

**Directed Comprehensive Studies in  
Science Education  
SED 697  
Spring 2006**

**Instructor:** Mike G. Rivas, Ph.D.  
**Classroom:** ED 1126  
**Class Time:** Wed. 4:00 PM – 6:50 PM  
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**Office Hours:** Tuesday 7:00-8:00 p.m.  
Thursday 10:00 -12:00 p.m. and by appointment

**Required Texts**

- Johnson, Andrew P., (2<sup>nd</sup> Edition, 2005). *A Short Guide to Action Research*. Boston, MA: Pearson Allyn and Bacon.

**Recommended Texts**

- American Psychological Association. 2001. *Publication Manual of the American Psychological Association* (5th edition). Washington, D.C.:American Psychological Association.

**Conceptual Framework**

The Michael D. Eisner College of Education as a professional school is committed to advancing learning, teaching and student success. This is accomplished using a developmental approach to promote reflection, critical thinking, and excellence in an inclusive learning community. Its graduates are well educated, highly skilled and caring persons who are lifelong learners prepared to practice in an ever changing, multicultural world. They are committed to promoting achievement of all students as a primary measure of successful educational practice. Graduates assume service and leadership roles in public and private educational, health, and social programs and institutions. The College establishes and maintains productive partnerships with community schools and agencies. The faculty is committed to excellence in teaching, scholarship, service and collaboration with the community and professions. The values for faculty and students that form the foundation of this Conceptual Framework include the following:

1. We value *high standards* in the acquisition and application of professional knowledge and skills in subject matter, pedagogy, and technology.
2. We value the *achievement* of students at all levels and promote its accomplishment in accordance with national, state, and institutional standards.

3. We value an *inclusive learning community*.
4. We value creative, *critical and reflective thinking and practice*.
5. We value *ethical practice* by caring professionals.

## **Policies**

### **Attendance Policy**

Attendance and participation are crucial components of this course. Ideas presented in class by the instructor and your colleagues need to be heard and critiqued for individual and collective growth to take place. If you will be absent, it is your responsibility to make prior contact me.

### **Make-up Policy**

Assignments are due at the **beginning** of class. Late work will be accepted under extenuating circumstances, and will generally receive less credit, so it will be to your advantage to email assignments on the rare occasion of an absence.

### **Plagiarism Policy**

Cheating or plagiarism on a test or other assignment will result in automatic failure on that specific item and possible failure in the course. In addition, there will be a referral to the Academic Ethics Committee. Never forget that character counts in the Big Game!

## **Instructional Philosophy and Course Overview**

### **Content Description**

The purpose of this course is to provide a capstone experience for graduate work here at CSUN. This course is designed to provide encouragement, support, and opportunity for you to complete your comprehensive exam/portfolio. The portfolio will be the evidence of your performance and level of success you have earned during the completion of your Masters degree.

### **Student Learning Objectives**

1. Continue in the development of critical thinking skills related to science education.
2. Conclude the Action Research Project in a manner that provides value to the student and the science education community.
3. Develop your website so that it houses all the components of your portfolio.

4. Reflect on your graduate school experience and provide insight for yourself, your colleagues, instructors, and future graduate students.
5. Strengthen your connection with the science education community through your research, conference attendance, and presentation.

### **Classroom Norms**

1. You are expected to come to class prepared to discuss topics critically, having finished all reading, writing, and group assignments before class.
2. You are expected to become part of a community of lifelong learners: to express ideas clearly, to help those in need, and to ask questions when in doubt.
3. You are to show respect to the learning community and to value your classmates. We challenge ideas not people.
4. The goal of education is to learn to think and this class will provide opportunities to continue on that journey.

### **Professional Expectations**

As a student in a graduate class, you are expected to exhibit the behaviors of professional educators and professional students. This includes active and positive participation in class. Students are expected to treat their fellow students, the faculty, and guests with respect and courtesy. This also relates to the use of cell phones, pagers and other electronic devices.

### **Assignments and Assessments**

This course includes class participation and quizzes (as needed), short papers, panel work, current events, etc. All assignments must be typed. Each assignment or set of assignments is worth the listed points and percentage of your final grade. Distribution is as follows:

1. Conference	10 pts.
2. Chapter Presentations (3@5)	15 pts.
3. Peer Reviews (5@5)	25 pts.
4. Reflection Paper	15 pts.
5. Website	10 pts.
6. Research Presentation	25 pts.

**A = Outstanding** The grade of “A” is reserved for those students whose performance is *truly* outstanding. Performance reflects an outstanding level of competency attainment -- including critical analyses, information syntheses, and application of theory and research to practice. Projects and exams are comprehensive, thoughtful, well organized, and clearly written.

