

15:295:510 Cooperative and Collaborative Learning

Class Meets:	Room 347, GSE, Wednesday 4.50 – 7.30 p.m.
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Course Materials

1. Required text: *Cognitive perspectives on peer learning (1999)*. Edited by Angela M. O'Donnell and Alison King. Mahwah, NJ: Lawrence Erlbaum.
2. Journal articles and chapters will be posted on www.sakai.rutgers.edu

Objectives of the Course

My goals for you during this course are to have you:

- Become familiar with and critical of various theories that purport to explain the benefits of collaboration/cooperation
- Learn to critique original research in cooperative learning
- Develop a peer learning technique that will be helpful to you in your work
- Work with other people in the class to develop an understanding of the complexity of effective peer learning
- Engage in critical discussion of work in the field

Course Description

The course presents an overview of current theory and research on cooperative and collaborative learning techniques with particular reference to classroom learning. The course is not intended to be a *methods* course but rather focuses on theoretical perspectives on cooperative learning that will inform the practical choices to be made in classrooms. We will consider examples of techniques and discuss the research findings on the effects of cooperative learning on cognitive and affective outcomes will be discussed. We will also address the role of high level discourse and the teacher's role in supporting such discourse by the selection of tasks and the prompting of cognitive and metacognitive strategies. We will examine cooperative and collaborative learning from different theoretical perspectives including those from developmental, social, and cognitive psychology, sociology, and sociolinguistics and the limitations of these various approaches.

Evaluation

ACTIVITY	DUE DATE	% GRADE	RESPONSIBILITY
Weekly Notes	Weekly	25%	Individual
Article Critique or Design a Technique	Oct 24th	20%	Individual
Presentation/Lead Class Discussion	BA	25%	Individual
Term Paper	Dec 19th	30%	Individual

Weekly Notes

Purpose:

The purpose of writing weekly notes is to have you articulate your specific reactions to the assigned reading materials/lecture about particular content in the course.

The Task.

You will need to write a 1-2 page reaction paper to the assigned reading each week. You can provide one of the following different types of responses.

- (1) *Questions about the readings:* In this type of assignment, you will be asked to identify 3 questions that you have about the assigned readings for the week. You will need to justify why your questions are interesting or important.
- (2) *Theory critiques:* I will provide a problem to the class and ask how it might be explained from a particular theoretical viewpoint. For example, I may present a case of a student with learning difficulties and suggest how a particular theory might explain the situation. Your task would be to critique the limits of the theory to explain the case.
- (3) *Identification of limitations.* You will need to identify a limitation of a theory or principle from the readings of the week. You will provide an explanation of the limitation and provide a constructive suggestion for how this limitation could be ameliorated.

Critique of an Article on Cooperative Learning

Purpose: The goal of this activity is to have you learn to critically evaluate an empirical research article on the topic of cooperative or collaborative learning. You will need to select an article from a reputable research journal such as those listed below. Other journals may be suitable but you should verify the appropriateness of the journal with me before proceeding.

Journal of Educational Psychology.	Journal of Educational Research.	Journal of Experimental Education.
Reading Research Quarterly	American Educational Research Journal.	Journal of Research in Mathematics Education
Cognition and Instruction.	Review of Educational Research.	Journal of Special Education.
Instructional Science.	Journal of Learning Disabilities.	Learning and Instruction
Educational Psychology Review	Journal of Research in the Teaching of Science	College Composition and Communication
Journal of the Learning Sciences		

Your paper should be 5-6 pages in length, typed, and double spaced. Your title page should include your name, your course number, and you should indicate that the paper is being submitted in order to satisfy the research participation requirement in your class.

Your paper should include the following kinds of information. Some sample questions which might guide your critique are given below, but you should not limit yourself to addressing only these. An empirical article typically has an introduction, a methods section, a results section, and a discussion/conclusions section.

Introduction:

You should provide a summary of the objectives of the research reported. Why was the research conducted? You should critique the stated objectives of the research by addressing whether or not the rationale for the research reported was convincing. Was the problem addressed an important problem?

