

**LOYOLA UNIVERSITY CHICAGO
SCHOOL OF EDUCATION**

**SINGLE-CASE RESEARCH DESIGN
RMTD 422
SUMMER SESSION B 2018**

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Office Hours: By Appointment Only

COURSE DESCRIPTION

This course provides an in-depth study of single-case research design including assessment, experimental design, data evaluation, and writing research proposals using single-case methodology. Many of the best practices and interventions in the social, behavioral, and educational sciences have been the direct result of single-case research. Single-case designs provide educators, practitioners, and researchers with a structure for systematically collecting data within a framework that will enable them to demonstrate a functional relationship between their practices and changes in behavior. The end result is empirical support of the intervention or instructional method. As such, it is important for graduate students in disciplines such as education, psychology, and social work to have the knowledge to design, implement, and evaluate research using single-case research designs. This course will provide students with an opportunity for detailed study of single-case research designs, the logic behind these designs, and the application of these designs to intervention research. As national attention has recently been placed on the importance of single case research design and on enhancing the scientific rigor of implementation, analysis, and interpretation, this course will be beneficial for students interested in conducting applied research.

COURSE OBJECTIVES

- To describe the history of single-case research design.
- To examine the ethics of single-case research design.
- To describe the fundamental assumptions, goals, and practices of single-case research design.
- To determine appropriate strategies for collecting data for single-case research design.
- To produce and interpret graphic data displays.
- To understand the use of various single-case research designs including reversal designs, multiple baseline designs, and comparative designs.
- To produce a well-written single-case research design proposal.
- To critique published single-case research design studies.
- To examine the use of single-case research designs for evaluating the effectiveness of interventions.

IDEA OBJECTIVES

1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
2. Learning to apply course material (to improve thinking, problem solving, and decisions)
3. Learning how to find, evaluate and use resources to explore a topic in depth

SCHOOL OF EDUCATION CONCEPTUAL FRAMEWORK – *SOCIAL ACTION THROUGH EDUCATION*

The School of Education at Loyola University Chicago, a Jesuit and Catholic urban university, supports the Jesuit ideal of knowledge in the service of humanity. We endeavor to advance professional

education in service of social justice, engaged with Chicago, the nation, and the world. To achieve this vision, the School of Education participates in the discovery, development, demonstration, and dissemination of professional knowledge and practice within a context of ethics, service to others, and social justice. We fulfill this mission by preparing professionals to serve as teachers, administrators, psychologists, and researchers by conducting research on issues of professional practice and social justice. The SOE's conceptual framework can be accessed online at this site:

www.luc.edu/education/mission/.

ALIGNMENT WITH APA COMPETENCY BENCHMARKS

Competency Benchmark 6: Scientific Knowledge and Methods – Understanding of research, research methodology, techniques of data collection and analysis, biological bases of behavior, cognitive-affective bases of behavior, and development across the lifespan. Respect for scientifically derived knowledge.

ALIGNMENT WITH NASP STANDARDS

Domain 9: Research and Program Evaluation – School psychologists have knowledge of research design, statistics, measurement, varied data collection and analysis techniques, and program evaluation methods sufficient for understanding research and interpreting data in applied settings. School psychologists demonstrate skills to evaluate and apply research as a foundation for service delivery and, in collaboration with others, use various techniques and technology resources for data collection, measurement, analysis, and program evaluation to support effective practices at the individual, group, and/or systems levels.

REQUIRED READINGS AND MATERIALS

- Kazdin, A.E. (2011). *Single-case research design: Methods for clinical and applied settings* (2nd ed.). New York, NY: Oxford University Press. ISBN: 978-0-19-534188-1.
- Purdue Online Writing Lab (APA formatting and style guide)
<http://owl.english.purdue.edu/owl/resource/560/01/>
- Computer, Internet, and webcam access.
- Access to Voice Thread: <https://luc.voicethread.com/>
- Access to LiveText: <http://www.luc.edu/education/admission/tuition/course-management-fee/>

Additional readings will be assigned by the instructor and students (Appendix A).

