

**SLS 750: SEMINAR IN SLA
RESEARCH SYNTHESIS IN APPLIED LINGUISTICS**

Instructor: Lourdes Ortega

Th 3:00-5:50 Moore Hall 227

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(please e-mail to schedule appointment first or use sign-up sheet on my office door)

Other days also possible, only by appointment

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Note: The course syllabus provides a general plan for the course; modifications are likely to be necessary and will be implemented as a result of students' needs and classroom life.

Course Description

Overall description

This course introduces students to the purposes and methods of research synthesis, including systematic procedures for the sampling of primary research studies, the evaluation and classification of their substantive and methodological features, and the analysis and interpretation of study findings. The course also familiarizes students with meta-analytic techniques for summarizing and interpreting quantifiable findings from primary studies.

Why research synthesis?

Secondary research involves the review, synthesis, and interpretation of research questions, methods, and accumulated findings in a particular domain of inquiry. Outcomes of secondary research play an important role in influencing policy and in improving research programs in any given field. Within applied linguistics, traditional forms of secondary research (such as narrative reviews and so-called vote-counting reviews), while widely employed, are subject to serious weaknesses in the trustworthiness and replicability of conclusions. In recent years, research synthesis and quantitative meta-analysis have gained attention as more appropriate approaches to secondary research in applied linguistics.

Scope of the course

The course will be methodological in nature, but the research synthetic methodologies will be learned by careful application to topics in SLS of your own choice, provided they

have produced bodies of empirical research extensive and consistent enough to constitute a research domain amenable to synthesis. Students will engage in collaborative, in-depth examination of these topic areas and will produce a final paper that pilots all aspects involved in carrying out a synthesis of the chosen research domain.

Desired outcomes of the course

The course is designed to support students' research and should lead to manuscripts that are publishable. Therefore, issues of publication will be given special attention in this course, including publication bias, research quality, and peer review. I will give extensive feedback throughout the semester on your interim products with this goal in mind. For those course projects that result in original findings and in reports of high quality, I will suggest specific scholarly journals appropriate for submission of the particular syntheses produced. If you are a doctoral student, I also encourage you to think of doing a meta-analysis or a research synthesis for the literature review part of your dissertation.

Learning Objectives

Students should develop the knowledge and skills involved in carrying out systematic secondary research (i.e., reviews of extant evidence from primary studies pertaining to a research domain or research problem) using the procedures of synthesis, including but not limited to meta-analysis.

Procedural knowledge objectives

Because the course is structured to guide you through the process of piloting all stages related to research synthesis, by the end of the semester you should have reasonable procedural knowledge of the following essential analytical steps:

1. Identify, define, and describe a research domain and/or research problem cogently, and establish a clear purpose for the research synthesis (“problem specification”);
2. Define the population of studies in the research domain, and identify and retrieve as much of the population as possible through systematic and exhaustive library searches (“study retrieval”) (using *EndNote*);
3. Formulate clear and explicit criteria for inclusion and exclusion of studies from a synthesis (“study eligibility criteria”);
4. Develop and use a protocol for coding primary studies for substantive and methodological features of interest, given the purposes of the synthesis (“coding of study features”) (possibly using *Microsoft Access*);
5. Employ meta-analytic techniques for summarizing and interpreting quantifiable findings from primary studies, including the calculation of various kinds of effect sizes and confidence intervals (possibly using *Microsoft Excel*, *SPSS*, or other appropriate software);

6. Find creative and useful ways of aggregating information from primary studies and presenting synthetic findings, taking into account substantive and methodological features, the nature of the research questions in the domain, and the types of data.

Your work on research synthesis will also help you do the following better:

- Interpret the quality, trustworthiness, and generalizability of primary research studies;
- Estimate and interpret the reliability of analytical processes (e.g., population definition, sampling strategies, and coding of primary study features);
- Relate study characteristics to outcomes;
- Present your findings in a clear and professional manner, using tables and visual displays appropriately.