Was adequate background information to the problem presented? Was the educational significance of the topic discussed? (yes or no answers to these sample questions are not acceptable.)

Methods

You should describe how the research was conducted. Was the subject population adequately described and appropriate to the questions addressed? Could the objectives of the research be met by the methods used to conduct the research? Was the description of the procedures clear and detailed enough to allow someone else to replicate the research?

Results

What were the results of the research?

Discussion/conclusions

What were the theoretical implications of the results?

What were the practical implications of the results?

Could the results be generalized?

What were the limitations of the research?

OR Design a Technique

Purpose: The purpose of the activity is to provide you with an experience of designing a cooperative technique that you can use in either your workplace or in your classroom.

The Task

You will be asked to design a cooperative learning technique for use with a particular age group and subject matter. You will decide on the age and subject matter. You will need to provide instructions for a new teacher that would allow the teacher to use your cooperative learning technique effectively. Your plan should include the following:

- a) A description of how the technique works. The description should be detailed. Sample worksheets that might be necessary to support the work should be included. Trial videotapes of the technique in action might also be included.
- b) A description of the age of the students for whom the technique is intended and a rationale for the appropriateness of the technique to the age group.
- c) A rationale for the appropriateness of the technique to the subject matter chosen.
- d) A description of important decisions made (e.g., use of group rewards). Outline your rationale (supported by reference to the research read in the course) for important decisions.
- e) A description of possible sources of problems that might be encountered and your suggested solutions to those problems.
- f) Descriptions of hypothetical problem individual students and how you solve their particular problems (2 students should be described).
- g) A description of the kinds of tasks for which your technique is appropriate. Explain why these tasks and not others are appropriate.
- h) Suggestions for how to get started using the technique. Specifically, what should students be able to do before the technique can work successfully? Outline plans to teach those skills they may not already have but might be necessary.

TERM PAPER

This will consist of a thorough literature review on a topic chosen by you. The paper is worth 30% of your grade. The topic of your paper should be relevant to the content of the course. The paper should be written using APA

style, which is the style of the American Psychological Association. If you do not already have a copy of the APA Style Manual (6th edition), you can get access to one at the reference section of the library. The final paper should be between 20 and 25 pages long, excluding references. For the purpose of the literature review, a convergence approach is probably the best approach to adopt, that is, you should start with general ideas and converge on specific issues which you feel have been ignored in the current literature, or are interesting and worth pursuing. You should provide me with a title and abstract of the paper (general idea of what you might include) of the paper on March 12th. The final paper is due on May 7th. A detailed description of how to do a literature review can be found at the end of the syllabus.

Tentative Schedule of Class Meeting and Readings

Date	
Jan 22	Introduction
Jan 29	Chapter 1 <i>Cognitive perspectives on peer learning</i> .
Feb 5	Chapter 2 <i>Cognitive perspectives on peer learning</i> .
Feb 12	Chapter 5; Chapter 1, <i>International handbook of collaborative learning</i> .
Feb 19	Tutoring: Chapter 3 <i>Cognitive perspectives on peer learning</i> . Mathes, P. G., & Fuchs, L. S. (1994). The efficacy of peer tutoring in reading for students with mild disabilities: A best-evidence synthesis. <i>School Psychology Review</i> , 23, 55-76. Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer-assisted learning strategies: Making classrooms more responsive to academic diversity. <i>American Educational Research Journal</i> , 34, 174-206.
Feb 26	Roles in Groups Chapter 6 <i>Cognitive perspectives on peer learning</i> .
Mar 5	The Role of the Teacher: Chapters 9, 10 <i>Cognitive perspectives on peer learning</i> .
Mar 12	Cooperative Learning in the Inclusion Classroom Fuchs, D., Fuchs, L. S., Mathes, P. G., & Martinez, E. A. (2002). Preliminary evidence on the social standing of students with learning disabilities in PALS and no-PALS classrooms. <i>Learning Disabilities Research</i> , 17(4), 205-215. Jenkins, J. R., & O'Connor, R. E. (2003b). Cooperative learning for students with learning disabilities: Evidence from experiments, observations, and interviews. In H. L. Swanson & K. R. Harris & S. Graham (Eds.), <i>Handbook of learning disabilities</i> (pp. 417-430). New York: The Guilford Press. Chapter 17 <i>Handbook of collaborative learning</i> . Collaborative learning for diverse learners.
Mar 19	Spring Break
Mar 26	Status Characteristics Cohen, E. G., & Lotan, R. A. (1995). Producing equal-status interaction in the heterogeneous classroom. <i>American Educational Research Journal</i> , 32, 99-120. Chapter 7 <i>Cognitive perspectives on peer learning</i> . Chapter 19 <i>International handbook of collaborative learning</i> . Organizing collaborative learning experiences around subject matter domains: The importance of aligning social and intellectual structures in instruction.
Apr 2	Motivation in collaborative groups. Chapter 14; <i>International handbook of collaborative learning</i> .
Apr 9	Chapter 18: Learning through collaborative argumentation. <i>International handbook of collaborative learning</i> .
Apr 16	Antil, L. R., Jenkins, J. R., Wayne, S. K., & Vadasy, P. F. (1998). Prevalence, conceptualizations, and the relation between research and practice. <i>American Educational Research Journal</i> , 35, 419-454.

