

California State University San Marcos
College of Education
EDMX 547
Social Science/Science Education in Integrated Programs

Spring , 2003 5 credits, Multisubject Cohorts

Instructors:

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The Mission of the College of Education Community is to transform public education by preparing thoughtful educators and advancing professional practice. We are committed to the democratic principles of educational equity and social justice for all learners, exemplified through reflective teaching, learning and service. We value diversity, collaboration, professionalism and shared governance.

Required Texts:

Keating. Science Methods

CA State. History/Social Science Framework

Turner. Essentials of Classroom Teaching: Elementary Social Studies

Portions of California Science Framework and Standards, photocopy or from website:
cde.ca.gov

Optional Texts:

Chancer, et. al. Moon Journals

Keating. Invention Convention for K-6 Teachers

Keating. Use of Discrepant Events

Sae. Chemical Magic from the Grocery Store

Purpose and Goals:

The main purpose of this course is to help you become a better teacher of science and social science while increasing your enthusiasm, interest and confidence in effective teaching methods. You will model and practice ways in which science and social science can be naturally integrated into all the other disciplines. There will be a special emphasis on a student centered, problem solving and divergent interdisciplinary approach to learning. Techniques for including all children in science and social science lessons and adapting lessons to meet individual needs will also be addressed. As a result of this

experience, we hope that as a teacher at the elementary level you will feel comfortable teaching science and social science, teaming with teachers who are specialists in these fields, and utilizing science and social science methods in your other disciplines.

Objectives:

On completion of this course, students will be able to demonstrate the following:

1. knowledge of the California Framework and Standards in Science and History/Social Science;
2. understanding of how to integrate Science and Social Science into other curriculum areas;
3. awareness of the multitude of community resources available to teachers and the ways in which these resources can be used to strengthen the school program;
4. the ability to write lesson plans and implement them into an integrated unit based on an appropriate grade-level course of content;
5. the ability to design curricula which reflect a variety of instructional strategies and develop children's higher-level thinking skills;
6. an understanding and appreciation for the processes of science and social science
7. knowledge of strategies for including all children in instruction

Grading Policy:

Final grades for EDMX 547 will be computed on a scale of 250 points

A = 231.25 points or more

A- = 225 - 231 points

B = 205 - 224 points

B- = 200 - 204 points

C+ = 192.5 – 199.5 points

C = 182.5 - 192 points

C- = 175 - 182 points

(Anything less than a C+ does not count toward a California Teaching Credential)

Prompt and consistent attendance is vital to success in this class. Attendance will be taken and class will start on time. For each absence, five points will be deducted. For each tardy, one or two points will be deducted, depending on how late you are. You'll also lose one or two points if you leave early. If a serious problem arises, which is beyond your control, please talk to one of us. In addition, the College of Education attendance policy is in effect:

COE Attendance Policy

Due to the dynamic and interactive nature of courses in the College of Education, all students are expected to attend all classes and participate actively. At a minimum, students must attend more than 80% of class time, or s/he **may not receive a passing grade** for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the student have extenuating circumstances, s/he should contact the instructor as soon as possible.

Due Dates:

When you come to class, we expect you to have the readings already done for that class. Assignments must be turned in at the start of class, otherwise they will be considered tardy. Late assignments will lose ten percent of their points for each day they are late. After one week, they will receive no credit. **IF FOR SOME REASON YOU MUST TURN IN AN ASSIGNMENT LATE, TALK WITH JOSEPHINE AND MAKE SURE AN AGREEMENT IS NOTED ON THE GRADESHEET.** Please **DO NOT** submit assignments by email. The best way to submit is to turn them in to the envelope during class, or you can put them in the pocket outside UH 309.

Please Also Note: Any evidence of cheating (including plagiarism--presenting the words or ideas of others as you own) will result in a failing grade for that assignment and possibly a failing grade for the course. Some assignments will include comments and suggestions on appropriate referencing. If you have modified an already existing lesson plan or unit, please include a copy of the original lesson plan. See the instructor if you have any questions about what exactly constitutes plagiarism.

pla-gia-rize

1. to use and pass off as one's own (the ideas and writings of another)
2. to appropriate for use as one's own passages or ideas from (another)

The American Heritage Dictionary of the English Language
Third Edition

Proper attribution is an important concept for teachers. Giving credit where credit is due is only fair and ethical. It also advances learning by accurately tracking the path of ideas and information as they pass from person to person, often being enhanced and modified along the way. Teachers have a special responsibility to identify their sources in their own work, and to teach students to do the same.

