# College of Education

# School of Physical Activity and Educational Services

# EDU PAES 868

# RESEARCH ON TEACHING IN PHYSICAL EDUCATION:

3cr

Winter, 2012

Thursday, 4:30-7:18

PAES 234 conference room

**Instructor:** Dr. Weidong Li, [li.832@osu.edu](mailto:li.832@osu.edu) , PAES Building A270, 247-6506

**Rationale:**

Research on teaching in physical education (ROT-PE) encompasses a number of fields of inquiry into both teacher and student influences on teaching and learning. In this class, we will limit our discussion to a sub-set of that field where student behavior is used as a dependent variable or as a primary focus, and where teacher behavior, or a form of instruction, is an independent variable or the topic of investigation. Using this definition findings from ROT-PE provide the rationale for improving instruction by empirically validating effective procedures. This course on ROT-PE is designed to provide students with a basis for understanding three decades of research in this area. The content will focus on the history, questions, methodologies and findings relative to ROT-PE. Our focus in class sessions will be to develop competencies as: (a) a consumer of educational research and practice, (b) an

educational researcher, and (c) as a teacher educator.

**Class organization:**

Our work this quarter is organized around research topics that have been studied under the umbrella of ROT-PE. In each class, we will review at least three papers. First, a research article that represents the type of research conducted on a topic. Second, a review paper and/or a book chapter that summarizes the literature on that topic. Third, a methodological paper that discusses a particular methodology or theme. Each week in preparation for the class you will (a) review the research paper and complete the *research critique form*, (b) critique the review paper and complete the *review critique form*, (c) read and prepare questions for your peers regarding the methodological review using Bloom’s taxonomy. Our discussions each class will be organized around these those papers. We will begin the evening with reviewing and critiquing the paper using your *research critique* as the basis for your discussions. Next, we will examine the review paper using your *review critique* as the basis for our discussion. We will then turn our attention to the methodological paper with the goal of using your questions to address areas of requiring more clarity. I will also be contributing questions throughout the evening.

**Relationship to other courses**

## This class is part of a core sequence of interconnected studies in Sport and Exercise Education.

**Course Objectives:**

The student will:

1. Understand the major research paradigms used in research on teaching in physical education.

2. Understand the historical development of research on teaching in physical education, the current status of such research and identify the future directions for this research tradition.

3. Analyze and critique research particular to research on teaching in physical education.

4. Discuss the limitations of the research on teaching in physical education to date.

5. Describe the methodologies used to attend to the various issues and research questions addressed in research on teaching in physical education.

**Diversity**

This class is designed, implemented, and evaluated in a manner that promotes the acquisition and application of knowledge, skills, and dispositions necessary to help all students learn.

**Readings:**

***Required*:**

Course packet for available at SBX bookstore.

***Optional***:

* Lawrence Locke, L., & Lambdin D. (2003) *Putting Research to Work in Elementary Physical Education: Conversations in the Gym*. Human Kinetics.
* Silverman, S., & Ennis, C. (2003). *Student Learning in Physical Education-2nd Edition: Applying Research to Enhance Instruction*. Human Kinetics.
* Girden, E. (2001). *Evaluating research articles: From start to finish*. Sage Publications.
* Locke, L., Silverman, S., & Spirduso, W. (1998). *Reading and understanding research*. Sage Publications.
* Kirk, D., MacDonald, D., & O’Sullivan, M. (2006). The Handbook of Physical Education. Sage Publications.

**Evaluation:**

Students will be evaluated on:

1. Research critique 25% / Discussion 15%
2. Review critique 25%/ Discussion 15%
3. Methodological questions 10%/ Discussion 10%

***Notes***:

* Both critiques (research paper and review) should be provided to Dr. Li by **Tuesday at noon**. They will be graded and returned to you in class on Thursday. The critiques should be typed with your name on the top. Please turn in a hard copy and email them to me. See pages 5+ of the syllabus for critique guidelines.
* Students should use Bloom’s taxonomy to generate at least 5 questions of interest relative to the methodology paper.

# Grading

|  |  |  |  |
| --- | --- | --- | --- |
| A = 94% & above | B = 84-86% | C = 74-76% | D = 63-66% |
| A- = 90-93% | B- = 80-83% | C- = 70-73% | E = <62% |
| B+ = 87-89% | C+ =77-79% | D+ =67-69% |  |

**Statement of Student Rights**:

If you have a documented disability which may require special accommodations please make an appointment to see me as early in the quarter as possible in order to receive effective and timely accommodations.