RECOMMENDED READINGS

- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.
- Hayes, S.C., Barlow, D.H., & Nelson-Gray, R.O. (1999). *The scientist practitioner: Research and accountability in the age of managed care* (2nd ed.). Needham Heights, MA: Allyn & Bacon.
- Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M. & Shadish, W. R. (2010). Single-case designs technical documentation. Retrieved from What Works Clearinghouse website: <https://files.eric.ed.gov/fulltext/ED510743.pdf>.
- Kratochwill, T.R., & Levin, J.R. (Eds.). (2014). *Single-case intervention research: Methodological and data analysis advances*. Washington, DC: American Psychological Association.
- Riley-Tillman, T.C., & Burns, M.K. (2009). *Evaluating educational interventions: Single-case design for measuring response to intervention*. New York, NY: The Guilford Press.
- Shadish, W.R., Cook, T.D., & Campbell, D.T. (2001). *Experimental and quasi-experimental designs for generalized causal inference* (2nd ed.). Boston, MA: Houghton Mifflin Company.

METHODS OF INSTRUCTION

This course will consist of online lectures, group discussions, group activities, and student presentations. Students are expected to read the assigned materials and to actively participate in online discussions and activities.

DIVERSITY

In concert with the mission statement for the SOE, faculty, academic activities, and learning environments will be sensitive to, and driven by, individual, cultural, social and economic diversity awareness and respect.

DISPOSITIONS

All students are assessed on one or more dispositional areas of growth across our programs: ***Professionalism, Inquiry, and Social Justice***. The instructor in your course will identify the dispositions assessed in this course and you can find the rubrics related to these dispositions in the student handbook and LiveText. Disposition data is reviewed by program faculty on a regular basis. This allows faculty to work with students to develop throughout their program and address any issues as they arise.

COPYRIGHT POLICY

Copyright law was designed to give rights to the creators of written work, artistic work, computer programs and other creative materials. The Copyright Act requires that people who use or reference the work of others must follow a set of guidelines designed to protect authors' rights. Unfortunately, copyright law is complex and too often incomprehensible; that does not, however, excuse users from following the rules. The safest practice is to remember (1) to refrain from distributing works used in class (whether distributed by the professor or used for research) that are copyright protected and (2) that any research or creative work should be cited in alignment with APA standards. For Loyola University Chicago's copyright resources, please access: www.luc.edu/copyright/index.shtml.

PLAGIARISM

It is important to reiterate the policy of Loyola University regarding plagiarism. The following is an excerpt from information shared by The English Department and should serve as a reminder to all students.

“Definition:

Plagiarism is the intentional or unintentional appropriation of ideas, language, or work of another without sufficient acknowledgement that the material is not one's own. Although, it is generally recognized that everything an individual has thought has probably been influenced to some degree by the previously expressed thoughts and actions of others and that therefore no thought can be purely original, such influences are general ones, affecting an entire way of seeing things and expressing thoughts. Plagiarism, however, involves the taking of specific words or ideas of others without proper acknowledgement.

Some students seem to believe that there are different degrees of plagiarism, some of which are not as bad as others...(I) wish to make clear that there are no distinctions between...

1. Copying from a published source without proper documentation.
2. Purchasing a pre-written paper.
3. Letting someone else write a paper for you or paying someone to do so,
4. Submitting as your own someone else's unpublished work, either with or without permission.”

If you have additional questions, I highly recommend the following interactive tutorial about what is and what is not plagiarism at <http://www.indiana.edu/~istd/>. In addition, I reserve the right to use the TurnItIn program (http://turnitin.com/en_us/) for any written assignment.

CLASS COMMUNICATION

Sakai will be the main method of communication with students enrolled in this course. Because Sakai uses your Loyola computer account, students are responsible for making sure that their account is in good working order. Also, students are responsible for checking their Loyola account for emails related to this class. If you have a personal email you would rather use, you may forward emails from your student account to the personal account.

Given that opportunities for asking general course questions can be challenging in an online class, I have created a forum for “General Course Questions.” This is the place for you to ask questions about the syllabus, assignments, technology, etc. After all, if you have a question, it is likely other students in the class have the same question. Therefore, when you have a question about class, first consider posting it in the “General Course Questions” forum. Furthermore, if questions that are best answered in this forum are emailed to the course instructor, the instructor will redirect you to post the question in the forum instead. The instructor will check this forum and respond to new posts daily.