Such attribution can be formal or informal. Formal attribution usually consists of footnotes and bibliographies which follow guidelines such as those published by the APA. Teachers and elementary students are more likely to use informal attribution, for instance giving the original source of a lesson plan that you have adapted. Even a second grader writing a paragraph about an animal can tell where the information came from. Example: I watched the classroom guinea pig for five minutes a day for five days and read the book Guinea Pigs by Joe Blow.

The Two Commandments of Attribution

1. When you use someone else's ideas, thoughts, or information, you must give credit to the source, and do so in a way that clearly identifies the source and

makes it possible for other persons to find the original source for themselves.

2. When you use someone else's exact words, you must put those words in quotes. Commandment #1 still applies.

EDMX 547 Assignments – Spring, 2003

Joe and Josephine Keating, Instructors

The following are assignment prompts. Each prompt will be scored using a likert scale: no response (0) to exceptional (maximum possible points for that assignment) to total a possible 200 points. Due dates are on the timeline.

The criteria for grading are:

- Fully addressing the prompt.
- Clear, coherent writing. (If we have to re-read what you've written three times before we can make heads or tails of it, you will lose points.) You must demonstrate good understanding and appropriate interpretation of the topic.
- Correct spelling and grammar on final drafts. You are going to be a model for children on this, and need to get used to paying attention. Note: just running a spellcheck isn't always enough – it may miss homophones.

Assignment 1 – recipe lesson plan

Spirit of the assignment: to develop a hands-on lesson that is based on a recipe. (*For purposes of this assignment, a recipe is defined as “detailed directions on how to make some kind of a product, including a list of materials or ingredients and instructions on what to do”.*) You are to think through the complex elements of hands on-minds-on learning. You will do a rough draft of your lesson plan, discuss your draft in a small group with the instructor, then revise it and turn in a final draft. This should be two full pages or more when it is finished.

Note: The cognitive objective in your lesson plan must be linked to the standard for one of the core subject areas: Language Arts, Math, Science, or Social Studies.

- | | |
|---|-------------------------|
| 1a. Recipe lesson plan – rough draft | I 20 points |
| <ul style="list-style-type: none">• Sign up for a small group discussion time• Decide which grade level you want your lesson plan to be appropriate for.• Choose a recipe (from a cookbook, the internet, write out a recipe you know, etc.)• Look at the Survival Tips for Hands-On Learning and the cover sheet for this assignment.• Write a lesson plan that addresses all the elements on the cover sheet. This can be rough, but it should look like a lesson plan, not just miscellaneous notes.• Come to your one-hour small group discussion, bringing your lesson plan, the recipe, and a blank copy of the cover sheet. You are going to hand your cover sheet and your lesson plan to the instructor during the discussion. Then you will get them right back. | |
| 1b. Recipe lesson plan – final draft | I 20 points |
| <ul style="list-style-type: none">• Revise your lesson plan to incorporate what was discussed in the small group.• Turn in your lesson plan AND the same cover sheet you brought to the group. (It will have the instructor's notes on it.) | |

Assignment 2 – California Science Framework and Standards

Spirit of the assignment: to read a portion of the California Science Framework and the Standard for a particular grade. You will write your individual response to the readings. Then you will work with your grade level team to prepare and do a presentation to the class. It's important that you do the reading and the writeups BEFORE you meet with your team.

2a. Framework summary response

I 10 points

- Read the first part of the California Science Framework, up to page 20. This includes Board Policy, the Introduction and Chapters One and Two.
- Think about the reading holistically.
- Write about a page, in your own words, that answers these questions: What do you think are the most important ideas addressed in the reading? Were there any ideas in the reading which were very new to you, or which disagreed with something you thought?

2b. Grade level Science standard response

I 10 points

- Using the standard for your chosen grade, pick a line item from physical science, life science, and earth science. For each one, come up with a brief description of an activity that children in that grade can do that also addresses one of the Investigation and Experimentation standards for the grade.
- You should end up with three sections, each of which includes a content line (physical, life, or earth science), an Investigation and Experimentation line, and a one or two sentence description of an activity that combines the two. The whole thing should be about a page.

2c. Team preparation and presentation

T 10 points

- Get together with your team. Look at the activities that everyone wrote up for Assignment 2b. Choose one.
- As a team, write up a lesson plan for the activity (with objectives, assessment, the works). Put it on chart paper or an overhead transparency so it can be easily presented to the class.
- As a team, think about the entire set of standards for the grade. If you only had time, as a teacher, to do half of it with your kids, which half would you do, and why? Make a list to present to the class, and be prepared to give your reasons for your choices.
- In 8 minutes or less, present your lesson plan and standards choices. Be prepared to explain why your lesson plan represents really good science for kids, and why you chose the particular lines or sections from the standards to teach.