Declarative knowledge objectives

The readings and discussions in this course will improve your current knowledge of a wide range of areas. By the end of the semester, you will:

1. Know how to distinguish between a narrative review, a vote-counting review, and a research synthesis;
2. Know how to evaluate the quality of a research synthesis, looking at the soundness of the methods employed and the warrants of the cumulative interpretations made;
3. Know better how to do exhaustive and accurate library searches;
4. Understand better the relationship between sample size, effect size, and statistical significance;
5. Explain and interpret effect sizes and confidence intervals.

You will also increase your awareness of a number of “myths” in applied linguistics research, including:

- Understand what “the file drawer problem” is, what the value of fugitive literature is, and why publication bias poses a serious threat to the accumulation of knowledge;
- Realize how damaging the problem of overreliance on statistical significance testing is in quantitative approaches to applied linguistics research;
- Be wary of “the myth of the single study”;
- Understand the difference between replicating variables and so-called ‘replication studies,’ and understand the value of the former for advancing the accumulation of knowledge within a domain of inquiry.

Finally, the course will also foster your critical knowledge of research synthesis as a methodology, including understanding of the arguments involved in several problems discussed in this literature, among others:

- The “apples and oranges” problem;
- The “garbage in, garbage out” problem (also called the “inclusive” vs. “best evidence” debate);
- The independence problem.

Textbook and Instructional Materials

Textbook:

Available as an e-book through Hamilton Library, or for purchase at Amazon.com, or from the publisher directly:

Norris, J. M., & Ortega, L. (Eds.). (2006). *Synthesizing research on language learning and teaching*. Amsterdam: John Benjamins.

Other strongly recommended reference books (that you don't need to buy, however) are:

Cooper, H., & Hedges, L. V. (Eds.). (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation. [HRS in the reading schedule]

Hunt, M. (1997). *How science takes stock: The story of meta-analysis*. New York: Russell Sage Foundation.

Light, R., & Pillemer, D. (1984). *Summing up: The science of reviewing research*. Cambridge, MA: Harvard University Press.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.

Rosenthal, R., Rosnow, R. L., & Rubin, D. B. (2000). *Contrasts and effect sizes in behavioral research*. New York: Cambridge University Press.

Other materials:

Other readings will be made available to students electronically or as a reading packet for purchase from *Professional Image*, 2633 S. King St., close to King/University intersection: Call to check availability first (phone: 973-6599). We will first find out about the individual interests in the class before deciding on the final reading list.

Since this is an advanced research methods course, responsibility for discovering, locating, and sharing copies and reports of relevant sources is equally shared by all course participants. New sources will be discovered as our discussions and projects evolve. As you contribute new great finds to the course bibliography, you will be asked to provide a hard copy for the reserve collection (in the Reading Room).

Main journals devoted to syntheses and other forms of secondary research:

We will talk a lot about publication (trends and biases) in our course, so you will need to work with refereed journals as well as so-called fugitive literature. Two key journals for integrative reviews of research in applied linguistics are:

Annual Review of Applied Linguistics
Language Teaching

In addition, the *Review of Educational Research* and the *Psychological Bulletin* are journals entirely devoted to research synthesis and meta-analysis in the fields of education and psychology, respectively. You will also become familiar with a number of other journals in education, psychology, and the social and behavioral sciences, since many of the specialized publications about meta-analysis come from these fields rather than applied linguistics.

Methods of Instruction

The course will be conducted via informal lectures and class facilitation by all course participants (instructors as well as students) and via participants' contributions in three formats:

- whole-class small group discussion, and
- our electronic fora, the class email list ([slssynthesis-1@hawaii.edu](mailto:slsynthesis-1@hawaii.edu)) and the class blog (<http://slssynthesisclass.blogspot.com/>)

Students will actively engage in learning and teaching in the form of in-class and email discussions of assigned readings and through ongoing class work that requires collaboration and exchange. I expect from course participants that they make every effort to consciously take charge of creating opportunities for everyone's learning.

Course Requirements

You will be expected to do the readings before each class meeting, to be fully prepared for class discussion, and to attend all class meetings. **If you miss more than one week of class, I reserve the right to lower your grade.** Please discuss with me openly and in advance any problems with class preparation or attendance that you may encounter during the semester and we'll try to find a solution.

