, we have introduced a Teacher Candidate Work Sample (TCWS), adapted from the Renaissance Partnership of Improving Teacher Quality (http://fp.uni.edu/itq) We believe that this allows us to better assess the readiness of the teacher candidates in our program. The TCWS is divided into seven processes that are detailed below. It is important to note that our goal was to create an instrument that could be used throughout our School. For this reason, there are **no** subject-specific or grade-specific components within the TCWS itself. In keeping with the NSTA 2003 Standards Alignment with Assessments Chart (Brownstein, Jones, Meissner), we will omit information on the general student teaching reflection, and focus on the parts of the student teaching assessment that deal with safety.

To deal with the needs of individual subjects and grades, we have added additional processes to the TCWS. In science education, we have added an additional process to deal with safety. Having aligned our safety assessments with NSTA/NCATE standards in the past, our laboratory safety assignment has remained unchanged from previous years. You will find it attached below.

Safety is also assessed during classroom observations. All science education students are observed during SED 410, Practicum in Secondary Science Education, by both the cooperating teacher and by the college supervisor. This process is continued through student teaching, where, in addition to ongoing informal observations, the cooperating teacher makes four formal observations, and the college supervisor makes three formal observations. The results from these observations are below in Table 9, and the observation form is attached at the end of this document. Because the observation form is a school-wide instrument, the references to technology assume this to mean electronic technology. Within secondary science education this definition is expanded to include all forms of laboratory equipment and corresponding safety apparatus, and the comments section often reflects that.

Below, in Table 7, you will find a breakdown of the processes of the TCWS, along with the NSTA standards that align to each component. Data gathered from the TCWS is then collected and discussed in Table 8. Following this is a copy of the teacher candidate reflection from the TCWS, including the rubrics used to score submissions.

Table 7

Alignment between TCWS teaching processes and NSTA standards

Process 7: Candidate Reflection on Student Teaching Experience	NSTA standard
Describes learning gained in the Student Teaching experience.	3b, 4a, 7a, 7b
Connects RIPTS and SPA standards to Student Teaching experience.	6a, 6b
Connects FSEHD Conceptual Framework to Student Teaching experience.	n/a (school requirement)
Provides plans for professional development	8b, 8c

Additional Process: Safety Assignment	NSTA standard
Create map of classroom, showing all safety equipment	9a, 9b
Demonstrates knowledge of safety procedures	9b, 9c
Displays MSDS signs	9b
Use and store/dispose of all materials safely	9b, 9c
Know and demonstrate safe and ethical use of living things	9a, 9d

Data from TCWS

As you can see from the data below, our students are achieving satisfactory scores on the TCWS. The change from our previous 4pt scale to a 6pt scale gives us room between students in the 3-4 range (where a teacher candidate should be) and students in the 5-6 range (exceptionally good, and therefore rare). This was done to guard against grade inflation on the 4pt system, where every teacher candidate received exceptional grades for simply making an appearance.

With low enrollment numbers over the last two years, one has to be careful when drawing statistical inferences. While nothing is conclusive, the trend shows improvement in student scores on the TCWS. This is consistent with the experience of the instructors, who did not have

any experience teaching the TCWS in the 2008-2009 school year. Additional experience, and the ability to show sample work to teacher candidates, should help maintain scores above the 2008-2009 level, helping our students move from good to excellent.

Table 8

TCWS data

	2007-2008	2008-2009	2009-2010
Number of Students	undergrad = 7 post-degree = 2	undergrad = 2 post-degree = 2	undergrad = 2 post-degree = 4
TCWS Process #7 – Reflection on student teaching (average on 6 pt. scale)	*	undergrad = 3.63 post-degree = 4.5	undergrad = 4.8 post-degree = 4.9
TCWS Safety Process (average on 6 pt. scale)	*	undergrad = 4.0 post-degree = 5.1	undergrad = 4.0 post-degree = 4.6
Safety Assignment Completion Rate	100%	100%	100%

* The TCWS was developed during the 2007-2008 school year, but first used in 2008-2009. The previous scoring system is incompatible with these scores.

Our program views the safety assignment as critical, which is why students have the opportunity to practice the skills involved with the safety assignment the semester prior to student teaching, in our Practicum course. Given the responsibility teachers are given for the safety and well-being of students, we feel that a 100% pass rate is an acceptable criterion for our students to meet.

