

**STEM in the Early Years:  
Engaging Children in Ongoing, Hands-on Investigations  
3 Credit Course at Castleton State College**

**Instructor:** Beth Peloquin, M.Ed.

**Email:** [bethpeloquin@gmail.com](mailto:bethpeloquin@gmail.com)

**Phone/Text:** 802-233-6667

**Final Grade Calculation**

**Face to Face Class Participations: 40 points**

Fully engages in face to face explorations and discussions

**Action Research Paper – Total 60 points**

Complete a final paper based on your action research project. Student participating in the course for credit are expected to turn in a 6-8 page paper (not including data collection pages or bibliography) that fully describes their research project from formulation of a question, to implementation of the project, to sharing final reflections, findings, and future directions. Project questions should be explicitly connected to pursuing STEM activities with students, the Vermont Early Learning Standards in Math, Science, and/or Engineering, and applying some of the new learning from the 2-Day course. There is a full description of the project handed out to participants during Session 1 (January 5th).

A = 90 -100 points

B = 80 - 89 points

C = 70 - 79 Points

D = 60 - 69 points

F = 59 points or less

Plusses given at the discretion of the instructor.

## **Rubric for Action Research Paper**

### **Name, Background: 5 points**

Please give your name and a paragraph about the context in which you did your research project. This will include number and ages of children served, type of care environment, group size, general family/community backgrounds of children, brief description of the learning environment (indoor and outdoor).

### **Research Question and rationale for the question: 5 points**

- Question is higher level (open-ended...not yes/no) written in concise, everyday language, free of jargon.
- Question is tied directly to practice, meaningful to you, and leads to other questions.
- Rationale for choosing question is based in improving practice, children or practitioner interest and importance to practitioner is clearly stated.
- Includes some description of how they have examined and assessed their current practice to help lead them to the action research question.
- *Question and rationale are directly connected to 2-4 Vermont Early Learning Standards*

### **Description of Project steps and Data Collected: 5 points (G)**

- Explains the steps of the planning and processes for how the question will be researched.
- Shares actual data collected in an Appendix, but can give brief description here (i.e. children's work products, pictures, quotes, teacher questions asked to kids, written observations, checklists, etc)

### **In-Depth Analysis: 10 points**

- Includes analysis of teacher's actions and questioning of children through the process
- Includes what children did and said throughout their explorations
- Includes behaviors observed, children's questions and teacher's responses

### **Struggles, Reflections, and Changes that Occurred through the Research Process: 10 points**

- Discusses struggles encountered throughout the research process that are directly related to data collection, identifying a research question, or findings
- Fully reflects on the process of doing action research—how it was helpful or not, how it is like or unlike current planning and reflective process, and how it might help improve practices or not.
- Discusses insights, changes, or inconsistencies that occurred throughout the research project.

**Conclusions, Findings, What I Learned: 10 points**

- Reflects and discusses what was learned about children's learning
- Discusses what he/she learned about instruction throughout the process
- Discusses how earlier assumption were challenged or confirmed by the data collected during the research project.

**Next Steps, Future Directions: 10 points**

- Discusses what other topics or questions for future action research projects may have bubbled up during this project
- Writes about new directions she/he can take students with STEM learning as a result of doing this project
- Tells what extensions, expansions of the project learning could happen in the future.

**Literature Review: 5 points**

- Cite all articles, books, children's books, or websites used to complete the research project. Title and Authors, or webpage URL all included.