1. COMMENTARY ON PREVIOUS WEEK'S DISCUSSION ON THE EMAIL

CLASS LIST: ONCE during the semester, you will assume responsibility to post a commentary about the previous week's class discussion on the electronic class list (10%).

The purpose of this requirement is to keep a public, reflective record on what transpired in class each week and to help place the class discussion within the context of the entire course. In your message, you will be asked to **summarize (in black font) and reflect (in blue font)** on what the class discussed that past week. Your commentary should indicate what we did in the previous week, and then outline what ideas seemed interesting, difficult, etc., highlighting contributions of particular individuals or reactions widely shared by the majority of course members. You should post your commentary some time by the next Monday after our Thursday meeting. This is an all-or-nothing requirement: If you post a minimum of once during the semester, you will receive full credit for this requirement.

2. READING FACILITATION: Take responsibility for facilitating the understanding and discussion of our class readings (20%)

Readings in this class may be difficult because they are long, some times technical, and often about research areas not all students in class may be familiar with. In order to help everyone make better sense of the readings and get more out of each, I will ask each student to take responsibility for readings and design class presentation / discussion format around the reading each time. The goal is to “teach” an article that has been read by all.

3. RESEARCH PROJECT: Pilot all aspects and steps in a research synthesis on a topic of your choice, regarding one of three possible research domains, and report formally in writing on the outcomes of the project (70%).

All reports of research, even if they are informal reports and drafts, should follow APA style: American Psychological Association. (2001). *Publication manual* (5th ed.). Washington, D.C.: Author. Please consult the APA manual in the UH library. A useful, student-friendly site to become familiar with APA documentation style is: <http://www.psychwww.com/resource/apacrib.htm>

Choice of research domain:

I would like to engage course participants in collaborative research: In teams of two or three researchers, students will develop a research synthesis (using meta-analysis or other synthesis methodologies, depending on the specific research domain to be synthesized).

During the first three weeks of the semester, we should be able to arrive at a consensus on the research domains each of you are interested in exploring, the student teams you want to form, and the specific orientation or purpose that you would like to pursue for your synthesis.

Interim reports:

In order to provide you with guidance and feedback throughout the research process, each research team will be asked to produce and turn in several interim drafts at various points in the semester, leading to the final research synthesis. These interim drafts are:

1. **Problem specification report:** This is basically a proposal outlining the research domain and the research problem that the team wishes to synthesize, and establishing a clear purpose for the proposed research synthesis.
2. **Study identification and retrieval report:** In this report, you will define the population of studies in the research domain, and will report on the outcomes of your library searches. The paper should include a list of the bibliography of primary studies you are working with, and show that you have identified as much of the population as possible through systematic and exhaustive library searches.
3. **Study eligibility criteria report:** In this paper the team will formulate clear and explicit the arrived upon criteria for inclusion and exclusion of studies from a

- synthesis, and show the tentative final bibliography of studies to be included in the synthesis. An important part of this report will be to document inter-researcher agreement on the inclusion/exclusion criteria and reliability when applying the criteria to make decisions about particular studies.
4. **Report of the development of the study features coding protocol**: Here the team will present their protocol for coding primary studies for substantive and methodological features of interest.
 5. **Report of the piloting and revising of the coding protocol**: Team members will independently apply the coding protocol to a subset of studies and compare their results. This is the crucial step of intercoder reliability. For areas in which reliability is not satisfactory, the study feature coding protocol may need to be revised. The process and outcomes of piloting and revising of the coding protocol will be described in this report, and the final revised coding scheme will be presented.
 6. **Report of the findings for at least some of the research questions addressed in the synthesis (including descriptive statistics and tables and graphs as appropriate)**: This is a pre-final draft, where some parts of the findings are reported.

The final paper for each team, then, will compile all interim reports in a coherent manner, resulting in a synthesis of the chosen research domain and problem. Depending on the research domain synthesized and the nature and purpose of your synthesis, your final paper may look like a report of a pilot, or it may read as a complete synthesis.