Tentative Schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Wk/ Date | Topic | **Research paper** | **Review paper** | **Methodology Paper** |
| **1/ Jan 5** | * Syllabus * Lecture: Models of Teaching and Learning * Lecture   Study design |  |  |  |
| **2/**  **Jan 12** | ALT-PE studies | * Godbout, P., Brunnelle, J., & Tousignant, M. (1983). Academic learning time in elementary and secondary physical education classes. *Research Quarterly for Exercise and Sport, 54,* 11-18. | * Metzler, M. (1989). A review of research on time in sport pedagogy. *Journal of Teaching in Physical Education, 8,* 87-103. * *Van Der Mars, H. (2006). Time and learning in physical education. In D. Kirk, D. MacDonald, & M. O’Sullivan (Eds.), the Handbook of Physical Education (pp. 191-213). Thousand Oaks, CA: SAGE Publications Ltd.* | * Siedentop, (1982). Teaching Research: The inter-ventionist view. *Journal of Teaching in Physical Education,* 46-50. * Siedentop, D. (1981). Research on teaching in physical education. *Journal of Teaching in Physical Education,* 46-50. |
| **3/**  **Jan 19** | Relationships between learning trials and achievement | * Silverman, S. (1985). Relationship of engagement and practice trials to student achievement. *Journal of Teaching in Physical Education, 5,* 13-21. * Buck, M., Harrison, J. M., & Bryce, G. R. (1991). An analysis of learning trials and their relationship to achievement in physical education. *Journal of Teaching in Physical Education, 7*, 115-120. | **This week please complete two research critiques-no review is available** | * Thompson, B. (2002). Statistical, practical, and clinical. How many kinds of significance do counselors need to consider. Journal of Counseling and Development, 80, 64-71. * Thompson, B., Diamond, K. E., Mcwilliam, R., Snyder, P., Snyder, S. W. (2005). Evaluating the quality of evidence from correlational research for evidence-based practice. *Exceptional Children, 71(2),* 1881-194. |
| **4/**  **Jan 26** | Experimental Teaching Units -ETU’s | * Graham, G., Soares, P., & Harrington, W. (1983, Summer). Experienced teachers’ effectiveness with intact classes: An ETU study. *Journal of Teaching in Physical Education,* 3-14. | * Graham, G. (1983). Review and implications of physical education experimental teaching unit research. In T. Templin & J. Olson (Eds.), *Teaching physical education (pp. 244-253).* Champaign, IL: Human Kinetics. | * Ward, P., & Barrett, T. (2002). A review of behavior analysis research in physical education. *Journal of Teaching in Physical Education 21, 242-266* |
| **5/**  **Feb 2** | Management Studies | * Supaporn, S., Dodds, P., & Griffin, L (2003). An ecological analysis of middle school misbehavior through student and teacher perspectives. *Journal of Teaching in Physical Education,* 22, 328-349. | * Luke, M. (1989). Research on class management and organization: Review with implications for current practice. *Quest, 41,* 55-67. | * Silverman, S. & Solmon, M. (1998). The unit of analysis in field research: issues and approaches to design and analysis. *Journal of Teaching in Physical Education 17, 270-284.* |
| **6/**  **Feb 9** | Tasks Systems Research | * Jones, (1992). Analysis of task structures in elementary physical education classes. *Journal of Teaching in Physical Education, 11,* 411-425. | * Hastie, & Siedentop, (1999). An ecological perspective on physical education. *European Physical Education Review, 1,* 9-29 * *Hastie, & Siedentop (2006). The classroom ecology paradigm. In D. Kirk, D. MacDonald, & M. O’Sullivan (Eds.), the Handbook of Physical Education (pp. 191-213). Thousand Oaks, CA: SAGE Publications Ltd.* | * Siedentop, D. (2002). Ecological perspectives in teaching research. *Journal of Teaching in Physical Education, 21,* 427-440. |