Table 9

Observation data

	2007-2008	2008-2009	2009-2010
Use of Technology (6 pt. scale)	n/a	*	undergrad = 5.02 post-degree =4.40
Safety (6 pt. scale)	n/a	undergrad = 5.1 post-degree = 5.06	undergrad = 5.2 post-degree = 4.9
Overall (6 pt. scale)	n/a	undergrad = 4.6 post-degree = 5.0	undergrad = 4.33 post-degree = 4.44

*Note: The TCWS was reviewed at the end of the first full year of use. The technology section was added after the 2008-2009 academic year.

Our observation forms are used across the school of education, and therefore are not science-specific. While the particular pieces of technology listed are sufficient for most programs, science education finds that it uses the 'other' category often to evaluate our teacher candidates' use of microscopes, dissection tools, or other scientific apparatus. When compared to the overall scores, we find that our students are in, or close to, the professional category (scores of 5 or 6). In addition, safety scores in particular are higher than overall observations scores. While some of the teacher candidates have difficulty with time management or lesson design, it does not come at the expense of safe practice.

Attachment #1: TCWS portions, including instructions for reflection and rubric

Feinstein School of Education and Human Development

Teacher Candidate Work Sample

(Relevant Excerpts)

December 2009

(Adapted from The Renaissance Partnership for Improving Teacher Quality Project http://fp.uni.edu/itq)

<u>Final TCWS Component: Candidate Reflection on Student Teaching Experience</u>

Reflective practitioners continually and consciously evaluate their choices and actions.

- Describes learning gained in the Student Teaching experience.
- Connects RIPTS and SPA standards to Student Teaching experience.
- Connects FSEHD Conceptual Framework to Student Teaching experience.
- Provides plans for professional development

Candidate Reflection on Student Teaching Experience

Teaching Process: Reflective practitioners continually and consciously evaluate their choices and actions.

Task

Draw upon your teaching journal/blog, lesson reflections, and/or other sections of this Work Sample to write a thoughtful, coherent reflection of your professional growth throughout the Student Teaching experience.

Prompt

Think back to 2-3 critical/significant incidents that occurred during Student Teaching and write a reflection that

- Describes the incidents;
- Describes how they affected the Student Teaching experience;
- Describes what you learned about yourself (examples may include what you learned about working with students, how school structures impact teaching, your habits and tendencies in the teaching role, interactions with colleagues and family, and/or other issues that were of significance this semester);
- Addresses your plans/needs for future professional development in specific, concrete terms, based on what you learned about yourself.

Suggested Page Length: 4-6 pages.

Candidate Reflection on Student Teaching Experience Rubric

Teaching Process: Reflective practitioners continually and consciously evaluate their choices and actions.

Rating → Indicator ↓	1-2 Unacceptable	3-4 Acceptable	5-6 Target	RIPTS
Description of Incidents (RIPTS 10)	Candidate provides a general description that lacks examples of incidents to tell what was learned during the Student Teaching experience.	Candidate provides a description containing some examples to tell what was learned during the Student Teaching experience.	Candidate provides a detailed description using specific and concrete examples to tell what was learned in Student Teaching.	10
Description of effect on Student Teaching experience (RIPTS 10)	Candidate provides little or no description of how the incidents affected the Student Teaching experience.	Candidate provides superficial description of how the incidents affected the Student Teaching experience.	Candidate provides rich, in depth description of how the incidents affected the Student Teaching experience.	10
Description of self learning (RIPTS 10)	Candidate provides little or no description of self learning.	Candidate provides some description of self learning, but it lacks connection to description of incidents and their affect on Student Teaching.	Candidate provides rich, thoughtful description of self learning that connects to description of incidents and their affect on Student Teaching.	10
Plans for Professional Development (RIPTS 10)	Candidate demonstrates no or vague plans for professional development.	Candidate describes some general plans for professional development, but they may not reflect self learning.	Candidate describes some specific, concrete plans for professional development that reflect self learning.	10
Organization, readability, spelling, and grammar (RIPTS 8)	This section is unorganized, difficulty to read, and/or has many spelling and/or grammar errors. Unprofessional presentation.	This section is organized, readable, and uses appropriate spelling and grammar. Contains few errors. Adequate presentation.	This section is well-organized, readable, and uses appropriate spelling and grammar. Highly professional presentation.	