TECHNOLOGY

Technology is an essential tool for developing one’s own professional skills and for completing any degree program. Given that this is an online course, there are greater technology demands/expectations than other courses. In addition to demonstrating proficiency in word processing (including creating tables, charts, and diagrams), communicating via Loyola e-mail and Sakai, downloading Microsoft Word and Acrobat Reader files, and performing article searches via the library databases, you will be expected to use additional technologies such as Voice Thread (<https://luc.voicethread.com/>), Panopto, and/or Adobe Connect. Instructions for using these technologies will be posted on Sakai. However, it will be up to you to practice and master use of these technologies before an assignment is due. If you have questions regarding the use of technology, please post them to the “General Course Questions” forum.

COURSE REQUIREMENTS & EVALUATION PROCEDURES

Without exception, assignments must be completed on time and submitted no later than 11:55pm CST on the dates noted. Ten percent of the total points possible will be deducted for each day past the due date/time.

All written assignments (unless otherwise specified) must be typewritten and conform to the writing style and formats specified in the Publication Manual of the American Psychological Association, 6th edition.

Course Requirement/Assignment	Due Date	Points Possible
Professional Behavior and Communication	Ongoing	10
Unit Papers (3 total; 5 points each)	Ongoing	15
Research Proposal Posts (5 total; 5 points each)	Ongoing	25
Research Proposal Comments (1 constructive comment to each group member for each blog entry)	Ongoing	15
Article Critique (team) <ul style="list-style-type: none"> ▪ Presentation (25 points) ▪ Response Post (10 points) 	Ongoing	35
Article Critique Comments (1 comment per article critique)	Ongoing	10
Introductory Video CV	Sat 7/7	10
CITI Training	W 7/25	15
Research Proposal	W 8/8	65
Total Points Possible		200

1. **Professional Behavior and Communication.** Points for professional behavior and communication are earned by demonstrating appropriate communication and behavior throughout the duration of this course. Examples of professional behavior include preparation for each class session; timely completion of assignments; prompt communication; active participation such as offering constructive comments to classmates online, etc.; and respectful collaboration and communication with classmates and instructor. Professional behavior and communication points are easily earned by being respectful of others and demonstrating the highest academic integrity.

2. **Unit Papers.** You will complete 3 unit papers. Papers will be no longer than 1 single-spaced page and will serve as an opportunity to demonstrate comprehensive preparation for class sessions and understanding of the course material (e.g., lectures, readings, additional resources). The papers will also serve as an opportunity to share with the instructor any lingering questions you might have after having carefully prepared for class sessions. Within each paper, first respond to the prompt provided by the instructor. Then, present 1-2 questions you have about the material in the units.

3. **Research Proposal Posts.** Using “Forums” on Sakai, you will document progress on your research proposal (the capstone assignment for this course) by responding to specific prompts provided by the course instructor. In addition, you will be asked to read and stay abreast of your classmates’ progress and offer constructive comments as they, too, develop their research proposals. Although you are only required to complete 5 blog entries, please feel free to use this feature of Sakai as a place to take notes and journal about your research proposal.

4. **Research Proposal Comments.** Using “Forums” on Sakai, you will provide at least one constructive comment to each group member’s research proposal post within 24 hours of the due date for each research proposal post. For example, the first research proposal post is due at 11:55pm CST on Wednesday (7/11), so all research proposal comments for this post should be posted no later than 11:55pm CST on Thursday (7/12). Given that there will be 5 proposal posts, you will constructively comment on each of your group members’ posts 5 times. As such, if there are 4 total students (including you) in your group, you will have commented at least 15 times by the end of the course. This is an

opportunity for you and your group members to offer guidance to one another. Although this assignment must be completed with your assigned group, that does not preclude commenting on your other classmates' posts as well.

5. Article Critique. In teams, you will present an article critique once during the semester. First, you will choose an empirical study using the design you selected (e.g., ABAB) that (1) has been published in a refereed journal and (2) is not one of the required journal readings for this course. This study must have been published within the last year (no earlier than July 2017). Email the article PDF to the instructor for approval at least one week before the due date. Once approved, you will prepare a **video** Voice Thread (<https://luc.voicethread.com/>) presentation critiquing the selected study. Finally, you will email the link for the presentation to the course instructor by the date noted on the course schedule. The instructor will then post the article and presentation in the appropriate unit, and the instructor and all class members will read the article and watch the presentation.

