Department of Curriculum & Instruction

College of Education
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The University of Texas
ARLINGTON™

EDUC 5395: Designing Classroom Research

Instructor Information

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Course Information

Course Title:	Designing Classroom Research
Course Number:	EDUC 5395

Catalog Description

This course emphasizes the analysis of both quantitative and qualitative data in educational research. Various forms of descriptive, inferential, nonparametric, and qualitative data analysis methods are introduced. Students will have the opportunity to explore their use and be guided in applying them to data. We also introduce the use of computer software for data analysis (SPSS). Students analyze data they have collected as part of their fieldwork projects initiated in EDUC 5394 and write the Results section.

Prerequisites

- Prerequisite: EDUC 5394. This course is to be taken in the session immediately preceding EDUC 5397.
- It is a requirement for this course that you have completed ALL of your data collection. You will use your own data to complete the assignments in this course. Without data, you cannot complete this course.

Textbook(s) and Materials

- Bartz, A. E. (1998). *Basic Statistical Concepts (4th Ed.)*. Upper Saddle River, NJ: Merrill-Pearson. ISBN: 0137371802

- *IBM® SPSS® Statistics Base GradPack 23 (6-mo. rental)*) can be purchased from www.onthehub.com
    - Click on the link in Blackboard to purchase the software; **download and be prepared to use the software beginning in Week 2 – no exceptions!**
    - There are numerous options for both a MAC and PC; The 6-month rental for graduate students is the cheapest.
    - You will need to register with OnTheHub using your UTA email address in order for them to confirm your student status.

- Gay, L.R., Mills, G.E., & Airasian, P. (2009). *Educational research: Competencies for analysis and application (9th Ed.)*. Upper Saddle River, NJ: Merrill-Pearson. ISBN: 0132338777 (this was the textbook from EDUC 5394, so you shouldn't need to buy this text.)

- American Psychological Association. (6th Edition). *Publication Manual*. Washington, DC: Author. ISBN: 978-1433805615 (this was required in EDUC 5394 as well).

- The College of Education is pleased to announce the adoption of Tk20, a comprehensive data management system that will provide us with powerful tools to manage our growth and streamline our processes to enable us to meet your needs more efficiently and effectively. As with other course materials, you will need to subscribe to the program for a one-time only, non-refundable cost of $100. You may purchase your subscription online from a link provided on the system's Web site or from the UT Arlington Bookstore as you would a textbook or other course materials. Please see the letter from Dean Gerlach and visit https://tk20web.uta.edu/campustoolshighered/start.do for more information.

University Mission

The mission of The University of Texas at Arlington is to pursue knowledge, truth and excellence in a student-centered academic community characterized by shared values, unity of purpose, diversity of opinion, mutual respect and social responsibility. The University is committed to lifelong learning through its academic and continuing education programs, to discovering new knowledge through research and to enhancing its position as a comprehensive educational institution with bachelor's, master's, doctoral and non-degree continuing education programs.

College Mission

The mission of the UTA College of Education is to develop and deliver educational programs that ensure the highest levels of teacher, administrator, and allied health science practitioner preparation and performance. As a recognized contributor to the fields of education and allied health science, the College engages in effective teaching, quality research, and meaningful service.   The College is committed to diversity and to the advancement of active teaching and learning in all educational environments and at all levels.

Core Values

- Effective teaching
- Active learning
- Quality research
- Meaningful service

Conceptual Framework

The work of the College of Education is grounded in constructivism as a theory of teaching and learning and is done in a spirit of expectation that all involved in the College of Education, whether candidate, faculty or administrator, will hold the following as important: **Excellence, Student-Centered Environments, Research, Collaboration, Diversity, Technology, Field Experiences and Life-Long Learning.**

Partners for the Future is the theme of the UTA College of Education and communicates the understanding that it takes a village of partners to insure the future of education for all.

Learning Outcomes

Through this course students will be able to:

1. Be able to access and employ statistical software in the solution of complex data analysis problems in education.
2. Be knowledgeable of inferential hypotheses testing techniques as applied to educational research.
3. Be knowledgeable of, and able to use descriptive statistics including those of: central tendency; dispersion, and covariance.
4. Be knowledgeable of confidence intervals and hypotheses testing methods involving one dependent variable. This includes both parametric and nonparametric approaches to hypotheses testing.
5. Be able to organize and write up data presentations for journal articles and technical reports using the format of the American Psychological Association.
6. Describe a variety of styles and ways of organization about communicating the results of qualitative research.
7. Have increased awareness of characteristics of credible research findings.
8. Have increased awareness of approaches to using research in the classroom.
9. Make informed decisions about instructional techniques used in classroom teaching.