| **7/**  **Feb 16** | Assessment and Accountability Research | * Hastie & Saunders (1991) Accountability in secondary physical education,  *Teaching an Teacher Education, 7,*  372-382. * Silverman, Kulinna & Krull (1995). Skill-related task structures, explicitness & accountability: Relationships with student achievement. *Research Quarterly for Exercise and Sport, 66,* 32-40. | **This week please complete two research critiques-no review is available** | * Byra & Goc Karp (2000). Data collection techniques employed in qualitative research in physical education teacher education. *Journal of Teaching in Physical Education 19, 246-266.* * Bogdan & Bilken (1982). Qualitative research for education: An Introduction to theory and methods. Boston: Allyn & Bacon. pp. 39-48 |
| **8/**  **Feb 23** | The Effects of Feedback and Supervision on Achievement | * Grant, B. C., Ballard, K. D., & Glynn, T. L. (1990). Teacher feedback intervention, motor-on-task behavior, and successful task performance. *Journal of Teaching in Physical Education, 9,* 123-139. | * Lee, A, Keh, N. Magill, R. (1993). Instructional effects of teacher feedback in physical education. *Journal of Teaching in Physical Education, 12,* 228-243. | * http://cie.asu.edu/volume6/number2/ |
| **9/**  **Mar 1** | Task Presentation Research | * French, K. E., Rink, J. E., Rikard, L., Mays, A., Lynn, S., & Werner, P. (1991). The effects of practice progressions on learning two volleyball skills. *Journal of Teaching in Physical Education, 10,* 261-274. | * Rink, J. E. (1994). Task presentation in pedagogy. *Quest, 46,* 270-280. | * <http://cie.asu.edu/volume6/number2> |
| **10/**  **Mar 8** | Peer Assisted Learning | * Dyson, B. (2001) Cooperative Learning in an Elementary Physical Education Program. By: Dyson, Ben. *Journal of Teaching in Physical Education*, 20, 264-286 | * Peer assisted learning in physical education: A review of theory and research. *Journal of Teaching in Physical Education 24, 205-225.* | * Ward, P. (2005). Epistemology and the workplace: considerations for the preparation of researchers in education. In C. Hancock & P. Paul. *Essays on he role and nature of research ithin the Ph.D. program in Education.* The Ohio State University. College of Education. |
| **Optional Readings** | Students’ motivation and cognition | * Li, W., Lee, A., & Solmon, M. (in press). Effects of Dispositional Ability Conceptions, Situational ability conceptions, and intrinsic motivation on persistence and performance: An interaction Approach. Research Quarterly for Exercise and Sport. * Xiang, P., McBride, R., Guan, J., & Solmon, M. (2003). Children’s motivation in elementary physical education: An expectancy-value model of achievement choice. Research Quarterly in Exercise and Sport, 1, 25-35. | * Li, W., & Lee, A. M. (2004). A review of ability conceptions and related motivational constructs in achievement motivation, Quest, 4, 439-461. * Solmon, M. (2006). Learner cognition. *In D. Kirk, D. MacDonald, & M. O’Sullivan (Eds.), the Handbook of Physical Education (pp. 191-213). Thousand Oaks, CA: SAGE Publications Ltd.* * Li, W., & Xiang, P. (in press). Ability Conceptions in Physical Education: Some Measurement Considerations. Quest. | **Not Methodology articles.**   * Li, W., Lee, A.M. & Solmon, M. A. (2006). Gender Difference in Beliefs about the Influence of Ability and Effort in Sport and Physical Activity. Sex Role, 54, 147-156. * Xiang, P., & Lee, A. (2002). Achievement goals, perceived motivational climate and students’ self-reported mastery behaviors. Research Quarterly for Exercise and Sport, 73: 58-65. * Xiang, P., McBride, R., & Solmon, M. (2003). The motivational climate in ten teachers’ elementary physical education classes: An achievement goal theory approach. The Elementary School Journal, 104: 71-91. |

