



## Summer Language Institute (Guanajuato, Mexico)

### Southern Oregon University

Master of Arts in Spanish Language Teaching

#### FL 501:

#### Data Exploration and Analysis

Class time: online asynchronous classes

April 5, 2021 - May 9, 2021

Professor: Dr. Jeremy W. Bachelor  
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#### **FL 501: Data Exploration and Analysis (1 credit)**

**Description:** This course provides a brief introduction to the data analysis process with the goal of helping participants analyze the data to be gathered for their Action Research Projects. In this sense, the course will be very hands on and will require participants to actively think about their Action Research project design in regard to the data to be obtained and how this data will be examined in order to answer their research questions. Topics to be covered include numerical and graphical summaries of data (e.g. bar graphs, pie charts, scatterplots, etc.), hypothesis testing ( $t$ -tests), and descriptive statistical procedures. Participants are not required to have an approved project in mind in order to enroll.

#### **LEARNING OUTCOMES**

By the end of this course, students will be able to:

1. Identify whether variable data is quantitative or qualitative, continuous or discrete, and the implications of these differences
2. Describe a variable distribution in a meaningful way using measures of central tendency and dispersion
3. Summarize quantitative data graphically, using a variety of graph types depending on the type of data involved
4. Identify statistical methods to be used in future Action Research projects

## **COURSE MATERIALS**

Articles and data samples will be provided by the course instructor. Students should have access to a reliable computer/tablet with Internet access, speakers, a microphone, and Microsoft Excel.

## **MOODLE**

As an online course, it is essential that students familiarize themselves with Moodle by completing the orientation module, preferably before the first day of class. Moodle will provide students with weekly instructions, discussion forums, feedback and grades, and course materials.

## **ATTENDANCE/PARTICIPATION**

Online attendance will be taken throughout each week during the course. Students must enter Moodle during the first 48 hours of the course and complete an icebreaker activity. Henceforth, students must actively contribute on three separate occasions throughout each of the five weeks, at minimum, preferably at the beginning of the week, midway through the week, and on the weekend. Due to the intense format of this course, missing a week is not allowed. In case of an emergency, please contact the course instructor and the SLI director.

## **GRADING SCALE**

A	94 – 100%	C	74 – 76%
A–	90 – 93%	C–	70 – 73%
B+	87 – 89%	D+	67 – 69%
B	84 – 86%	D	64 – 66%
B–	80 – 83%	D–	60 – 63%
C+	77 – 79%	F	0 - 59%

## **ASSESSMENT BREAKDOWN**

1. Discussion forum – 20%
2. Assignments – 50%
3. Quizzes – 10%
4. Final data summary – 20%

## **FINAL DATA SUMMARY**

This assignment will require participants to analyze a data set applicable to their Action Research topic and write out, as explained in class, the results in a clear and meaningful fashion, following APA style guidelines. This assignment will be a “dry run” of sorts of what will be required of students during their Action Research project. The research questions should aim to address an issue/theme/concern that students discovered in SLI coursework.

## **FORUM ACTIVITIES AND ASSIGNMENTS**

In terms of activities, these will consist of practical assignments that will be worked on both via file submissions and open discussion forums. These assignments will include the creation of graphs and tables, data summary and analysis, and discussions of data implications.

## **WORK LOAD**

In a typical 1 credit course taken over 10 weeks, students attend class for 10 hours total (one hour a week) and are expected to devote 2-3 hours to studying/homework per week. Due to the nature of this accelerated 5-week, 1 credit course, students should plan on spending 6-8 hours a week completing online work, reading, studying, and planning for their upcoming Action Research study.

## **ACADEMIC HONESTY AND CODE OF CONDUCT**

Students are expected to maintain academic integrity and honesty in completion of all work for this class. According to SOU’s Student Code of Conduct: “Acts of academic misconduct involve the use or attempted use of any method that enables a student to misrepresent the quality or integrity of his or her academic work and are prohibited”.