	Webb, N. W., Nemer, K. M., & Ing, M. (2006). Small-group reflections: Parallels between teacher discourse and student behavior in peer-directed groups. <i>The Journal of the Learning Sciences, 15</i> (1), 63–119
Apr 23	Chapter 26: Metacognition and computer supported collaborative learning. <i>International handbook of collaborative learning</i> .
Apr 30	Selection of Tasks Cohen, E. G. (1994). Restructuring the classroom: Conditions for productive small groups. <i>Review of Educational Research, 64</i> , 1-36. Chapter 8 <i>Cognitive perspectives on peer learning</i> . Lotan, R. A. (2003). Group-worthy tasks. <i>Educational Leadership, 60</i> (6), 72-75.
May 7	Accountability, Reflection, and Processing Cohen, E. G., Lotan, R. A., Abram, P. L., Scarloss, B. A., & Schultz, S. E. (2002). Can groups learn? <i>Teachers College Record, 104</i> (6), 1045-1068.

GUIDELINES ON WRITING A LITERATURE REVIEW FOR 295:510

Some preliminary comments: You will be required to complete a literature review as part of the assignments in this class. Many people may not have had previous experience in writing a literature review. The information on the following pages is designed to help you understand what is being required. If the information contained in the following pages is too basic for you, please do not feel insulted. The information is intended as a guide to someone who might be nervous about what I expect and unsure of how to proceed. Hopefully, the information contained in the following pages will provide you with some idea of my expectations and some strategies for proceeding with your paper. Irrespective of the degree of expertise you already have in writing such papers, I encourage you to select a topic early and begin to do the background reading for that topic.

The following information can be found in the succeeding pages:

1. A definition of a literature review or review article
2. How do I choose a topic?
3. Selecting information for inclusion in a literature review
4. The nature of the information to be included
5. Finding the information in the library
6. Organizing a literature review
7. Concluding the literature review
8. What the reader should know by reading your review
9. a very abbreviated example of a literature review
10. a commentary on the example

Some of this information has been adapted from the Publication Manual of the American Psychological Association.(3rd). Its use in this context is for instructional purposes only.

Additional comments: This compilation of material will only be useful to you if you actually make the effort to benefit from it which means taking some time to read the other reviews and commentaries. I firmly believe that what you learn from doing this will benefit you in your other courses and your subsequent professional writing.

1. Definition of a Review Article or Literature Review

A tremendous amount of research is conducted on various topics and it is necessary from time to time to review the literature critically and summarize what has been discovered up to this point in time. A literature review is very different in style from an opinion paper, a concept paper, or a reaction paper. In opinion papers, your task may be one of persuasion or simply one of denouement of one's ideas. A reaction paper requires you simply to respond to ideas that are already presented. In many forms of writing, the explicit stance of the writer is one of subjectivity. Although one can never truly rule out one's own subjectivity and its influence on the selection and favoring of certain topics and ideas over others, writing a literature review in psychology requires that you make every effort to maintain objectivity related to the literature being reviewed. While your personal opinions inform the selection of information to include, the organization of the information in the paper, and the conclusion you draw, these opinions must be substantiated by citations of appropriate and current research. This does not mean, however, that you search the literature for information that says what you want to say, assuming that a citation provides more legitimacy than your own opinion. The literature, in this case, is not actually reviewed, it is simply used.