Your grade in this project will not depend on your results (whether your hypotheses were confirmed, for example) or on the completeness of the synthesis (whether you synthesized all 100 studies identified in the research domain!). I will be looking primarily at your use of your research synthesis methods and at the quality of your evidentiary arguments, not your results. The fulfillment of this requirement (70% of your grade) can range in grade, as follows:

97-100% = A+

Excellent to outstanding quality. The paper shows thorough research skills/understanding and creative intellectual engagement with the material. It also demonstrates sophisticated academic writing skills.

94-96% = A

Good to excellent quality. The paper shows competent research skills/understanding, good development of ideas, and at least good writing skills.

90-93% = A-

Fair quality. Acceptable paper, but showing some need for improvement. It demonstrates incipient research skills/understanding and/or minimally appropriate writing skills.

86-89% = B+

Below average quality for graduate-level work. Needs improvement in research skills/understanding, development of ideas, and/or writing skills.

80%-85% = B

Insufficient quality for graduate-level work. Lack in research skills/understanding, development of ideas, and/or writing skills.

Since the research synthesis project is carried out collaboratively, the final paper will be a co-authored report; I will assign the same grade to all authors, no exceptions! It is the course participants' responsibility to negotiate and monitor that the research and writing processes are carried out in agreed-upon, fair collaboration.

Course Policy and Expectations

-There will be no examinations. Instead, satisfactory participation in the course and fulfillment of the course requirements will determine your final grade.

-What I'm looking for in your performance is clear evidence of hard and consistent work and of achievement of the learning objectives stated in the syllabus.

-This is an elective course, which means you are responsible for taking charge of your own learning and you are also expected to contribute seriously to the learning of everyone else in the class. You should feel free to be independent and take the initiative in this course. At the same time, you should also make every effort to keep close individual contact with me throughout the semester outside of class. I appreciate exchanges on email (lortega@hawaii.edu) and in person, during office hours or by appointment.

-We will negotiate deadlines in our course, and then these deadlines will exist to help you stay focused and improve your learning processes. If you have reasonable reasons for asking for an extension on a deadline, please immediately discuss it with me so we can find a satisfactory solution.

-I will not compare the quality of your performance to that of other students in the class (i.e., I do not give grades by spreading student performances on a curve). I will judge your work in light of the learning objectives outlined in the syllabus.

Here is how grading works:

<u>Requirement</u>	<u>Specifics</u>	<u>Grade breakdown</u>	<u>Total grade</u>
Attendance	Perfect attendance is expected; instructor reserves the right to lower grade with more than one week of absence		
Email commentary	Once a semester only per student	Credit/no credit	10%
Facilitation of reading	Facilitate understanding and discussion of a class reading	Letter grade	20%
Final paper (team submission)	Six interim reports leading to the final paper will be given extensive feedback but not be graded	Letter grade (same for all team members)	70%
TOTAL			100%

Bibliography on Research Synthesis and Meta-Analysis in Applied Linguistics

Overviews:

Chaudron, C. (2006). Some reflections on the development of (meta-analytic) synthesis in second language research. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 325-341). Amsterdam: John Benjamins.

Ellis, N. C. (2006). Meta-analysis, human cognition, and language learning. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 301-322). Amsterdam: John Benjamins.

Norris, J. M., & Ortega, L. (2006). The value and practice of research synthesis for language learning and teaching. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 3-50). Philadelphia, PA: John Benjamins.

Norris, J. M., & Ortega, L. (2007). The future of research synthesis in applied linguistics: Beyond art or science. *TESOL Quarterly*, 41, 805-815.

Meta-analyses (**) and syntheses (*) in applied linguistics:

**Dinsmore, T. H. (2006). Principles, parameters, and SLA: A retrospective meta-analytic investigation into adult L2 learners' access to universal grammar. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 53-90). Amsterdam: John Benjamins.