Once each classmate identifies a strength or weakness of the study's method (see Article Critique Comments below), the presenters will prepare and post one response together to comprehensively address these strengths and weaknesses in an integrative manner. Presenters will use course readings to inform their response.

6. Article Critique Comments. After reading your selected study and viewing your article critique presentation, your classmates will each post a comment in the forums identifying a strength or weakness of the study's method or results that was not identified in your critique or a previous comment. For example, if Sam is the first person to comment on Erin and Danny's presentation, then she must only identify a strength or weakness that was not mentioned in the presentation. However, if Sam is the tenth student to comment on Erin and Danny's presentation, then she must identify a strength or weakness that was not mentioned in the presentation or by one of the nine classmates who commented before her.

7. Introductory Video CV. To introduce yourself to the instructor and classmates, you will be asked to (1) upload a photo of yourself to your Sakai profile, (2) create and upload a one-page CV to Voice Thread (including future career goals, education history, work history, research interests, and leisure time activities), and (3) create a **video** description on Voice Thread (<https://luc.voicethread.com/>). Specific instructions are provided within the Course Overview, and an example is provided in the "Introductory Video CV" forum. Please post the link for your Voice Thread within this forum.

8. CITI Training. Students will complete the Collaborative IRB Training Initiative (CITI) course.

9. Research Proposal. The capstone project for the course is a research proposal (Appendix B). You will work individually to develop at least one research question, review the literature, and develop a plan for examining the question(s). Because this is a proposal, you will use future tense in your writing. Research proposal drafts will not be reviewed by the instructor. Throughout the course, however, students may obtain periodic feedback on the developmental of their research proposal through research proposal posts/comments or by scheduling an online meeting with the instructor.

As needed, scoring rubrics and guidelines for assignments will be posted on Sakai.

Final course grades will be assigned as follows:

Total Points Earned	%	Grade
185-200	93-100	A
179-184	90-92	A-
173-178	87-89	B+
165-172	83-86	B
159-164	80-82	B-
153-158	77-79	C+
145-152	73-76	C
139-144	70-72	C-
133-138	67-69	D+
119-132	60-66	D
<119	<60	F

FINAL NOTE . . .

Your role in this course is to come to class prepared to actively discuss the readings and participate in class. I am here to help you in any reasonable way I can. I encourage you to make an appointment with me sooner, rather than later, if you are having difficulty with the course material. I am more than happy to meet with you at a mutually agreeable time. The best way to reach me is through email.

TENTATIVE COURSE SCHEDULE

Course schedule is tentative and subject to change. Changes will be announced.

This course consists of 10 units. Lectures will be posted by 11:55pm CST on the dates indicated. By 11:55pm CST on the indicated due date, please view the unit's lecture, complete the required readings, study any additional materials, and complete/submit the assignments.

Unit	Lecture Posted	Due Date	Topics	Assignments Due	Readings
	Mon (7/2)	*Th (7/5)	Course Overview	Immediately begin thinking about an area of interest for your research proposal.	Syllabus
1	W (7/4)	Sat (7/7)	Introduction Underpinnings of Scientific Research	Introductory Video CV	Chapters 1 and 2
2	Sun (7/8)	W (7/11)	Assessment	Proposal Post 1 Proposal Comments <i>(Email ABAB article PDF for article critique to instructor for approval)</i>	Chapters 3, 4, and 5
3	W (7/11)	Sat (7/14)	Introduction to Single-Case Research and ABAB Designs	Unit Paper A <i>(Email MBD article PDF for article critique to instructor for approval)</i>	Chapter 6 Journal Readings (Appendix A)
4	Sun (7/15)	W (7/18)	Multiple-Baseline Designs	ABAB Critique (2) (email link to Voice Thread presentation to instructor by 7/15) Critique Comment Proposal Post 2 Proposal Comments	Student-Selected Articles Chapter 7 Journal Readings (Appendix A)