The approach to be taken to doing a literature review on a topic is to frame a problem, approach the literature with an open mind to discover what people have learned about this topic, what are the general themes of the work they have done, what has been neglected, and what can be concluded from the available research. The synthesis of the available evidence should be objective, unemotional, and reasoned. It isn't simply a matter of deciding that 4 studies support a particular position and 8 do not. Many of the studies may be critically flawed; their findings restricted to a very narrow range of behaviors or situations, and may only address a small fragment of a larger problem. Your task is to assemble, critique, and synthesize the work. According to APA (1994), "review articles are critical evaluations of material that has already been published. By organizing, integrating, and evaluating previously published material, the author of a review article considers the progress of current research towards clarifying a problem. In a sense, a review article is tutorial in that the author.

- ** Defines and clarifies the problem
- ** Summarizes previous investigations in order to inform the reader of the state of the current research
- ** Identifies relations, contradictions, gaps, and inconsistencies in the literature, and
- ** Suggests the next step or steps in solving the problem." (p. 5)

2. **How do I Choose a Topic?**

You probably already have some general topics in mind as you selected this course. Specifying a particular topic can be the hardest part of writing a literature review. An important first step is in narrowing the domain of possibilities. There are basically three approaches to homing in on a topic, a top-down approach and a bottom-up approach, and a mixed-model approach. Depending on your cognitive style (tolerance for ambiguity, lack of structure, rigidity), one or other strategy may work best for you. A top-down processing involves approaching the task by ask yourself questions about what you want to know and why. It may be possible for you to generate a tentative outline based on questions you may be able to

pose about the content. This strategy would require some prior knowledge of the content. The risk involved in this strategy is that you may not be as open to seeing the breadth and scope of the actual literature because you have narrowed your options a priori. An alternative strategy is a bottom-up processing approach in which you examine what the literature includes. In pursuing this strategy, you may first conduct a computerized search of a relevant database (e.g., ERIC) and try to identify the themes in the research you located. For example, I recently conducted a literature search on the research on peer tutoring conducted since 1982. I limited my searches to ERIC and Psychological Abstracts. I retrieved over 1,000 references. The risk to this approach to identifying a topic is that you can feel easily overwhelmed and ironically, you may miss some important material because the efficacy of a computer search is highly contingent on the keywords used. The third strategy for identifying a topic is to do a little of both of the previous two strategies, come up with an initial idea, check the literature to see what has been done in this area. For example, if you were interested in writing a term paper on assessment of multi-handicapped deaf children (not a good topic for this course), you would need to check the available literature before committing too much time to this topic. What you would find with this topic is that there is very little information available. A very important aspect of finding a good topic is finding one that is doable. You might call this the “Goldilocks” strategy, not too big, not too small, but something “just right.”

3. Selecting Information for Inclusion in a Literature Review

The information in a literature review should be as unbiased as possible. If, for example, you are reviewing the literature on the effects of cooperative learning on high achievers, you should include information related to many aspects of the issue, not just those which you personally support. If you believed that cooperative learning was only useful for low achievers, you might be tempted to include in your review only those studies that conform to your personal beliefs. Resist such a temptation. This would be very poor practice. You need to objectively evaluate the evidence available, which means considering ideas and *research that do not necessarily conform to your opinions or beliefs.*

4. The Nature of Information to be Included

Information about a topic is gleaned from a variety of sources. Some sources are more reliable than others. Information may be gleaned from the personal opinions of others, presented in newspaper articles, a research report based on the analysis of large numbers of people, a personal narrative of an experienced event, etc. The sources differ in the degree to which we can feel confident in the results and in the degree to which we anticipate that the information can be used to analyze other behavior of a similar nature. Many good ideas begin with a personal experience or intuition. You should not ignore these and they will no doubt shape the organization of your review. For the purposes of this course, I expect you to rely on empirical research findings or reviews of such findings that can be found in the major journals of the field. Other sources will be judged to be unacceptable.