- **Goldschneider, J., & DeKeyser, R. M. (2001). Explaining the "natural order of L2 morpheme acquisition" in English: A meta-analysis of multiple determinants. *Language Learning, 51*, 1-50.
- **Indefrey, P. (2006). A meta-analysis of hemodynamic studies on first and second language processing: Which suggested differences can we trust and what do they mean? In M. Gullberg & P. Indefrey (Eds.), *The cognitive neuroscience of second language acquisition (language learning 56 supplement 1)* (Vol. 56, pp. 279-304). Malden, MA: Blackwell.
- **Jeon, E. H., & Kaya, T. (2006). Effects of L2 instruction on interlanguage pragmatic development: A meta-analysis. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 165-211). Amsterdam: John Benjamins.
- **Keck, C. M., Iberri-Shea, G., Tracy-Ventura, N., & Wa-Mbaleka, S. (2006). Investigating the empirical link between task-based interaction and acquisition: A meta-analysis. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 91-131). Amsterdam: John Benjamins.
- *Kim, Y. H., Lekprichakul, T., & Ko, M. H. (under review). *Conceptualization of recasts and their operationalization in second language acquisition: A systematic research synthesis*.
- *Krashen, S. (1999). Seeking a role for grammar: A review of some recent studies. *Foreign Language Annals, 32*, 245-257.
- **Lee, S.-K., & Huang, H. T. (2008). Visual input enhancement and grammar learning: A meta-analytic review. *Studies in Second Language Acquisition, 30*(3).
- **Mackey, A., & Goo, J. M. (2007). Interaction research in SLA: A meta-analysis and research synthesis. In A. Mackey (Ed.), *Input, interaction and corrective feedback in L2 learning* (pp. 379-452). New York: Oxford University Press.
- **Masgoret, A.-M., & Gardner, R. C. (2003). Attitudes, motivation, and second language learning: A meta-analysis of studies conducted by Gardner and associates. *Language Learning, 53*, 123-163.
- **Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning, 50*, 417-528.
- *Ortega, L. (2003). Syntactic complexity measures and their relationship to L2 proficiency: A research synthesis of college-level L2 writing. *Applied Linguistics, 24*, 492-518.
- **Ross, S. (1998). Self-assessment in second language testing: A meta-analysis and analysis of experiential factors. *Language Testing, 15*, 1-20.
- **Russell, J., & Spada, N. (2006). The effectiveness of corrective feedback for the acquisition of L2 grammar: A meta-analysis of the research. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 133-164). Amsterdam: John Benjamins.
- **Spada, N., & Tomita, Y. (in press). The complexities of selecting complex (and simple) forms in instructed SLA research. In A. Housen & F. Kuiken (Eds.), *Proceedings of the complexity, accuracy and fluency (CAF) conference*. Belgium: University of Brussels.
- **Taylor, A., Stevens, J. R., & Asher, J. W. (2006). The effects of explicit reading strategy training on L2 reading comprehension: A meta-analysis. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 213-244). Amsterdam: John Benjamins.

- *Téllez, K., & Waxman, H. C. (2006). A meta-synthesis of qualitative research on effective teaching practices for English language learners. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 245-277). Amsterdam: John Benjamins.
- *Thomas, M. (1994). Assessment of L2 proficiency in second language acquisition research. *Language Learning*, 44, 307-336.
- *Thomas, M. (2006). Research synthesis and historiography: The case of assessment of second language proficiency. In J. M. Norris & L. Ortega (Eds.), *Synthesizing research on language learning and teaching* (pp. 279-298). Philadelphia, PA: John Benjamins.
- *Truscott, J. (2007). The effect of error correction on learners' ability to write accurately. *Journal of Second Language Writing*, 16, 255-272.

Bibliography on Research Synthesis and Meta-Analysis in the Social Sciences

Readings marked with an asterisk are highly recommended

Overviews:

- Cook, T. D., & Leviton, L. C. (1980). Reviewing the literature: A comparison of traditional methods with meta-analysis. *Journal of Personality*, 48, 449-472.
- Hedges, L. V. (1992). Meta-analysis. *Journal of Educational Statistics*, 17(4), 279-296.
- Johnson, B. T., Mullen, B., & Salas, E. (1995). Comparison of three major meta-analytic approaches. *Journal of Applied Psychology*, 80(1), 94-106.
- Rubin, D. B. (1992). Meta-analysis: Literature synthesis or effect-size surface estimation? *Journal of Educational Statistics*, 17(4), 363-374.
- Schmidt, F. L. (1992). What do data really mean? Research findings, meta-analysis, and cumulative knowledge in psychology. *American Psychologist*, 47(10), 1173-1181.
- *Shanahan, T. (2002). Research synthesis: Making sense of the accumulation of knowledge in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Methods of literacy research: The methodology chapters from the Handbook of Reading Research, Volume III* (pp. 133-150). Mahwah, NJ: Lawrence Erlbaum.
- Sohn, D. (1995). Meta-analysis as a means of discovery. *American Psychologist*, 50, 108-110.