				<i>(Email CCD article PDF for article critique to instructor for approval)</i>	
5	W (7/18)	Sat (7/21)	Changing-Criterion Designs	MBD Critiques (2) (email link to Voice Thread presentation to instructor by 7/18) Critique Comment Proposal Post 3 Proposal Comments <i>(Email MTD article PDF for article critique to instructor for approval)</i>	Student-Selected Articles Chapter 8 Journal Readings (Appendix A)
6	Sun (7/22)	W (7/25)	Multiple-Treatment Designs	CCD Critiques (2) (email link to Voice Thread presentation to instructor by 7/22) Critique Comment Unit Paper B CITI Training Proposal Post 4 Proposal Comments <i>(Email ADO article PDF for article critique to instructor for approval)</i>	Student-Selected Articles Chapter 9 Journal Readings (Appendix A)
7	W (7/25)	Sat (7/28)	Additional Design Options	MTD Critiques (2) (email link to Voice Thread presentation to instructor by 7/25)	Student-Selected Articles Chapter 10

				Critique Comment	Journal Readings (Appendix A)
8	Sun (7/29)	W (8/1)	Quasi-Single-Case Experimental Designs	ADO Critiques (2) (email link to Voice Thread presentation to instructor by 7/29) Critique Comment Proposal Post 5 Proposal Comments	Chapter 11 Journal Readings (Appendix A)
9	W (8/1)	Sat (8/4)	Evaluation	Unit Paper C	Chapters 12 and 13
10	Sun (8/5)	W (8/8)	Perspectives and Contributions	Research Proposal	Chapters 14 and 15

*With this one exception, course assignments will be due on Wednesdays and Saturdays by 11:55pm CST.

Loyola University Chicago School of Education Syllabus Addendum

IDEA Course Evaluation Link for Students

Each course you take in the School of Education is evaluated through the IDEA Campus Labs system. We ask that when you receive an email alerting you that the evaluation is available that you promptly complete it. To learn more about IDEA or to access the website directly to complete your course evaluation go to: <http://luc.edu/idea/> and click on **STUDENT IDEA LOGIN** on the left hand side of the page.

Dispositions

All students are assessed on one or more dispositional areas of growth across our programs: **Professionalism, Inquiry, and Social Justice**. The instructor in your course will identify the dispositions assessed in this course and you can find the rubrics related to these dispositions in LiveText. *For those students in non-degree programs, the rubric for dispositions may be available through Sakai, TaskStream or another platform.* Disposition data is reviewed by program faculty on a regular basis. This allows faculty to work with students to develop throughout their program and address any issues as they arise.

LiveText

All students, *except those who are non-degree*, must have access to LiveText to complete the benchmark assessments aligned to the Conceptual Framework Standards and all other accreditation, school-wide and/or program-wide related assessments. You can access more information on LiveText here: [LiveText](#).

Syllabus Addendum Link

- www.luc.edu/education/syllabus-addendum/

This link directs students to statements on essential policies regarding *academic honesty, accessibility, ethics line reporting* and *electronic communication policies and guidelines*. We ask that you read each policy carefully.

This link will also bring you to the full text of our conceptual framework that guides the work of the School of Education – **Social Action through Education**.

Appendix A
Journal Readings

JOURNAL READINGS

ABAB (Unit 3)

Hawkins, R.O., Haydon, T., Denune, H., Larkin, W., & Fite, N. (2015). Improving the transition behavior of high school students with emotional behavioral disorders using a randomized interdependent group contingency. *School Psychology Review, 44*(2), 208-223.

Martinez, K.K., & Wong, S.E. (2009). Using prompts to increase attendance at groups for survivors of domestic violence. *Research on Social Work Practice, 19*(4), 460-463.

MBD (Unit 4)

Hendricks, M.C., Ward, C.M., Grodin, L.K., & Slifer, K.J. (2014). Multicomponent cognitive-behavioural intervention to improve sleep in adolescents: A multiple baseline design. *Behavioural and Cognitive Psychotherapy, 42*, 368-373.

Mason, R.A., Rispoli, M., Ganz, J.B., Boles, M.B., & Orr, K. (2012). Effects of video modeling on communicative social skills of college students with Asperger syndrome. *Developmental Neurorehabilitation, 15*(6), 425-434.