Assignment 3 – Discrepant Event

Spirit of the Assignment: to develop and teach a particular kind of a science inquiry lesson that teaches both science thought processes and science content. You will practice your discrepant event on at least one school-age child and reflect on the child's responses and what they indicate about how much he/she understood. Working by yourself or with a partner you will actually present your discrepant event to the class and give a copy of the lesson plan to each class member. After all the discrepant events have been presented, you will take a quiz to demonstrate that you personally learned the important science concepts that were presented.

3a. Discrepant Event Lesson Plan and Presentation I or P 20 points

- Working by yourself, or with a partner, find a discrepant event to do. You can get one from Discrepant Events, by Keating, or go to a bookstore or the children's section of the library and look for books on Science Tricks, or Science Magic.
- Get together the materials needed for the discrepant event. (If you can't get certain things, look for another event to do.)
- Practice doing the event. (If you can't get it to work, you may need to find another event to do.)
- Make sure you understand the science behind the event. If you got it from an internet website, there may be background info on the site. Another good place to look: the children's section of the public library. Find children's books on the topic in addition to or even preferably to books for adults. The children's books will explain things simply and will use the appropriate vocabulary for you to use with your students. Remember, you don't have to have a college-level understanding of the topic, just have good, accurate information at your students' level.
- Do your discrepant event with at least one school-age child and take careful notes on the child's responses. (This ties in with Assignment 3b.)
- Fill in the discrepant event cover sheet, including the two questions.
- On your assigned day, bring in your materials and equipment and do your discrepant event for/with the class. You are limited to 15 minutes presentation time.
- After presenting your event, give each member of the class a copy of the lesson plan.
- Turn in your lesson plan, the cover sheet and your individual journal.

3b. Discrepant event journal I 10 points

- After you have done your discrepant event with a child or children, look at your notes and think about how it went. (You may realize that your event needs to be modified before you do it with the class.)
- Write a description of what happened, with special attention to what the child said and did. Analyze the child's response: what portions of the event, and to what extent, did the child understand what was happening? Why or why not?

3c. Discrepant event quiz I 10 points

Assignment 4 – Community resource-Field Trip Plan I 20 points

Field trips are an excellent way to breed enthusiasm for learning. Thoughtfully planned and skillfully executed, the field trip experience can provide a vital link between abstract concepts presented in the classroom and their real life applications in the community and beyond.

Studies in the field of learning theory suggest that children retain information to a greater extent when it is combined with personal experiences. Field trips can help the classroom teacher bring excitement and deeper meaning to numerous areas of study.

The purpose of this assignment is three-fold:

- (1) to give you an opportunity to explore and share information about a possible field trip site;
- (2) to encourage you to begin thinking in more depth about how you can plan an educational (rather than purely recreational) field trip that is based upon your school (student) text and the California H/SS Framework;
- (3) to give you practice creating learning activities that connect an essential question to an appropriate assessment.

Your report will contain 5 sections:

- 1) Descriptive Cover Sheet
- 2) Social Studies Activity Plan
- 3) Object Exploration Questions
- 3) Service Learning Component
- 4) Site Brochure or other Documentation

1) Descriptive Cover Sheet

This one page cover sheet will become part of a collective packet that will provide you with easy access to basic field trip site information. Hence, you will need to bring **30 copies** of this sheet to class on the day the assignment is due. Staple one copy of this sheet as a cover page to the rest of the assignment you will turn in to the instructor. You should include information such as...

Your Name

Nick #

SITE NAME

Site Address (as well as Internet address)

Relevant telephone #s (general; education dept.)

Admission costs Group rates? Group size?

Opening Hours Reservations necessary?

Specifics of the exhibits Appropriate for which grade/age levels?

Are guided tours for school groups available? Required? Extra costs?

Are handouts or curriculum materials available for teachers to use prior to the visit?

| |
|--|
| Facilities? (bathrooms, area to eat lunch, etc.) Special requirements? (walking shoes, binoculars, warm clothing, etc.) Other information? |
|--|

2) Social Studies Activity Plan

a. *Field Trip Rationale:*

- identify the **unit** or topic of study,
- identify the appropriate **grade level**,
- **write a statement on how the field trip content relates to what is studied in your students' grade level social studies text (Houghton Mifflin, McGraw-Hill, etc.) as well as in the California History/Social Science Framework. Be specific in noting text chapter/pages and Framework section/pages in order to justify why this particular site will enhance the required learning of students for the grade level you have chosen.**

b. *Teaching Activities*

Design **6 different learning activities** for developing your students' knowledge of the selected topic through **Pre-Trip (2), During the Trip (2), and Post-Trip (2)** activities. Each activity should be described in a **full paragraph**. Activities should move away from the classroom textbook. For example, Pre-Trip activities could include a description of what you might do with slides (self-made? bought at/borrowed from site?), a community speaker (be specific about whom and what the discussion would include), or other resource materials. During the Trip activities might include ideas for hands-on learning (note: a docent tour is assumed). Be brief but specific and be sure to *define what both you and your students will be doing*.