TOTAL_____/30

Comments:

Attachment #2: Observation report and rubric

FSEHD Teacher Candidate Observation and Progress Report

Student Teacher
Candidate: _____ Email: _____ Emplid: _____

College Supervisor: _____ Email: _____

Cooperating Teacher: _____ Email: _____

Grade Level/Content Area Assignment: _____

Program: _____

Cooperating School District/School: _____

Observation: #1 Date: _____ #2 Date: _____ #3 Date: _____

#4 Date: _____ (fourth formal observation not required/optional/if needed)

The purpose of this instrument is to provide instructive feedback about the teacher candidate's teaching performance to the teacher candidate, the college supervisor, and the teacher candidate's cooperating teacher during the teacher candidate's student teaching. The instrument is to be completed following each formal observation of classroom instruction. Prior to the lesson, the observer will review the teacher candidate's lesson plan. During the lesson, the observer takes notes and then completes SECTIONS ONE and TWO of this instrument. The observer completes SECTION THREE following a post-observation conference with the teacher candidate. Only the Cooperating Teacher completes SECTION FOUR, which reflects cumulative performance to the date of the observation.

We have conferred in the summary of the candidate's classroom performance. Our signatures below attest to our judgments regarding the proficiency of the teacher candidate. As professional educators we recommend the student observed do the following:

_____ *Continue with preparation for a teaching license.*
_____ *Be required to complete an individualized contract to remedy deficiencies.*
_____ *Discontinue preparation for a teaching license.*

_____
College Supervisor's Signature   Date

_____
Cooperating Teacher's Signature   Date

Student Teacher's Signature   Date

SECTION ONE: LESSON INDICATORS

In this section of the protocol, rate indicators associated with effective lesson delivery: Planning, Implementation, Content, Climate, and Classroom Management. For each indicator, identify the level of proficiency demonstrated by the teacher candidate during the observed lesson.

Use the following rating scale to rate the Planning indicators.

0 Unacceptable	1-2 Developing	3-4 Acceptable	5-6 Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

Use the Comments section to note factors that were influential in determining the ratings or to record specific examples or quotes to illustrate the noted factors.

PLANNING

Planning Indicators   Rating

1.   The design of the lesson demonstrates careful planning and organization, from appropriate set induction to closure.   ____

2.   Lesson objectives are measurable and observable.   ____

3.   The lesson plan objectives are aligned with GLEs, GSEs, and/or appropriate standards.   ____

4.   The instructional strategies, activities and technical resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology) in this lesson plan demonstrate attention to students' experience, preparedness, and/or learning styles.   ____

5.   The instructional strategies, activities and technical resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology) in this lesson plan demonstrate attention to issues of access, equity, and diversity for students.   ____

6.   The lesson design demonstrates an accurate understanding of content.   ____

7.   The lesson is designed to engage students in meaningful instructional tasks related to content.   ____

8.   The lesson is designed to be student-centered, take advantage of students' curiosity, and be highly engaging.   ____

9.   Formative and/or summative assessments are aligned with objectives.   ____

10.   The lesson incorporates flexibility and plans for reteaching and/or extension, if needed.   ____

Comments:

Use the following rating scale to the Implementation and Content Indicators.

0	1-2	3-4	5-6
Unacceptable	Developing	Acceptable	Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

ACTION

Implementation Indicators   Rating

1. The teacher candidate arranges the physical environment to maximize learning in this particular lesson.

        ____

2. The teacher candidate attends to individual student needs, including learning and behavioral issues.   ____

3. The teacher candidate designs or adapts relevant learning experiences that incorporate digital tools and resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology) to promote student learning and creativity.

        ____

4. The pace of the lesson is appropriate for the developmental levels/needs of the students and the purposes of the lesson.

        ____

5. The teacher candidate customizes and personalizes learning activities using digital tools and resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology).

        ____

6. The teacher candidate uses multiple forms of assessment (e.g., observation, rubrics, oral questioning, etc.) to measure student learning.

        ____

7. The teacher candidate's questioning strategies are likely to enhance the development of student conceptual understanding/problem solving (e.g., emphasized higher order questions, appropriately used "wait time," identified prior conceptions and misconceptions).

