Assessment #7

At Rhode Island College, all science education students complete a major in their field of certification. Because all of the science classes at Rhode Island College have a lab component, this provides all students with a solid background in the sciences, and ample experience to learn the processes of science. We require teacher candidates to maintain a 2.5 GPA in their science classes (including cognates) in order to complete our program.

The process of mastering scientific research culminates when teacher candidates take a research class corresponding with the teacher candidate's major, detailed below:

- **Biology 491: Problems in Biology** – The experimental aspects and recent advances in biology are examined. Required are research projects and papers on the work accomplished. Not open to students enrolled in the M.A. in Biology.
- **Chemistry 491: Research in Chemistry** – The student conducts original research in an area selected after consultation with the instructor and prepares a report on the work.
- **Physical Science 491: Research in Physical Science –** The student researches an area selected after consulting the instructor and prepares a report on the work.
- **Physics 491: Research in Physics –** The student conducts original research in an area selected after consulting with the instructor and prepares a report on the work.

These classes are designed to align to NSTA standards 1d and 1e. **NSTA 1d)** Understand research and can successfully design, conduct, report, and evaluate investigations in science. **NSTA 1e)** And understand and can successfully use mathematics to process and report data, and solve problems, in their field(s) of licensure**.** Successful completion of these classes is taken as evidence that the teacher candidates meet the standard. Data from the teacher candidates is

printed below in Table 14. Because of the individual nature of these projects, grading of, say, Biology 491 is left to the discretion of the mentor. However, presentation of the findings at a conference is always included as part of the expereience.

Table 15

Teacher Candidate Research GPA

	2007-2008	2008-2009	2009-2010
undergraduate	3.06	4.0	4.0
number of students	6	2	2

Note: Post-degree students already have a science degree, and therefore do not usually take a research class.

While it may appear that our students are improving, the reader must be careful not to infer from very small sample sizes. After analyzing this data, we feel that our teacher candidates are able to show mastery of the research methods used in the sciences.