5. Finding the Information in the Library

Rutgers has one of the largest library systems in the country. If you are not already familiar with the library system, you should take the earliest available opportunity to acquaint yourself with the system. The reference desk at Alexander Library has a very useful Macintosh program that helps you to find *what you need.* I would strongly recommend starting with this program if you don't know where to begin.

Library Resources Available.

1. **Reference librarians.** They are usually located at the reference desk and provide all kinds of good information. They are generally helpful and will show you how to use the computerized data base facilities if you request help.
2. **IRIS Catalogue.** This catalogs books and journals held by the library. It can be accessed from any computer on campus at <http://www.libraries.rutgers.edu/> or from home, using your netid.
3. **Bound Journals.** These contain the most up-to-date research/reports on almost any topic. Rutgers has a huge collection. A listing of all the journals held by Rutgers is available at the *reference* desks and is also available online by checking IRIS.
4. **Electronic Journals.** The library subscribes to a substantial number of electronic journals which can be accessed through the libraries home page.
5. **Abstracts:** Abstracts of various fields of study are published separately and are especially useful in tracking down information related to specific topics. Abstracts are searched by looking for key words and finding abstracts of articles that have used these key words. For example, if you were to look in the Psychological Abstracts for articles that dealt with "ability grouping" you would look up the term and locate the abstracts. This can be quite tedious as the abstracts are published yearly. The computerized version of these abstracts has some considerable advantages because of its speed.
6. **Computerized Abstracts:** Abstracts are also available online or on computer disk for certain subject areas. The Psychology abstracts and ERIC (the main resource on education) are available online and can be accessed as part of the INDEXES available from the RU Library homepage. The beauty of the computerized versions of these indices is that the search process is very rapid.
7. **Inter-campus Materials.** If the material you are looking for is located at a different campus, you can get books or journal articles using the copy express or book express. Information about these is available at the circulation desk.
8. **Interlibrary Loan.** If material that you need is not available at any of the Rutgers campuses, you can get the material through interlibrary loan. This can take quite some time (2-5 weeks). You shouldn't wait until the last minute to find material.
9. **Finding articles using Searchlight.** Searchlight is a search engine on the library homepage that allows you to search multiple databases simultaneously.
10. **Useful Databases** The most commonly used databases are ERIC and PsychInfo.

6. Organizing a Literature Review

In synthesizing information related to a topic, you will have to define the problem being addressed, summarize previous investigations, and identify connections, contradictions, and gaps in the literature. In order to summarize the previous investigations, you will have to decide what are the general issues addressed in the literature related to the particular topic chosen. You may want to group the literature you examine according to a set of subthemes being addressed. The organization of the subthemes should have a logical ordering.

7. Concluding the Literature Review

You should conclude the review by *identifying* the issues related to the chosen *topic* that *remains* unresolved or unstudied. You should point the way to those subtopics that require further study. It is not enough to conclude, "Further research is needed *in* this area." You will need to say why and in what specific area. Your conclusion is not limited to a single paragraph. You might consider checking that you have done the following:

- You have sufficiently focused the topic so that you addressed issues in some depth.
- You provided sufficient detail of reported experiments so that your reader could understand why you were providing criticism.
- You kept the audience in mind and considered what might need to be explained.
- You made your assumptions clear and made a case for them, rather than simply making assertions.
- You provided evidence that was sound.
- Your conclusions could be reasonably drawn from the work you presented.
- Your organization was clear and there were no major "cognitive leaps" needed by your reader.

8. What the Reader Should Know by Reading Your Review.

A reader of *your* review should have a very good idea of the current knowledge related to a particular topic based on the available research. The writer of the review will have assisted the reader by organizing the information *according* to the important themes of research on the topic. The reader should also know what are the major unresolved issues related to the topic and what are important areas of future research.

