

SCE 5305 Evaluating Research in Science Education
Course Syllabus
Fall 2005

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Office: FN 3.308P Hours: Tues. 4-5pm & by appt.

Text: Gay, L.R., Mills, G.E., & Airasian, P. (2006). *Educational Research Competencies for Analysis and Applications* (8th Ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Materials /
Equipment: Internet access and university email
APA Publications Manual - 5th Ed. only
Access to a computer with Microsoft Word and PowerPoint
Access to a connected printer
Access to the UTD's online library resources

Course Goals

The goals of this course are to help you become familiar with current research in science education, develop your ability to critically evaluate research documents, provide you with practice in writing research and position papers, and equip you with the skills you need to begin pursuing actual research in science education (SCE 5308).

Course Objectives

In order to meet these goals, you will do the following as a student in this course:

- Attend class regularly and promptly
 - Participate in online discussions
 - Make active contributions during class activities
 - Complete homework assignments
 - Provide accurate information on quizzes and tests
 - Keep a personal journal of your progress in this course
 - Serve as a participant in a research study (optional)
 - Use the online tutorial (optional)
 - Write a critical review of at least 6 research articles
 - Present your position that emerged as you reviewed the literature
 - Propose a research study
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Student accountability

As a student at University of Texas at Dallas, you are expected to maintain academic integrity and take responsibility for your own learning. In order to gain a better understanding of the position of the university with regard to standards of ethical conduct and behavior expected of all students, please visit the judicial affairs web site at <http://www.utdallas.edu/judicialaffairs>. Please pay particular attention to ways to avoid academic dishonesty. In a high tech world, and particularly in a blended course such as this, it is sometimes difficult to draw conclusions about ethical behavior. This resource will help you to do so.

In addition to the information provided by the university, for the purposes of this course, you are asked to maintain the privacy and confidentiality of your fellow students and to treat them

as you would a student in your charge in a manner that is consistent with the code of ethics for teachers in Texas. That code may be found at the SBEC site at <http://www.sbec.state.tx.us/> and at: <http://www.tcta.org/capital/sbec/codeapproved.htm>.

As you work in this course and the next continues, you will learn that there are very specific guidelines with regard to the ethics of conducting research with human subjects. To begin gaining an understanding of those guidelines, you might visit <http://www.apa.org/science/researchethics.html>; <http://aera.net/aboutaera/?id=222>; or <http://onlineethics.org/reseth/index.html>.

Disability services

If you require services to assist you with a disability that may present a barrier to your learning, please inform your instructor so that she may make arrangements to accommodate your needs in class and in the online environment. You may also wish to visit the web site for Disability Services for additional information about how you might be assisted as a student of UTD. That web site is located at <http://www.utdallas.edu/student/slif/hcsvc.html>.

Class schedule Our class will follow the general schedule of the university for the Fall 2005 semester. To check the academic calendar, please visit <http://www.utd.edu/student/registrar/calendar>. To learn when class assignments are due, please click on "Calendar" in your WebCT menu bar. For a listing of topics and events by the week for the semester, please click [here](#).

During each class session, we will attempt to adhere to the following schedule. However, as learning needs of this particular class of students emerge, the session schedule may alter to meet those needs.

Approximate time	Learning activity
5:30pm - 5:45pm	Consolidation activity - We will work together to ensure that students have gained the essential knowledge and skills to which they have been introduced so far in this semester.
5:46pm - 6:15pm	Research review - We will work together to review progression of the model research project in which we are participating as a class.
6:16pm - 6:45pm	Position concerns - Students will share the concerns they are developing as they are working to review their literature.
6:46pm - 7:00pm	Evening break
7:01pm - 8:00pm	New information - Your instructor will engage you in activities that are designed to introduce you to new knowledge and skills.
8:01pm - 8:30pm	Class activity - You will be asked to join in a class activity that will help you reinforce your understanding of the new knowledge and skills you have just acquired.

Attendance policy

In order to be successful in this course, you must attend class regularly, and you must engage in discussions and activities in the online environment between classes. We will begin class promptly at 5:30pm. Educational research is almost never conducted by individuals working in isolation. There is almost always a team of professional researchers and collaborators who work together on any study. We will simulate the educational research environment in our class, so you and your classmates will become a team who are working together to learn how to conduct an educational research study. As a member of the team, you must be present and actively engaged on task in order to support the others on the team. You must be able to count on each other. Because of the team based environment that we will be creating, your grade will partially be determined by your presence and your participation. You may not miss more than three scheduled class periods unless you have made arrangements with the instructor. Missing more than three classes will result in a failing grade in the class. You must engage in each of at least nine of the possible twelve online discussions. Missing more than three discussion opportunities will result in a failing grade. If you are more than fifteen minutes late to a class meeting, you will be counted absent unless you have made prior arrangements with the instructor to come to the class session late.