Attendance and Drop Policy

Attendance. As this course is online, it is expected that all students will access the learning platform as required and complete assignments, discussions, and assessments as directed. Assignments are to be completed and submitted by the posted deadline.

Drop Policy. If you choose to withdraw from the course for any reason, you must follow University procedures. It is your responsibility to execute these procedures correctly and within the deadlines.

Other Policies
APA –
- The **Research Results section and all tables and charts required in this course will follow APA 6th Edition formatting**. All work in this course, including the research project is to be submitted in Microsoft Word.

Late Work –
- Late work will receive a 10% penalty for each day late.

Resubmissions -
- In this course it is important that you finish the course with an understanding of how to complete your Research Project. This is a case of where the process is more important than the ending grade. Each week you will be allowed to resubmit your Project Assignment with the following conditions:
  - Your grade fell below 70%
  - You have one week for the resubmission. (If you are resubmitting Week 1 Assignment – you have to submit it on or before the due date for Week 2).
  - You will only be able to resubmit an assignment one time.
  - Your feedback will often be embedded in the attached Teacher Document – be sure you have addressed ALL of the issued addressed in this feedback. Also, be sure to check the rubric and the sample assignments to understand the criteria upon which you are being graded.

Grade Calculation
A = 90 – 100
B = 80 – 89
C = 70 – 79
D = 60 – 69
F = Below 60

Email Communication
All e-mail communication must occur via the MAIL function in the course software.
You are responsible if you do not receive information because you do not regularly check your UTA email.

American with Disabilities Act (ADA)
If you are a student who requires accommodations in compliance with the ADA, please consult with me at the beginning of the semester. As a faculty member, I am required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability.   Your responsibility is to inform me of the disability at the beginning of the semester and provide me with documentation authorizing the specific accommodation. Student services at UTA include the Office for Students with Disabilities (located in the lower level of the University Center), which is responsible for verifying and implementing accommodations to ensure equal opportunity in all programs and activities.

Student Support Services
The University supports a variety of student success programs to help you connect with the University and achieve academic success. They include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

Academic Honesty
Academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form at The University of Texas at Arlington. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. "Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." (Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2., Subdivision 3.22).

UTA Writing Center

Learned professionals are those who write well, communicate well and have a firm grasp of the expectations of the discipline they represent. Beyond grammar, the logic and flow can make or break a piece of writing. A piece of writing must be cohesive and guide the reader through the argument and not just individual pieces. Academic writing uses charts, graphs, and other figures to, in a sense, tell a story of the data in a way that your audience is able to understand what your intend. It is highly advised that you utilize the services of the UTA Writing Center in order to ensure the appropriateness and grammatical correctness of your writing.

- Professionally trained tutors offer help with writing projects at any stage of the process at no cost to UTA students.
- You can submit a rough draft via email and request feedback from a tutor at the On-Line Writing Lab. (http:www.uta.edu/owl/).

Assignments

Assignment	Percentage of Final Grade
Data Analysis Plan	15%
Data Entry	10%
Data Screening	15%
Tables & Figures	10%
Research Report Results Section	30%
Participation	20%
TOTAL	100%

Course Support

- In the event that you don't understand something, I have created a Discussion thread specifically devoted to asking questions. I would prefer that you post questions about assignments and content to this board rather than emailing me directly. This is because other students who are co-learners in this process can often explain things better than I can AND so that the answers to the questions can benefit the entire class. I will be monitoring the discussion board to provide feedback and answer questions. If you have a more private concern, then please email me directly.
- Please let your Academic Coach know if you have any unanswered questions or concerns about your grades. I'll also be in contact with your coach so that together we can ensure that you receive all the support you need to succeed.

Detailed Guidelines for Assignments

All assignments are due by 11:59 PM, Sunday of the assigned week.

1. Data Analysis Plan (15 %)

For this assignment, you will complete a Data Analysis Plan. This plan will help you determine which statistic you should use to best answer your research question. Your Data Analysis Plan will look different depending on the type of research study you are conducting. Follow the directions on the assignment page on the course website according to your type of research to complete your Data Analysis Plan.

2. Data Entry/Coding (10 %)

For this assignment, you will enter your data into SPSS for quantitative studies; or code data for qualitative studies; or both for mixed-methods studies.

Quantitative:

- While data entry may seem like a simple task, it is one of the most important. The data entry step is tedious, but it is the step where the majority of human-error related mistakes are made. Be sure to keep the hard copies of your data so you can go back to check for mistakes if needed.
- Be sure to follow guidelines in the "Basic Rules of Data Structure" handout in the Resource section.
- Submit your data buy either printing your data sheet as a pdf file or take a screen shot of your data and paste it into a Word document. Blackboard will often not upload the larger SPSS files.