In addition, at the beginning of each activity indicate 1 or 2 **Essential Questions** that frame what you expect children to learn. At the end of each activity indicate the **Assessment** you will use to provide evidence that students' learning matches the Essential Question.

3) Object Exploration

Select one item (object, animal, etc.) at your site and design **4 questions** that will reinforce your students' learning of your topic. Questions should be appropriate for your grade level and should stimulate the children's' higher level thinking abilities. Include a brief **"ideal" response** to each question.

4) Service Learning Component

- a. Provide a list of the major **careers** found at your site. Identify (provide name and phone #) who from the site could come to your classroom to speak about these careers and the site in general. Also describe (in a paragraph) a service learning activity that would benefit the site or your community and reinforce student learning.

5) Site Brochure or other Documentation

Simply staple this item(s) together along with the other sections. If the site has no documentation, include several photos of the site/contents.

Have fun planning for an exciting day!

Please turn in TWO COPIES of this assignment: one for your professor, and one for us to keep in the College of Education. Only the copy for your professor needs to include section #4--site brochure/documentation/photos. Please type your report using standard format: 12 font, 1 inch margins, clear typeface.

Assignment 5 – Oral History Project/ Moon Journals/Lesson Plan I

The spirit of this three-part assignment is for you to explore and respond to living history. Full details on Assignment #5 will be given later.

5a. Oral History 20 points

Collecting oral histories is an exciting way to help children understand that “history” is not a dead subject. To the contrary, history is found all around us and is being continually created. For the first part of this project, you will interview a person about a topic that relates to the social studies curriculum. Included in this interview will be a focus on an object of significance to the person/topic of the interview.

5b. Material culture/Moon Journals 10 points

1. Physically borrow the object that goes with your interview.
2. Look carefully at the directions in the Moon Journals book for the writing and art activity for your assigned day.
3. Use the object as the basis for actually doing the writing and art activities.
4. On Oral History day, bring the object, and your response to the writing and art invitations to class to present. Maximum 5 minutes for your presentation.
5. REMEMBER—YOU ARE NOT GOING TO DO YOUR WRITING AND ART ABOUT THE MOON. YOU ARE GOING TO USE OUR OBSERVATION AND THOUGHTS ABOUT THE OBJECT FROM YOUR ORAL HISTORY INTERVIEW.

5c. Lesson Plan 10 points

To give you the opportunity to apply your knowledge of using primary/secondary sources to bring the social studies curriculum to life, you will transform the information gained from the interview into a lesson suitable for children. Included in the lesson will be the use of the object (or document, photograph, etc.) discussed in the interview.

Assignment 6 – Inclusive Science

The spirit of this assignment is for you to explore ways for you to make sure that every child you teach is welcomed and able to participate fully in all science activities. Through reading and internet research you will increase your awareness and gather information on issues/situations that can lead some children to be excluded. With your team, you will prepare and present a skit that illuminates one particular issue.

- Read the Chapter “Including All Children in Science” in Keating, Science Methods
- Join a group. Each group will address one of the following topics:
Limited English
Cultural Issues
Gender issues
Physical disability
Cognitive disabilities and emotional disturbances

6a. Internet research

I 10 points

- Find resources on the internet (articles, websites) that are relevant to your group’s topic. Make this material available to the other members of your group.
- Choose one website to report on. Consider the following items:
 1. Your name
 2. Site name and site address
 3. Your group’s topic – Make sure you clarify in your report how the website connects to the topic, such as physical disability.
 4. How did you learn about this site?
 5. Brief description of the site
 6. Approximate time necessary to access and download desired information
 7. Can kids use this site? If so, how?
 8. Is the content in the site correct and accurate/
 9. Is it from an authoritative source?
 10. Is it free from stereotypes and bias?
 11. Is this the best medium for this information?
 12. Do the images enhance the content?
 13. Is the information useful to teachers?
 14. Does the site respond to questions, or can you share results?
 15. Is the site easy to navigate?
 16. Are all the links current?
 17. Is the home page concise and quick to view?
 18. Are lengthy picture files saved for later pages?
 19. Is the menu clear, informative and current?