Grading policy

Because of the nature of the work you will be doing in this class, performance grades are often subjective rather than objective. When your work is to be graded subjectively, you will be provided with a rubric to use as a guideline for your work, and you will be given opportunities to submit the work for comments and rework before it is actually due. Your final grade for the class will be determined in the following manner:

ACTIVITY	PERFORMANCE CRITERIA	POSSIBLE POINTS
Attendance	You must be present in order to learn from this class. You will be awarded 4 points for each class session that you attend, and you will be awarded 4 points for each online discussion in which you actively engage (posting one short statement is not active engagement in discussion). There are 14 class scheduled sessions and 12 discussion opportunities. Missing more than 3 class sessions and/or more than 3 online discussion opportunities, unless arranged with your instructor, will supercede all other graded activities and result in a performance grade of "F" for the class.	104
In class activities	In class activities will vary to accommodate the needs of this particular team of students as the semester progresses. There will be a total of not less than 10 in class activities. If you are present and actively engaged in the activity in a way that leads to learning for both you and your classmates, you will be awarded 10 points for each in which you participate.	100
Homework	Most homework assignments in this course will be reading assignments. However, on occasion, you will be asked to perform specific short homework tasks other than reading. These tasks will be completed and/or documented online. In order to customize the needs of this group of learners, specific homework tasks are not set in advance. Each that is assigned over the	

	<p>course of the semester will be weighted equally such that the total possible points for completing these tasks is 50. Scoring on such homework tasks will be on an "all or none" basis. If the task is complete and on time, you will be awarded the full point value for the task. If it is not complete and/or is late, you will not be awarded the points.</p>	50
Quizzes	<p>There are four quizzes to complete over the course of this semester. Two short quizzes over specific reading assignments will be completed online. These are worth 10 points each. There will also be a comprehensive mid-term exam that is objective and a comprehensive final exam that is objective. These two exams will be worth 15 points each.</p>	50
Journal	<p>Each week you will reflect on what you have learned during that week. You will make an entry into your own personal journal online. Some weeks, your reflections will be partially directed by your instructor, and other weeks you will be asked to respond to your learning experience freely. There are no minimum nor maximum number of journal entries you should make. The journal should be a personal response to your own learning. As with specific homework tasks, your journal will be awarded points on an "all or none" basis. You will have either made an honest effort to consolidate your learning through personal reflection, or you will have failed to do so entirely.</p>	50
Literature review	<p>Over the course of this semester, you will be developing a position which will lead you to develop and conduct your own research study (in 5308). In order to develop your position, you will self select, read, and critically review a minimum of six first line research articles. During the first half of this semester, you will be learning to construct a critical review of research literature. You will choose literature to review that is of interest to you. You will be provided with a rubric that will be used to evaluate the quality of your work. Your written literature review will be a formal paper that is publication ready in APA style.</p>	250
Presentation	<p>During the second half of this semester, you will be considering ways to use what you learn from both professional literature and observation to develop a personal position. Using your review of literature, you will develop a short (not more than 15 minutes with a question/answer period) PowerPoint presentation that you will present to your classmates. In your presentation, you will explain how your review of the literature led you to take a particular position. Your position will simply be that research is needed to help the professional community develop a better understanding of the phenomenon which has become of interest to you. However, you must use your review of the literature to demonstrate what you are taking that position. Because of time constraints, your presentation to the class must be brief. But, by fleshing your presentation out and making it just a little longer,</p>	

	you will have a professional presentation that is ready to submit to be included at a professional conference. Again, you will be provided with a rubric that will be used to evaluate the quality of your work. Your PowerPoint presentation must be professional in nature, and it must be developed according to APA style.	250
Research proposal	You will have taken a specific position as you reviewed your literature and as you developed your presentation. The position that you will take is that research is needed to help the professional community gain a better understanding of the phenomenon which has captured your interest. You will be conducting the needed research during the spring semester in SCE 5308. As a final project for this semester, you will begin a written proposal for your study. You will use the review of literature and the presentation of your position to develop your proposal. You will be provided with a rubric that will be used to evaluate the quality of your work. The proposal will be written in a very specific format which will be provided to you, and it must be written in APA style. To complete this assignment for this semester, you must have written the "Introduction" section of the proposal. You will complete the remaining sections of the proposal as one of your first tasks in SCE 5308.	150
TOTAL POSSIBLE POINTS		1004

Your final grade for the class will be determined according to the following:

925 - 1004 pts = A

850 - 924 pts = B

775 - 849 pts = C

less than 775 pts = F