Book-length treatments:

- Becker, B. J., & Hedges, L. V. (Eds.). (1992). *Special issue on Meta-analysis. Journal of Educational Statistics*. 17(4).
- Cook, T. D., Cooper, H., Cordray, D. S., Hartmann, H., Hedges, L. V., Light, R. J., et al. (1992). *Meta-analysis for explanation: A casebook*. New York: Russell Sage Foundation.

- *Cooper, H., & Hedges, L. V. (Eds.). (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation.
- Glass, G. V., McGaw, B., & Smith, M. L. (1981). *Meta-analysis in social research*. Beverly Hills, CA: Sage.
- *Hunt, M. (1997). *How science takes stock: The story of meta-analysis*. New York: Russell Sage Foundation.
- Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings* (2nd ed.). Thousand Oaks, CA: Sage.
- *Light, R., & Pillemer, D. (1984). *Summing up: The science of reviewing research*. Cambridge, MA: Harvard University Press.
- *Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- Wachter, K. W., & Straf, M. L. (Eds.). (1990). *The future of meta-analysis*. New York: Russell Sage Foundation.

Methodological issues (1):

- Bradley, M. T., & Gupta, R. D. (1997). Estimating the effect of the file drawer problem in meta-analysis. *Perceptual and Motor Skills*, 85, 719-722.
- Cooper, H. M. (1982). Scientific guidelines for conducting integrative research reviews. *Review of Educational Research*, 52, 291-302.
- Cooper, H. M. (1995). Literature searching strategies of integrative reviews. *American Psychologist*, 40, 1267-1269.
- *Dunkin, M. J. (1996). Types of errors in synthesizing research in education. *Review of Educational Research*, 66, 87-97.
- Petrosino, A. J. (1995). Specifying inclusion criteria for a meta-analysis: Lessons and illustrations from a quantitative synthesis of crime reduction experiments. *Evaluation Review*, 19(3), 274-293.
- Garfield, E. (1989). Reviewing review literature. In *Essays of an information scientist* (Vol. 10, pp. 113-122). Philadelphia: ISI Press.
- *Orwin, R. G. (1994). Evaluating coding decisions. In H. Cooper & L. V. Hedges (Eds.), *The handbook of research synthesis* (pp. 139-162). New York: Russell Sage Foundation.
- Rosenthal, R. (1979). The "file drawer problem" and tolerance for null results. *Psychological Bulletin*, 86, 638-641.
- Smith, M. L. (1980). Publication bias and meta-analysis. *Evaluation in Education*, 4, 22-24.
- Stock, W. (1994). Systematic coding for research synthesis. In H. Cooper & L. Hedges (Eds.), *The handbook of research synthesis* (pp. 125-138). New York: Russell Sage Foundation.
- Yeaton, W. H., & Wortman, P. M. (1993). On the reliability of meta-analytic reviews. *Evaluation Review*, 17(3), 292-309.

Methodological issues (2):

- Abrami, P. C., Cohen, P. A., & d'Apollonia, S. (1988). Implementation problems in meta-analysis. *Review of Educational Research*, 58(2), 151-179.

- Becker, B. J. (1991). The quality and credibility of research reviews: What the editors say. *Personality and Social Psychology Bulletin*, 17, 267-272.
- Bem, D. J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin*, 118(2), 172-177.
- Hyman, R. (1995). How to critique a published article. *Psychological Bulletin*, 118(2), 178-182.
- Knight, G. P., Fabes, R. A., & Higgins, D. A. (1996). Concerns about drawing causal inferences from meta-analyses: An example in the study of gender differences in aggression. *Psychological Bulletin*, 119(3), 410-421.
- Kupfersmid, J. (1988). Improving what is published: A model in search of an editor. *American Psychologist*, 43(8), 635-642.
- *Petrosino, A. J. (1995). Specifying inclusion criteria for a meta-analysis: Lessons and illustrations from a quantitative synthesis of crime reduction experiments. *Evaluation Review*, 19(3), 274-293.
- *Slavin, R. E. (1986). Best evidence synthesis: An alternative to meta-analytic and traditional reviews. *Educational Researcher*, 15(9), 5-11.
- Viswesvaran, C., & Sanchez, J. I. (1998). Moderator search in meta-analysis: A review and cautionary note on existing approaches. *Educational and Psychological Measurement*, 58, 77-87.

