

UNIVERSITY *of*
NORTHERN COLORADO



SCED 695, Action Research in Science Education I

Course Description of SCED 695:

Research a problem in K-12 science education relevant to students' teaching situations. Develop goals, review literature, and plan an action research project. This course is the first of three courses.

Credits: 1 Semester Credit

Goals of Three Course Series (SCED 695, SCED 696, SCED 697: Action Research in Science Education I, II, and III):

- To propose, design, conduct, and report an action research project.
- To advance understanding of action research in K-12 science education.

SCED 695 Objectives:

- Students will learn the purpose and processes associated with action research
- Students will develop a proposal for an action research plan (3 of 5 chapters for Action Research).
- Students will present the proposal to the action research committee

Prerequisites: SCED 600

Required Texts:

Mills, G. E. (2007). *Action research: A guide for the teacher* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Optional Texts:

Johnson, A. P. *A short guide to action research* (2nd ed.). Boston: Pearson. Sagor, R. (1992). *How to conduct collaborative action research*. Alexandria, VA: ASCD.

Hubbard, R. S., & Power, B. M. (2003). *The art of classroom inquiry: A handbook for teacher-researchers* (Revised Edition). Portsmouth, NH: Heinemann.

Technical Requirements:

Access to a computer with high-speed Internet access.

Acrobat Reader (Available at www.adobe.com/products/acrobat/readstep2.html)

Word Processor (preferable Microsoft Word)

EVALUATION

Grading allotment:

- ◆ 40 points Assignments/Article Summary and Critiques
- ◆ 60 points Action Research Project Proposal

Final grade assignment by points:

- ◆ $90 \leq A \leq 100$
- ◆ $80 \leq B < 90$
- ◆ $70 \leq C < 80$
- ◆ $60 \leq D < 70$
- ◆ $0 \leq F < 60$

PROFESSIONAL CONDUCT

Disability Support Services:

Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

Honor Code:

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

COURSE SCHEDULE

Each evaluated task (i.e., assignment, summary and critique, or progress check) will be due every week. (Note that during UNC's Spring Break no work is expected. Please adjust your schedule accordingly.) Research proposal is due on Monday of Finals Week. All tasks are due by 5:00 PM on the Monday indicated in the table below. Work may be submitted in the Submissions section on Blackboard, via e-mail to your instructor, or via FAX by the posted due date.

Week	Course Task	Date Due	Corresponding Textbook Chapter	Chapter for Action Research Report
Week One Through Week two	Assignment 1 – What is Action Research?	Friday of Week Two	Mills: Preface & Chapter 1	
Week Three	Assignment 2 – Area of Focus	Friday of Week Three	Mills: Chapter 2	Introduction
Week Four	Assignment 3 – Finding the Literature	Friday of Week Four	Mills: Chapter 2	Introduction, Literature Review
Week Five	Summary and Critique I	Friday of Week Five		
Week Six	Assignment 4 – Research Plan	Friday of Week Six	Mills: Chapter 2	Introduction
Week Seven	Summary and Critique II	Friday of Week Seven		
Week Eight	Assignment 5 – Educational Beliefs	Friday of Week Eight	Mills: Chapter 2	Literature Review
Week Nine	Summary and Critique III	Friday of Week Nine		
Week Ten	Assignment 6 – Literature Review	Friday of Week Ten	Mills: Chapter 2	Literature Review
Week Eleven	Summary and Critique IV	Friday of Week Eleven		
Week Twelve	Assignment 7 – Data Collection Plan	Friday of Week Twelve	Mills: Chapter 3 & 4	Plan of Action
Week Thirteen Through Week Fifteen	Assignment 8 – IRB Preparation	Friday of Week Fifteen	Mills: Chapter 5	
	Action Research Project Report; IRB Submission	Friday of Finals Week		

Article Summary and Critique:

Locate, read, summarize, and critique at least four research- or practitioner-based journal articles related to an aspect of science education that you plan to investigate for your action research project. These articles may be the start of your literature review.

Action Research Project Report and Presentation:

You are required to develop and present your action research project report to a faculty committee consisting of your advisor and two other faculty members. You will develop three of the five chapters of the Action Research Project. The three chapters are the introduction, review of literature, and plan of action. A reference section must also be included. Satisfactory progress in the writing of the chapters includes obtaining the level of developing on each of the performance indicators of the Action Research Project Rubric and obtaining the level of proficient on the written communication performance indicator located in the presentation section. The rubric is located in the Course Materials section on Blackboard.