9. A Very Abbreviated Example of a Literature Review

The following example is included as a rough outline of what you might expect to do when writing a literature review. **NORMALLY, THE TEXT OF A PAPER IS DOUBLE-SPACED. HOWEVER, I HAVE USED SINGLE-SPACING HERE TO SAVE PAPER.** This material is based on the example used in the APA manual (3rd edition) to illustrate preparation of a manuscript. I have added material to that example.

Analytical Cognitive Style as a Factor in Memory for Text

Cognitive or personality style differences have traditionally been ignored in the field of human learning and memory (Eysenck, 1977). This situation is surprising given the growing body of literature showing that individuals differ in how they encode and retrieve simple and complex verbal information (for summaries, see Eysenck, 1977, and Goodenough, 1976). The present review has two purposes: (a) to demonstrate that when the popular personality and cognitive constructs - locus of control (Rotter, 1966) and field dependency (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962) are used as factors in semantic recall studies, similar results are obtained; and (b) to suggest that this similarity occurs because both constructs overlap with the analytical/holistic cognitive style dimension.

Locus of control

Rotter (1966) suggested that people with an internal, as opposed to external, locus of control believe that events are contingent on their own actions and abilities rather than chance or other people .
..(section continues).

Research on Learning Word Lists

A widely held belief in verbal learning is that participants use cognitive categories while learning word lists and use these categories as the basis for retrieval (Bousfield, 1977). ...(section continues).

Research on Text Recall

The argument that externals and internals use different strategies to encode and retrieve simple word lists can be made when complex material serves as the stimulus material....(section continues).

Field Dependency

A field-dependent person, in contrast to a field-independent person, cannot overcome an embedding context and cannot deal with a perceptual field analytically...(section continues).

Research on Learning Word Lists

Researchers obtain similar results to those found in the locus of control literature when they use field dependency as the individual-difference construct in studies employing simple verbal materials(section continues).

Research on Text Recall

Annis (1979) has found individual differences in field dependency and text recall that parallel those found in a study of locus of control by Wolk and DuCette (1974)...(section continues).

Relationship of Locus of Control and Field Dependency with Analytical Processing

The constructs of locus of control, field dependency, and analytical processing style are related to a certain extent because the definitions of the constructs overlap. However, the overlap in the constructs occurs because....(section continues).

Conclusions

Although the constructs of locus of control and field dependency generally measure different aspects of personality and cognitive functioning, they appear to measure the same processes in terms of text encoding. That process appears to be individual differences in analytic and holistic processing...(section continues).

10. Brief Comments on the Literature Review Above

**** Defines and clarifies the problem:** The author first notes the problem which is the fact that cognitive and personality factors have been ignored in the field of human learning, despite the fact that individuals have been shown to differ in how they encode verbal information. The purpose of the review is two-fold. First the author wishes to demonstrate that individual differences on a cognitive factor (field dependency) and a personality factor (locus of control) are recalled to text recall. Second, the author wishes to propose an explanation of why these two characteristics overlap in their relationship to text recall.

**** Summarizes previous investigations in order to inform the reader of the state of current research:** The author introduced the two important constructs he or she wishes to discuss in the opening paragraphs. The author takes each of the constructs separately, defines it, and reviews literature, which show that it relates to simple and complex verbal information processing (word lists and text recall). "Locus of control" is discussed first. The author briefly defines and then reviews the literature-relating locus of control to verbal information processing. The author follows the same procedure with the second construct (field dependency).

**** Identifies relations, contradictions, gaps, and inconsistencies in the literature:** Having addressed the same aspects of the two constructs, the author then moves on to the second purpose of the literature review which was to offer an explanation for the overlap of the two constructs and their relationship to verbal information processing. In this part of the review, the author proposes that field dependency and locus of control both share the same component, that is, an analytical vs. holistic cognitive style dimension. In this example, there was no need to identify inconsistencies in the previous literature, as the relationship between these two constructs had not previously been addressed.

**** Suggests the next step or steps in solving the problem:**

This kind of information is usually found in the conclusion section of a review.

I suggest that you read a number of literature reviews critically in order to get a good sense of what constitutes a well written literature review.