        ____

8. The lesson is modified as needed based on formative assessment within the lesson.   ____

Comments:

        Rating

Content Indicators

1. The content of the lesson is significant and worthwhile.   ____
2. The content of the lesson is appropriate for the developmental levels of the students in this class.   ____
3. Students are intellectually engaged with important ideas relevant to the focus of the lesson.   ____
4. The teacher candidate provides accurate content information and displays an understanding of important concepts.

        ____

5. Appropriate connections are made to other areas of the discipline, to other disciplines, and/or to real-world contexts.

        ____

Comments:

Use the following rating scale to rate the Climate and Classroom Management Indicators.

0 Unacceptable	1-2 Developing	3-4 Acceptable	5-6 Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

Climate Indicators   Rating

1. The teacher candidate demonstrates positive relationships with his/her students through interactions, including talk, body language, comments on papers, etc.   ____

2. There is a sense of community in the classroom. Students treat each other and the teacher candidate with respect.   ____

3. Active participation of all is encouraged and valued.   ____

4. The teacher candidate's language and behavior clearly demonstrate that she/he is approachable, sensitive, and supportive to all students.   ____

5. The climate of the lesson encourages students to generate ideas, questions, conjectures, and/or propositions.   ____

6. Intellectual rigor, constructive criticism, and the challenging of ideas are evident.   ____

7. There was a high proportion of student-to-student communication about the content of the lesson.   ____

Comments:

Classroom Management Indicators   Rating

1. The teacher candidate has an effective way of getting all students in the class to be attentive. ____

2. The teacher candidate does not try to "talk over" the students. ____

3. The majority of class time is spent devoted to academic tasks, and time is divided in a meaningful, constructive way. ____

4. The teacher candidate circulates the room in order to keep students on task, to listen, and to challenge students with questions, when appropriate. ____

5. The teacher candidate provides clear, concise, and specific directions prior to transitions and checks for understanding before moving on to the next task or activity. ____

6. The teacher candidate applies a set of fair classroom rules, and behavioral interventions are based on logical consequences. ____

Comments:

SECTION TWO: CAPSULE RATING OF OBSERVED LESSON

In this final rating of the lesson, consider all available information about the lesson, its context and purpose, and your own judgment of the relative importance of the ratings you have made. Select the capsule description that best characterizes the lesson you observed. Keep in mind that this rating is not intended to be an average of all the previous ratings, but should encapsulate your overall assessment of the quality and likely impact of the lesson you just observed. Please provide a brief rationale for your final capsule description of the lesson in the space provided.

0 Points: Ineffective Instruction
Instruction is highly unlikely to enhance students' understanding of the discipline or to develop their capacity to successfully "do" the discipline.   For example, instruction may be pedantic or uninspiring; students may be passive recipients of information from the teacher candidate or textbook; or material may be presented in a way that is inaccessible to many of the students. Alternatively, students may be involved in hands-on activities or other individual or group work, but it may appear to be activity for activity's sake, without a clear sense of purpose and/or a clear link to conceptual development.

Immediate intervention involving the college supervisor, cooperating teacher, and candidate is needed.

1-2 Points: Some Elements of Effective Instruction
Instruction contains some elements of effective practice, but there are problems in the design, implementation, content, and/or appropriateness for many students in the class. For example, the content may lack importance and/or appropriateness; instruction may not successfully address the difficulties that many students are experiencing, etc. Overall, the lesson is very limited in its likelihood to enhance students' understanding of the discipline or to develop their capacity to successfully "do" the discipline.

If this is other than a first observation, student performance at this level may indicate that intervention is needed.

3-4 Points: Effective Instruction
Instruction is well-designed, purposeful and characterized by most elements of effective practice. Students are usually engaged in meaningful work, but there are some weaknesses in the design, implementation, or content of instruction. For example, instruction addresses the needs of most students, but the classroom climate may limit the effectiveness of an otherwise well-designed lesson. Overall, the lesson is likely to enhance students' understanding of the discipline and develop their capacity to successfully "do" the discipline.

5-6 Points: Accomplished Instruction
Instruction is purposeful and engaging. Students actively participate in meaningful work (e.g., investigations, student presentations, collaborative activities, physical demonstrations, reading) throughout the lesson. The lesson is well-designed and implemented. The teacher candidate is responsive to students' diverse needs and interests. Instruction enhances students' understanding of the discipline and develops their capacity to successfully "do" the discipline.