Statistical issues & discussion of statistical significance:

- Becker, B. J. (1992). Using results from replicated studies to estimate linear models. *Journal of Educational Statistics*, 17(4), 341-362.
- Cahan, S. (2000). Statistical significance is not a "Kosher certificate" for observed effects: A critical analysis of the two-step approach to the evaluation of empirical results. *Educational Researcher*, 29(1), 31-34.
- *Carver, R. P. (1978). The case against statistical significance testing. *Harvard Educational Review*, 48, 378-399.
- *Carver, R. P. (1993). The case against statistical significance testing, revisited. *The Journal of Experimental Education*, 61(4), 287-292.
- *Cohen, J. (1990). Things I have learned (so far). *American Psychologist*, 45(12), 1304-1312.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159.
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- Frick, R. W. (1996). The appropriate use of null hypothesis testing. *Psychological Methods*, 1(4), 379-390.
- Harwell, M. (1997). An empirical study of Hedge's homogeneity test. *Psychological methods*, 2(2), 219-231.
- Harwell, M. R. (1992). Summarizing Monte Carlo results in methodological research. *Journal of Educational Statistics*, 17(4), 297-313.
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- Kanetkar, V., Evans, M. G., Everell, S. A., Irvine, D., & Millman, Z. (1995). The effect of scale changes on meta-analysis of multiplicative and main effects models. *Educational and Psychological Measurement, 55*(2), 206-224.
- Kraemer, H. C. (1983). Theory of estimation and testing of effect sizes: Use in meta-analysis. *Journal of Educational Statistics, 8*(2), 93-101.
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Examples of meta-analyses and syntheses in the social sciences:

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SLS 750: Research synthesis in applied linguistics (Tentative Reading Schedule)

Readings		Topics & assignments
Week 1 January 17		Overview & negotiation of team projects In class: What do meta-analyses look like? Brief examples from LSW <i>By design</i>
Week 2 January 24	Norris & Ortega (2007) & (2006)	What is research synthesis? Magnitude & probability, effect sizes, confidence intervals.
Week 3 January 31	Dinsmore (2006), Goldschneider & DeKeyser (2001), Lee & Huang (2008)	Research domain specification, identification of key literature reviews. Library search assignment; Publication patterns & bias
Week 4 February 7	Ortega (2003), Kim et al. (submitted), Thomas (1994, 2006)	(cont'ed) Research domain specification, identification of key literature reviews. Library search assignment; Publication patterns & bias
Week 5 February 14	Chaudron (2006), Petrosino (1995), Dunkin (1996)	Inclusion/exclusion & Coding schemes Report #1: Problem specification
Week 6 February 21	Readings Norris & Ortega (2000), Jeon & Kaya (2006)	Purposes for synthesis, options
Week 7 February 28	Wade et al. (2006)	Report #2: Study identification & retrieval
Week 8 March 6	Spada & Tomita (in press)	
Week 9 March 13	Thomas (1994, 2006) and Ross (1998)	
Week 10 March 20	Light & Pillemer Chapter 3	Report #3: Study eligibility criteria (development & reliability), first round of reports
SPRING BREAK & AAAL: March 24-2		
Week 11 April 3	No class	Report #3: Study eligibility criteria (development & reliability), second round of reports

Week 12 April 10	Readings TBN	Report #4: Development of coding scheme for study features
Week 13 April 17	Readings TBN	Report #5: Report of piloting & revising of coding protocol
Week 14 April 24	Readings TBN	Data analysis vetting
Week 15 March 1	No readings	Report #6 (oral): Some preliminary findings
Final Paper due: May 15th 5:00pm by email & hard copy		