**B = Satisfactory.** Performance is at a acceptable stage of competency, attainment, understanding, and skill, and indicates an ability to integrate and apply information at the graduate level.

**B- or Below = Unsatisfactory.** Performance does not meet expectations for a graduate level of competency, attainment, and understanding.

### **Conference Attendance and Report**

You will attend a science conference for science teachers during this semester. Based on that attendance, you will submit a three-page analysis of a specific presentation you attended. The analysis will include a brief summary, an evaluation of the research (strengths, weaknesses, and suggestions), and a personal application response. Include a copy of the paper presented if it is available.

### **Peer Reviews**

You will engage in a peer review for each of the five chapters of your research paper. You will work with a different classmate on each chapter and will provide written feedback to the partner using a class-derived rubric. A copy of this feedback will be turned in for a grade. In order to participate in this activity, you must come with the specific chapter prepared.

### **Chapter Presentations**

You will make three short presentations of specific chapters of your work to the class. You will present your literature review, data collection (findings), and discussion chapters. You will present these via power point and respond to class questions. The exact protocol for having the slide show prepared/submitted in advance will be discussed in class.

### **Reflection Paper**

You will write a five to six page reflection paper that will examine your work and experience as a graduate student. You will analyze and reflect on your academic growth, lessons learned, most important theoretical conceptual change, etc. This paper should cover the entire two years and should include the appropriate citations.

### **Research Paper**

You will write a research paper following the pattern of *A Short Guide to Action Research* by Andrew Johnson (Chapter 15). It will include the five sections mentioned and will follow APA standards. The peer review and chapter presentations will help provide guidance. It will be due on May 3, 2006.

## **Website**

You will post all the components of your comprehensive exam/portfolio on your website. This should include all work designated as part of your exam.

## **Research Presentation**

As a capstone experience for your research, you will present your findings on Saturday, May 20, 2006 (tentative) to an audience of your peers, family, and science professionals. You will develop a power point presentation that will help you present your work in clear and concise manner. Your chapter presentations will help provide guidance. More details will be given in class.

# Course Topics (Tentative), Assignments, and Readings

Week 1	Feb. 1	<b><u>Topic:</u></b>	Introduction of Course
		<b><u>Reading:</u></b>	Literacy in the Science Classroom
Week 2	Feb. 8	<b><u>Topic:</u></b>	Introduction of AR
		<b><u>Assignment:</u></b>	Chp.1 Peer Review
Week 3	Feb. 15	<b><u>Topic:</u></b>	Literature Review
		<b><u>Assignment:</u></b>	Chp. 2 Peer Review Rubric
Week 4	Feb. 22	<b><u>Topic:</u></b>	Presentation of Lit. Review
		<b><u>Assignment:</u></b>	Power Point of Chp. 2
Week 5	Mar. 1	<b><u>Topic:</u></b>	Methodology
		<b><u>Assignment:</u></b>	Chp. 3 Peer Review Rubric
Week 6	Mar. 8	<b><u>Topic:</u></b>	No Class
Week 7	Mar. 15	<b><u>Topic:</u></b>	Findings
		<b><u>Assignment:</u></b>	Chp. 4 Peer Review Rubric
Week 8	Mar. 22	<b><u>Topic:</u></b>	No Class
Week 9	Mar. 29	<b><u>Topic:</u></b>	Presentation of Findings
		<b><u>Assignment:</u></b>	Power Point of Chp. 4
Week 10	Apr. 5	<b>Science Conference (NARST/NSTA)</b>	
	Apr. 12	<b>Spring Break</b>	
Week 11	Apr. 19	<b><u>Topic:</u></b>	Discussion
		<b><u>Assignment:</u></b>	Chp. 5 Peer Review Rubric
Week 12	Apr. 26	<b><u>Topic:</u></b>	Presentation of Findings
		<b><u>Assignment:</u></b>	Power Point of Chp. 5
Week 13	May 3	<b><u>Topic:</u></b>	How Students Learn Science
		<b><u>Assignment:</u></b>	Action Research Papers Due
		<b><u>Reading:</u></b>	HSLs
Week 14	May 10	<b><u>Topic:</u></b>	Discussion of Conference Presentations

Week 15	May 17	<b><u>Topic:</u></b>	Return of AR Papers and discussion
		<b><u>Assignment:</u></b>	Conference Paper Due
Week 16	May 23	<b><u>Topic:</u></b>	Historical View of the Scientific Method
		<b><u>Assignment:</u></b>	Reflection Paper Due Website complete

\* Presentations will be on Saturday, May 20<sup>th</sup> at a location TBA from 9-12.