Capsule Rating (Circle only one number):   0   1   2   3   4   5   6

Rationale for Capsule Rating:

SECTION THREE: POST OBSERVATION

This section is to be completed following a post-observation conference with the teacher candidate.

Use the following rating scale to rate the Reflection Indicators.

0	1-2	3-4	5-6
Unacceptable	Developing	Acceptable	Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

REFLECTION

Reflection Indicators   Rating

1.   The teacher candidate describes how s/he made decisions for planning and implementation.   ____

2.   The teacher candidate discusses the strengths and weaknesses of the lesson and generates appropriate ideas for possible improvements.   ____

3.   The teacher candidate accurately analyzes and assesses student engagement, progress toward meeting the lesson objectives, and classroom management issues.   ____

4.   The teacher candidate is aware of how his/her demeanor, actions, and reactions affect the classroom climate and individual students.   ____

5.   Based on this lesson, the teacher candidate sets concrete goals (e.g. related to flexibility, pace, response to behavioral issues, etc.) s/he will focus on for future lessons.   ____

Comments:

Goals
Use the space below to record goals for the teacher candidate. Goals are based on the observation and subsequent conversation with the teacher candidate. *Note to observer*: Review goals prior to next observation.

SECTION FOUR: ONGOING PROGRESS
Completed by Cooperating Teacher ONLY

Professional Behavior and Technology Indicators are based on the cooperating teacher's observations of and interactions with the teacher candidate up to this point in the student teaching experience.

Use the following rating scale to rate the Professional Behavioral Indicators.

0 Unacceptable	1-2 Developing	3-4 Acceptable	5-6 Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

Professional Behavior Indicators   Rating

1.   The teacher candidate treats his/her cooperating teacher, administrators, other teachers, and paraprofessionals with courtesy, respect, and honesty.   ____

2.   The teacher candidate is on time and is prepared.   ____

3.   The teacher candidate dresses professionally.   ____

4.   The teacher candidate attends, is attentive, and when applicable, takes an active role in department, faculty and other meetings relating to students (i.e., IEP meetings, parent conferences, Open House).   ____

5.   The teacher candidate is able to accept constructive feedback and make the appropriate adjustments.   ____

6.   The teacher candidate balances collaboration (with his/her cooperating teacher, special education teachers, etc .) and independent work in a professional manner.   ____

7.   The teacher candidate is a thoughtful listener to his/her students, colleagues, and parents.   ____

8.   The teacher candidate maintains a nonjudgmental stance toward students, parents, and colleagues.   ____

9.   The teacher candidate is a student advocate.   ____

Comments:

Use the following rating scale to rate the Technology Indicators.

0 Unacceptable	1-2 Developing	3-4 Acceptable	5-6 Target
Not present. The candidate does not include the indicator in his/her planning, action, or reflection.	Elements of the indicator are clearly present but are partially or ineffectively carried out. The candidate is developing an awareness and may be beginning to meet the knowledge, skills, and competencies needed to meet the needs of some learners.	Elements of the indicator are of good quality, but there is room for improvement. The candidate knows and demonstrates the methods, skills, and strategies needed to meet the needs of most learners.	High quality implementation of indicator. The candidate knows and consistently demonstrates the methods, skills, and strategies needed to meet students' diverse needs and interests.

<u>Technology Indicators</u>   <u>Rating</u>

1.   The teacher candidate designs or adapts relevant learning experiences that incorporate digital tools and resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology) to promote   ____
student learning and creativity.

2.   The teacher candidate develops technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals,   ____
managing their own learning, and assessing their own progress.

3.   The teacher candidate customizes and personalizes learning activities using digital tools and resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology).   ____

4.   The teacher candidate demonstrates fluency with available technology systems.   ____

5.   The teacher candidate communicates relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.   ____

6.   The teacher candidate models and facilitates effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.   ____

        Comments:

Identify technical resources (e.g. manipulatives, adaptive or assistive technologies, electronic technology) within the classroom that are available to the teacher candidate. Check all that apply.