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**Research Critique Form for Quantitative Studies**

(from Locke Silverman, & Spirduso, 1998).

1. What study report is this? (record a full APA reference)
2. What kind of study is this?
3. What was the general purpose of the study? What questions does it raise?
4. How does answering the research question (s) add something new to what is already known? If the study is a replication, why is that important?
5. Who or what was studied? (number and key characteristics)
6. In sequential order, what were the major steps in performing the study? (Record these in a flowchart-use additional sheets if needed). Do *not* just repeat details from items 1-5 and 7-10. Create an explanatory sketch that a year from now you would recall how the study was done.
7. What data were recorded and used for the analysis? (e.g., questionnaire responses, test scores, field notes, meter readings, etc.)
8. What kind(s) of data analysis was used? (e.g., statistical, logical, categorization, etc)
9. What were the results? (After analysis, what do the data say from item 7 say about the question(s) raised in item 3?).
10. What does the author conclude? (in the light of item 9 and the entire study experience, what is said about item 3?).
11. What cautions does the author raise about interpreting the study, and what do you think are the important reservations?
12. What particularly interesting or valuable things did you learn from reading the report? (consider results, method, discussion, references etc.)

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**Research Critique Form for Qualitative Studies**

(from Locke Silverman, & Spirduso, 1998).

1. What study report is this? (record a full APA reference)
2. Who is the investigator? (Include a personal history, particularly as related to the purpose, participants, or site of the study)
3. If made explicit what type of qualitative research in this? Is the author working from a feminist, Marxist, interpretivist, symbolic interactionist, critical theorist, or other vantage point.
4. What is the purpose of the study? What are the focusing questions (if any) Is the purpose primarily theoretical, practical, or personal?
5. Where does the study take place, and *who* are the participants? Describe the general physical, and social context of the setting and the salient characteristics of the main actors. If this is not a field study, describe the setting and the participants presented in the secondary data source.
6. In what sequence did the major elements of the study occur? Describe (or diagram in a graphic format, such as a flow chart) timing, frequency, order and relationships used in organizing the study.
7. How were data collected? Was the recording done through observation and field notes, taped interviews with transcription, document analysis with record forms, or some combination?
8. If this was a field study, what was the *author’s role* while collecting the data?
9. What procedures were used for the analysis of the data? Was constant comparison used, were categories developed inductively, were themes constructed, was computer software employed?
10. What were the results? In general terms, what is the answer to the question, “What was going on there?”
11. How are the design or research methods used to enhance credibility (trustworthiness and believability) of the study?
12. What parts of the study, did you find powerful or particularly instructive? What was moving or striking, and what provided new insight?

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**Review Critique Form**

(from Locke Silverman, & Spirduso, 1998).

Read through the questions below. Next skim the through the review, noting those portions that appear to be related to the questions, then n the second and more thorough reading, fill in the blanks using brief answers. Some of the items may not apply to the particular review at hand, and some important observations you can make about the review many not be touched by any of the questions. Use this form as a guide to reading reviews , not as a comprehensive list of significant content.

1. What review is this? (record a full APA reference)
2. How does the author justify the review? What purpose is it intended to serve?
3. How is selection of the studies handled? Is the review exhaustive, limited to a given time period, or restricted to research that involves a particular design, methodology, or population?
4. How is the question of quality in the selected studies handled? What does the author say about the credibility of what is reviewed.
5. How does the author sort or categorize the studies? What theoretical framework is used to organize the studies reviewed?
6. Are he actual data reported (qualitative or quantitative) or is the review done data free? Give an example to show type.
7. Is there an attempt to identify
   1. Need for additional research (give example)?
   2. Problems with the kind of question(s) asked (give example)?
   3. Persisting technical difficulty with study designs, methods, subjects, or data analysis (give example)?
8. Where is the task of summary handled (after major sections, end of review, not at all, etc)?
9. How are the tasks of summary and integration handled? How does the author get from individual studies to general conclusions? Is some form of meta-analysis used, or are the author’s assertions based on some type of vote counting?
10. What are the main conclusions drawn from the review?
11. What applications (if any) are suggested as a result of reviewing the studies? How careful (explicit, clear, and thorough) do you think the author has been basing his or her suggestions on the studies reviewed and the conclusions derived?
12. Write an abstract of what you might have said if you were asked to review this review. Do no repeat method, content, or conclusions, but focus on such issues as clarity, credibility, organization., topicality and utility.

**Bloom’s taxonomy for Questioning**

**Level 1: Knowledge -** exhibits previously learned material by recalling facts, terms, basic concepts and answers.

*Key words:* who, what, why, when, omit, where, which, choose, find, how, define, label, show, spell, list, match, name, relate, tell, recall, select

*Questions:*

What is . . . ? How is . . . ?

Where is . . . ? When did \_\_\_\_\_\_\_ happen?

How did \_\_\_\_\_\_ happen? How would you explain . . . ?

Why did . . . ? How would you describe . . . ?

When did . . . ? Can you recall . . . ?

How would you show . . . ? Can you select . . . ?

Who were the main . . . ? Can you list three . . . ?

Which one . . . ? Who was . . . ?

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**Level 2: Comprehension** - demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.

*Key words:* compare, contrast, demonstrate, interpret, explain, extend, illustrate, infer, outline, relate, rephrase, translate, summarize, show, classify

*Questions:*

How would you classify the type of . . . ?