CCD (Unit 5)

Cameron, M.J., Shapiro, R.L., & Ainsleigh, S.A. (2005). Bicycle riding: Pedaling made possible through positive behavioral interventions. *Journal of Positive Behavior Interventions, 7*(3), 153-158.

Singh, N.N., Lancioni, G.E., Singh, A.N.A., Winton, A.S.W., Singh, A.D.A., & Singh, J. (2011). A mindfulness-based health wellness program for individuals with Prader-Willi syndrome. *Journal of Mental Health Research in Intellectual Disabilities, 4*, 90-106.

MTD (Unit 6)

Malanga, P.R., & Sweeney, W.J. (2008). Increasing active student responding in a university applied behavior analysis course: The effect of daily assessment and response cards on end of week quiz scores. *Journal of Behavioral Education, 17*, 187-199.

Sigurdsson, V., Foxall, G., & Saevarsson, H. (2010). In-store experimental approach to pricing and consumer behavior. *Journal of Organization Behavior Management, 30*(3), 234-246.

Additional Design Options (Unit 7)

Van Houton, R., Van Houten, J., & Malenfant, J.E.L. (2007). Impact of a comprehensive safety program on bicycle helmet use among middle-school children. *Journal of Applied Behavior Analysis, 40*(2), 239-247.

Peterson, L., Tremblay, G., Ewigman, B., & Popkey, C. (2002). The parental daily diary: A sensitive measure of the process of change in a child maltreatment prevention program. *Behavior Modification, 26*(5), 627-647.

Quasi-Single-Case Experimental Designs (Unit 8)

Fournier, A.K., Ehrhart, I.J., Glindemann, K.E., & Geller, E.S. (2004). Intervening to decrease alcohol abuse at university parties. *Behavior Modification*, 28(2), 167-181.

Appendix B

Research Proposal Rubric

Research Proposal

The culminating project for the course is a research proposal. You will work individually to develop at least one research question, review the literature, and develop a plan for examining the question(s). Because this is a proposal, you will use future tense in your writing. A Word document must be submitted within Assignments on Sakai. This paper will be written in APA format, Times New Roman font (size 12), and double-spaced.

Required Components & Scoring Rubric:

	Points Possible
I. Introduction (6-8 pages, no more than 10 pages!) <ul style="list-style-type: none"> A. Purpose statement: Discuss what the research is about, including why conducting this research is important to your field. B. Background literature: Provide a brief description of previous research and literature that logically leads to the need for your research. C. Research questions and hypotheses: Write at least 1 research question and hypothesis (you will probably have more than 1). 	15
II. Proposed Method (approximately 10-15 pages) <ul style="list-style-type: none"> A. Recruitment and participants: Describe demographic and educational information (if applicable) for your individual(s). B. Setting: Describe the setting in which your study will take place. C. Variables: Operationally define the independent and dependent variables. The independent variable will probably be an intervention or treatment program. Describe it in detail. D. Measures: Clearly describe all of the measures you will use in your project, including information regarding purpose, administration, scoring, and psychometric properties, as applicable. E. Research design: Clearly describe the research design you will use in your study, including criteria/decision rules for phase changes. Discuss major threats to internal validity and how you will minimize these threats. F. Procedures: Clearly describe in a step-by-step manner what you did with the individual(s). Include a description of the procedures during the baseline, treatment, maintenance, and/or generalization phases. Provide sufficient detail, so someone else could replicate your procedures. Describe how you will measure treatment integrity. G. Inter-observer reliability: Describe how you will obtain inter-observer agreement data. Identify the method(s) by which you will calculate inter-observer agreement. H. Social validity: Describe how you will measure social validity. 	25
III. Proposed Data Analysis (approximately 1 page) Describe all the analyses you are going to use (visual and statistical) in great detail.	5
IV. Results Prepare graphs and tables (if applicable) showing what you expect your data might look like (using dummy data).	5
V. Implications (approximately 3-4 pages) Describe anticipated limitations and implications of your proposed study, and provide suggestions for future research. Identify what you learned from developing the proposal. Include a brief reflection on single-case research methodology in general and your proposal in particular.	10
VI. Writing Style and References <ul style="list-style-type: none"> A. Writing and references in APA style B. Clarity, grammar, spelling 	5