____	Computer for teacher use	____	Smart Board
____	Computer(s) for student use	____	Overhead projector
____	Calculators	____	LCD Projector
____	Document camera	____	Internet connection
____	Other (specify) _____	____	Other (specify) _____

Attachment #3: Safety observation rubric

TEACHER CANDIDATE OBSERVATION - SAFETY

Standard	Emerging (1-2 points)	Basic (3-4 points)	Professional (5-6 points)
G. The candidate practices legal and ethical responsibilities of science teachers for the welfare of their students. (NSTA 9a)	Has not responsibly followed the legal and ethical precedents for the welfare of students in the science classroom.	Generally follows the legal and ethical precedents for the welfare of students in the science classroom.	Consistently follows the legal and ethical precedents for the welfare of students in the science classroom and discusses reasons for such rules with students.
H. The candidate practices safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used in science instruction. (NSTA 9b)	Does not responsibly establish and follow procedures for the safe labeling, handling, storage and disposal of chemicals, and other materials. OR MSDS file is not kept, readily available or currently maintained.	Establishes and follows procedures for the safe labeling, handling, storage and disposal of chemicals, and other materials. AND Maintains an up-to-date and readily available MSDS file for all materials used in the classroom.	Establishes and follows procedures for the safe labeling, handling, storage and disposal of chemicals, and other materials. AND Maintains an up-to-date and readily available MSDS file for all materials used in the classroom. AND Stays informed of potential hazards and legal concerns. Communicates them to other teachers to maintain a school environment free of potential problems.
I. Candidate follows emergency procedures, maintain safety equipment, and ensure safety procedures appropriate for the activities and the abilities of students. (NSTA 9c)	Does not responsibly plan, practice or enforce safety procedures in all activities in the classroom. OR Is unaware of actions to take during an emergency and to prevent or report an emergency. OR Fails to appropriately respond to hazardous situations once identified.	Plans, practices and enforces safety procedures in all activities in the classroom. AND Knows actions to take during an emergency and to prevent or report an emergency. AND Appropriately responds hazardous situations once identified.	Consistently plans, practices and enforces safety procedures in all activities in the classroom. AND Demonstrates in the classroom that safety is a priority in science. AND Takes action to prevent hazards and communicates needs and potential problems to administrators.
J. Treat all living organisms used in the classroom or found in the field in a safe, humane, and ethical manner and respect legal restrictions on their collection, keeping, and use. (NSTA 9d)	Does not responsibly attend to, obey or enforce rules for the safe, proper and ethical treatment of animals.	Attends to, obeys and enforces rules for the safe, proper and ethical treatment of animals.	Consistently attends to, obeys and enforces rules for the safe, proper and ethical treatment of animals. AND Discusses reasons for such rules with students.

Attachment #4: Safety Assignment and Rubric

Laboratory Safety Assignment

A key aspect of safety is knowing and respecting the hazards inherent to a particular chemical, reaction, or technique. Information pertaining to the hazards of a particular reaction or technique is typically included in the experimental procedures, textbooks, or handouts which discuss the technique or reaction. Rarely do these sources touch on the specific hazards of a particular chemical such as toxicity, flammability, the appropriate protective equipment and handling of the chemical, or emergency responses.

This information is, of course, extremely important to know before beginning any laboratory experiment. Thus, the chemical community has created a database (paper and electronic) of Material Safety Data Sheets (MSDS) which codifies this information for every chemical. MSDS are catalogued alphabetically by the chemical's IUPAC name. MSDS are a crucial source of chemical safety information. All science teachers should know how to find and use the MSDS database and be familiar with the MSDS information for all chemicals in the laboratory. By law, the science department in any school must have the MSDS for every chemical in the building. MSDS for certain chemicals may also be found **on-line** from Flinn Scientific at http://www.flinnsci.com. Follow the Safety link.

1) For the four chemicals listed below look up their MSDS's on the webpage.

This will provide an extensive search page. All you need to do is fill in the chemical name in the correct place. Note that pages like this one are a good resource for you later in your career when you need to find information!

Concentrated sulfuric acid   methyl alcohol   30% hydrogen peroxide   Iodine crystals

 2) Examine the hazard information for each chemical listed above and (a) identify the most significant hazard for each (i.e. flammable, toxic, corrosive) and (b) the type of injury it could cause.

 3) What first aid measures would you take if you...