How would you compare . . . ? contrast . . . ?

Will you state or interpret in your own words . . . ?

How would you rephrase the meaning . . . ?

What facts or ideas show . . . ?

What is the main idea of . . . ?

Which statements support . . . ?

Can you explain what is happening . . . what is meant . . .?

What can you say about . . . ?

Which is the best answer . . . ?

How would you summarize . . . ?

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**Level 3: Application** - solving problems by applying acquired knowledge, facts, techniques and rules in a different way.

*Key words*: apply, build, choose, construct, develop, interview, make use of, organize, experiment with, plan, select, solve, utilize, model, identify

*Questions:*

How would you use . . . ?

What examples can you find to . . . ?

How would you solve \_\_\_\_\_\_\_ using what you have learned . . . ?

How would you organize \_\_\_\_\_\_\_ to show . . . ?

How would you show your understanding of . . . ?

What approach would you use to . . . ?

How would you apply what you learned to develop . . . ?

What other way would you plan to . . . ?

What would result if . . . ?

Can you make use of the facts to . . . ?

What elements would you choose to change . . . ?

What facts would you select to show . . . ?

What questions would you ask in an interview with . . . ?

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**Level 4: Analysis** - examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalizations.

*Key words*: analyze, categorize, classify, compare, contrast, discover, dissect, divide, examine, inspect, simplify, survey, take part in, test for, distinguish, list, distinction, theme, relationships, function, motive, inference, assumption, conclusion

*Questions*:

What are the parts or features of . . . ?

How is \_\_\_\_\_\_\_ related to . . . ?

Why do you think . . . ?

What is the theme . . . ?

What motive is there . . . ?

Can you list the parts . . . ?

What inference can you make . . . ?

What conclusions can you draw . . . ?

How would you classify . . . ?

How would you categorize . . . ?

Can you identify the difference parts . . . ?

What evidence can you find . . . ?

What is the relationship between . . . ?

Can you make a distinction between . . . ?

What is the function of . . . ?

What ideas justify . . . ?

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**Level 5: Synthesis** - compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.

*Key Words*: build, choose, combine, compile, compose, construct, create, design, develop, estimate, formulate, imagine, invent, make up, originate, plan, predict, propose, solve, solution, suppose, discuss, modify, change, original, improve, adapt, minimize, maximize, delete, theorize, elaborate, test, improve, happen, change

*Questions*:

What changes would you make to solve . . . ?

How would you improve . . . ?

What would happen if . . . ?

Can you elaborate on the reason . . . ?

Can you propose an alternative . . . ?

Can you invent . . . ?

How would you adapt \_\_\_\_\_\_\_\_ to create a different . . . ?

How could you change (modify) the plot (plan) . . . ?

What could be done to minimize (maximize) . . . ?

What way would you design . . . ?

What could be combined to improve (change) . . . ?

Suppose you could \_\_\_\_\_\_\_ what would you do . . . ?

How would you test . . . ?

Can you formulate a theory for . . . ?

Can you predict the outcome if . . . ?

How would you estimate the results for . . . ?

What facts can you compile . . . ?

Can you construct a model that would change . . . ?

Can you think of an original way for the . . . ?

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**Level 6: Evaluation** - presenting and defending opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria.

*Key Words*: award, choose, conclude, criticize, decide, defend, determine, dispute, evaluate, judge, justify, measure, compare, mark, rate, recommend, rule on, select, agree, interpret, explain, appraise, prioritize, opinion, ,support, importance, criteria, prove, disprove, assess, influence, perceive, value, estimate, influence, deduct

*Questions*:

Do you agree with the actions . . . ? with the outcomes . . . ?

What is your opinion of . . . ?

How would you prove . . . ? disprove . . . ?

Can you assess the value or importance of . . . ?

Would it be better if . . . ?

Why did they (the character) choose . . . ?

What would you recommend . . . ?

How would you rate the . . . ?

What would you cite to defend the actions . . . ?

How would you evaluate . . . ?

How could you determine . . . ?

What choice would you have made . . . ?

What would you select . . . ?

How would you prioritize . . . ?

What judgment would you make about . . . ?

Based on what you know, how would you explain . . . ?

What information would you use to support the view . . . ?

How would you justify . . . ?

What data was used to make the conclusion . . . ?

Why was it better that . . . ?

How would you prioritize the facts . . . ?

How would you compare the ideas . . . ? people . . . ?