Qualitative:

- For tips on how to code data go to the following website: http://onlineqda.hud.ac.uk/Intro_QDA/how_what_to_code.php
- Submit copies of your coded data and memos

3. Data Screening (15 %)

For this assignment you will perform a data screening for quantitative studies; or perform a second-level coding for qualitative studies; or both for mixed-methods studies.

Quantitative:

- Each statistical test relies on mathematical assumptions that if not adhered to will render data analysis invalid. Therefore, the data screening process for quantitative studies is an essential step in analyzing quantitative data.
- Your final product for this assignment is a description of the data screening process and possibly a Table of your descriptive statistics. You do NOT need to submit your SPSS output.

Qualitative:

- After the initial coding of the data it is necessary to reexamine the data not only to verify the initial coding was done correctly, but to reduce the number of codes by organizing codes into different levels or hierarchies. For example, the category of fruit has many types falling under it (e.g., oranges, grapefruit, kiwi, etc.). The idea is that some ideas or themes are more general than others, and thus the codes are related vertically. For examples of hierarchical data codes see the "Qualitative Data Coding" handout in the Resource section.

4. Tables and Figures (10 %)

For this assignment you will run the statistics identified in your data analysis plan, and submit your results in graphic form. Tables are useful for presenting a large quantity of information clearly and concisely. They typically display numerical data in columns and rows for easy classification and comparison. Tables do not duplicate text, but rather present new information. They should be interpretable without the text. A well-crafted table can assist readers immeasurably in understanding your results. The other major type of illustration you will want to consider is a figure. Anything that is not text or a table will fall into this category, including graphs, charts, photographs, and drawings.

See the "APA Table Guidelines" handout and the "APA Figures Guidelines" handout in the resource section as well as your APA Manual for more information and examples of how to display your data.

5. Results Section (30 %)

For this assignment you will present the results of your study by constructing the Results section. The Results section is a detailed description of the findings and an explanation of how these findings relate to the statement of purpose. The purpose of the Results section is to indicate what was observed and how measurements were made. The function of the Results section is to objectively present your key results, *without* interpretation, in an orderly and logical sequence using both illustrative materials (Tables and Figures) and text. Summaries of the statistical analyses may appear either in the text (usually parenthetically) or in the relevant Tables or Figures. The Results section should be organized around a series of Tables and/or Figures sequenced to present your key findings in a logical order. The text of the Results section follows this sequence and highlights the answers to the research questions you investigated. Important negative results should be reported too.

For more detailed instructions about how to construct your Results section see the Assignment #5 page on the course website. **This assignment must also be uploaded to TK20.**

6. Participation (20%)

Discussion Questions

Each week, several chapters from the textbook will be assigned for you to read. The purpose of these chapters is to help give you an overview of data analysis methods and to help you prepare your results section. Reading related discussion prompts will be given each week for you to discuss with your online colleagues. Your response to the Discussion Questions will be **due by Wednesday** of each week. You must respond to at least two classmates' responses by **Sunday** of the same week.

Progress Monitors

There will be reading self-tests for each chapter. You will have the opportunity to take each quiz as often as you would like up to the due date until you have mastered the material. Your highest grade will be the grade that counts towards your grade. These reading self-tests will be due **Sunday** of each week.

Date	Topic/Activity	Assignments All assignments are due by 11:59 PM, Sunday of the assigned week
Week 1	Course Welcome/Introduction Background to Statistics Levels of Scale Graphing and Distributions	Ch. 1. Some Thoughts on Measurement Ch. 2. Frequency Distributions and Graphical Methods **Data Analysis Plan Due**
Week 2	Working with SPSS Measures of Central Tendency Measures of Variability Measures of Distribution The Normal Curve	Ch. 3. Central Tendency Ch. 4. Variability Ch. 5. The Normal Curve **Data Entry/Data Coding Due**
Week 3	Confidence Intervals Correlation Single Sample t-test Independent Samples t-test Paired Samples t-test	Ch. 7. Correlation Ch. 9. The Significance of the Difference Between Means **Data Screening Due**
Week 4	One-Way ANOVA Computing Post Hoc Tests and Effects Two-Way ANOVA	Ch. 10. Effect Size Ch. 11. One-Way Analysis of Variance Ch. 12. Two-Way Analysis of Variance **Tables and Figures Due**
Week 5	Nonparametric Statistics Analysis of Qualitative Data Communicating the Results of Qualitative Data	Ch. 13. Nonparametrical Statistical Tests Ch.18 *Educational Research: Competencies for Analysis and Application* (2009, 9th Ed.) by Gay, Mills, and Airasian. – textbook from EDUC 5394. "Data Preparation, Analysis and Reporting the Results" - Handout **Final Results Section Due (this assignment must also be uploaded to TK20)**