        (a) accidentally splashed sulfuric acid in your eyes?

        (b) inhaled excessive methanol vapors and began to feel sick.

        (c) spilled 30% hydrogen peroxide on your skin.

        (d) spill iodine crystals on the floor of the classroom.

4) Summarize the information provided for hydrogen peroxide in the reactivity, toxicology, and safety portions of the MSDS for 30% hydrogen peroxide.

        How might this information be useful in preparing for a safe laboratory experiment?

Hydrogen peroxide is available without a prescription from your local pharmacy or food store. What is different about store bought hydrogen peroxide and the hydrogen peroxide described in the MSDS that would allow any person to access it?

5) What guidelines regarding clothing should students be aware of in the laboratory?

6) What type of goggles should students wear and when should they wear them?

7) In what cases might students be asked to leave the laboratory?

8) Can students wear contact lenses? Why?

9) What should you do if:
      A) a student broke a beaker and cut their finger.
      B) chemicals have splashed on a student's face.
      C) the fire alarm sounds.
      D) a student's lab manual has caught on fire.
      E) a student's shirt has caught on fire.
      F) chemicals have spilled on your pants.

10) Make a drawing of the laboratory or classroom where students conduct experiments and note the location (or absence) of the following safety items:
- Mercury Spill Kit
- Fire Alarm
- Fire Blanket
- Eye Wash Station (is it full?) What's in it?
- Fire Extinguisher (is it full?) What's in it? When was the last inspection date?
- Emergency electricity shut-down switch
- Are the electrical outlets fused? (Ground Fault Circuit Interrupted) GFCI
- Paper towel dispenser for spilled chemicals
- Acid or Base Neutralization Kit
- Receptacle for broken glass
- Receptacle for biological waste
- Receptacle chemical waste
- MSDS Sheets

11) Discuss with your cooperating teacher and determine the appropriate procedures in your school for the following:
- Should you need to contact the administration in the event of an emergency situation.
- How are materials properly labeled, handled, stored that constitute potential safety hazards?
- What are the procedures to clean up and dispose of hazardous materials?
- How are students informed of safe procedures and potential hazards?
- What plans do you have for handling student misbehaviors as they relate to safety?
- How will you ensure the safety of students with known allergies, disabilities, and medical conditions?
- Assuming you will use them, how will you ensure proper and ethical treatment and care of animals?
- Assuming that you will use them, how will you ensure compliance with laws related to collection of natural materials?

LABORATORY & CLASSROOM SAFETY ASSIGNMENT
STUDENT TEACHING SEMINAR
EVALUATION RUBRIC

NAME_____

SCHOOL_____

COOPERATING TEACHER_____   DATE_____

NOTE: ALL COMPONENTS MUST BE MET FULLY AND COMPLETELY DURING THE FIRST WEEK OF STUDENT TEACHING. THIS IS MET BY MASTERY OF ALL COMPONENTS AND ANYTHING LESS IS NEGLIGENCE ON THE PART OF THE COOPERATING TEACHER AND STUDENT TEACHER.

COMPONENT	COMPETENCY MET
Interactive Incident Despite your careful lab supervision, one of your students has his/her arm badly cut. The injured student screams and rushes up to you followed by several others. What action do you take? You believe the student is in need of immediate medical attention. Do you leave the rest of the class? What do you do?	_____
Cooperating Teacher Attestation Signed and dated attestation by the cooperating teacher verifying that the location and use of all departmental safety equipment and regulations have been discussed with the student teacher.	_____
Departmental – School Policies What are the policies in place that are to be followed for the above laboratory incident?	_____
MSDS Sheets Identification of safety, usage, and disposal information for the chemicals listed. Location of MSDS sheets in the science department.	_____
First Aid Measures Identification of first-aid procedures identified on MSDS sheets.	_____
Definitions Corrosive, irritant, toxic, sensitizer, carcinogen, teratogen, oxidizer.	_____
Safety Precautions Measures / precautions for students using chemicals and equipment in the laboratory.	_____
Safety – First Aid Precautions Safety and first-aid measures for students using chemical and equipment in the laboratory.	_____
Class – Laboratory Map Identification and location of all safety and first-aid equipment in laboratory and classroom.	_____
School Supply – Chemical Storage Description and location of chemical and equipment storage facilities.	_____