Add whatever comments you feel are appropriate on the usefulness of the site. Give your overall impression of the site, especially whether you recommend it, and why. Write everything up so that the instructor, or other students, can read and understand it.

Make a copy of your report for everyone in the class, and turn in a copy.

6b. Team presentation (skit and discussion) T 10 points

- Within your group, share material gathered on the internet
- Discuss the importance/main points/implications of your reading and research
- Use this as a context to develop a short skit (approximately five minutes followed by a two-three minute question and discussion period) that presents a scenario that:
 - a. demonstrates a student in a science or social studies class having difficulty with the content and/or with a teacher strategy
 - b. demonstrates a teacher alleviating the difficulty by modeling at least one effective practice or strategy. At least two others should be either shown or discussed.
 - c. At least three references to the readings/research (these references can be shown or discussed)
 - d. Concludes with a discussion facilitated by the group. This discussion should assess the audience's understanding of the issues presented. Your group should develop some questions or other assessment device.

The team will be graded on the presentation and discussion, according to these criteria:

- Was the scenario interesting (simple props, costumes, charts, sound effects, etc.)
- Was the dialogue lively?
- Was it humorous, or did it otherwise engage the emotions of the audience?
- Was it memorable? Did the class understand the important concepts, and will the class remember them?

REMEMBER—IT'S BETTER TO SHOW THAN TO DESCRIBE. IT'S BETTER TO DEMONSTRATE THAN TO EXPLAIN.

7. Lesson observations

Spirit of the assignment: to intelligently observe a science and a social studies lesson. For each of these you will find a teacher who is teaching that subject (this may or may not be your own master teacher). You will interview the teacher before and after the lesson. If possible, it's good to also talk with some of the children after the lesson. You will put those responses together with your own observations and conclusions to write your report. DON'T JUST GIVE BRIEF ANSWERS TO THE BULLETS – WRITE A REPORT THAT CAN BE READ.

7a. Science lesson observation **20 points** **I**

7b. Social studies lesson observation **20 points** **I**

GENERAL INFORMATION: grade level, district, description of the activity.

BEFORE (Interview)

- How did the teacher come to do this lesson?
- How did he/she pick the topic?
- Where did the materials come from?
- In general, how does the teacher think the children will respond to the lesson?
- Name three children in the class who will like this lesson and do well on it.
- Name three children who might have difficulty, either cognitive or behavioral and describe the problems they are likely to have.

DURING (observation)

- Is there a written or unwritten plan for this lesson?
- What are the objectives (if this/these are unstated, you will have to figure them out)
- How does the teacher know that the objectives were met at the end of the lesson?
- How does the teacher know as the lesson is going on whether the kids are getting it? (checking for understanding)
- Does the teacher make any adaptations to address the needs of the children who might have difficulty?
- Can you clearly follow the procedures the teacher is using and do they relate directly to the objectives?

AFTER (interview teacher, and if possible, some kids)

- How did the lesson go?
- Did the teacher correctly predict the performance of specific children?
- Did the adaptations (if there were any) work?
- How about the class as a whole – were the children engaged?
- Did they learn the skills or content? Did they get it?
- How does the teacher know whether they got it or not?
- Were there any logistical problems?

If you taught this lesson, how would you change it? (Include as many things as you can think of. Even if the lesson was wonderful, come up with at least one modification of your own.) Remember, there is no such thing as a perfect lesson.

EXTRA CREDIT

All students can gain extra credit for certain in-class and out-of-class activities. *There is a cap of 10 points that can be applied to your grade.*

- Read up to three articles concerning science or science education and write a one-page reaction paper on each article. Articles must be current – must have a 2002 or 2003 publication date. They can be from scholarly journals, or ERIC, from the internet, from the newspaper, or from general interest publications. Please make sure to include the Author, Title, Publication Name, and Date of Publication. 3 points per article.
- Watch a television show or movie that deals with science or science education and write a one page reaction paper. (Examples: October Sky, Bill Nye the Science Guy). 3 points per report
- Be a director, according to the list below. 5 points

Director of Directors

Name Tag Director

Science Framework/Standards Copies Manager/Director of Presentations

Cooking Activity Director (bring in something to cover a table, and a large trash bag. Help with setup and cleanup.

Lesson planning small group discussion scheduler

Librarian – Manage of copy of Syllabus. Manage other materials that come up.

Photographer

Webmaster

Moon Journals assignments coordinator

Inclusive education presentations coordinator

Zoo/Wild Animal Park membership. Collect money. Keep list

Science Teachers' Conference Info Disseminator

Field Trip Project Director. Keep the list of who is reporting on what. Make sure they are no duplicates.