Such acts include, but are not limited to: copying from the work of another, and/or allowing another student to copy from one’s own work; unauthorized use of materials during exams; intentional or unintentional failure to acknowledge the ideas or words of another that have been taken from any published or unpublished source; placing one’s name on papers, reports, or other documents that are the work of another individual; submission of work resulting from inappropriate collaboration or assistance; submission of the same paper or project for separate courses without prior authorization by faculty members; and/or knowingly aiding in or inciting

the academic dishonesty of another. Any incident of academic dishonesty will be subject to disciplinary action(s) as outlined in SOU's Code of Student Conduct:

[http://arcweb.sos.state.or.us/pages/rules/oars\\_500/oar\\_573/573\\_076.html](http://arcweb.sos.state.or.us/pages/rules/oars_500/oar_573/573_076.html)

In case of loss, theft, destruction or dispute over authorship, always retain a copy of any work you produce and submit for grades. Retain all written work that has been graded and handed back to you. The instructor will assume that the work you submit is done by the student. If a participant submits work that has been done with additional, non-allowed help, s/he will receive a 0% grade on the assignment. Any infractions may also involve further disciplinary measures within the class and/or at the instructional level.

Students should be aware that, at the discretion of the instructor, assignments may be submitted to plagiarism detection software programs for the purpose of detecting possible plagiarism.

Students in this course must be prepared to submit an electronic version of any written assignment upon request of the instructor.

### **STATEMENT ON TITLE IX AND MANDATORY REPORTING**

Federal law requires that employees of institutions of higher learning (faculty, staff and administrators) report to a Title IX officer any time they become aware that a student is a victim or perpetrator of gender-based bias, sexual harassment, sexual assault, domestic violence, or stalking. Further, Oregon law requires a mandatory report to law enforcement of any physical or emotional abuse of a child or other protected person, including elders and people with disabilities, or when a child or other protected person is perceived to be in danger of physical or emotional abuse. If you are the victim of sexual or physical abuse and wish to make a confidential disclosure please use the confidential advising available at

<http://www.sou.edu/ssi/confidential-advisors.html>, or use Southern Oregon University's Anonymous Harassment, Violence, and Interpersonal Misconduct Reporting Form

[https://jfe.qualtrics.com/form/SV\\_7R7CCBciGNL473L](https://jfe.qualtrics.com/form/SV_7R7CCBciGNL473L)

### **SOU ACADEMIC SUPPORT/DISABILITY RESOURCES**

To support students with disabilities in acquiring accessible books and materials, and in planning their study and time management strategies, SOU requires all professors to include a statement

on Academic Support and Disability Resources on course syllabi. It is the policy of Southern Oregon University that no otherwise qualified person shall, solely by reason of disability, be denied access to, participation in, or benefits of any service, program, or activity operated by the University. Qualified persons shall receive reasonable accommodation/modification needed to ensure equal access to employment, educational opportunities, programs, and activities in the most appropriate, integrated setting, except when such accommodation creates undue hardship on the part of the provider. These policies are in compliance with Section 504 of the Rehabilitation Act of 1974, the Americans with Disabilities Act of 1990, and other applicable federal and state regulations that prohibit discrimination on the basis of disability.

If you are in need of support because of a documented disability (whether it be learning, mobility, psychiatric, health-related, or sensory) you may be eligible for academic or other accommodations through Disability Resources. Call Academic Support Programs at (541) 552-6213 to schedule an appointment with Disability Resources. The Academic Support Programs office is located in the Stevenson Union, lower level. See the Disability Resources webpage at [www.sou.edu/dr](http://www.sou.edu/dr) for more information. If you are already working with Disability Resources, make sure to request your accommodations through them for this course as quickly as possible so that you have the best possible access.

## **SOU CARES**

SOU has a wide range of resources to help you succeed. Our faculty, staff, and administration are dedicated to providing you with the best possible support. The SOU Cares Report allows us to connect you with staff members who can assist with concerns, including financial, health, mental health, wellbeing, legal concerns, family concerns, harassment, assault, study skills, time management, etc. You are also welcome to use the SOU Cares Report to share concerns about yourself, a friend, or a classmate at <http://www.sou.edu/ssi>. These concerns can include reports related to academic integrity, harassment, bias, or assault. Reports related to sexual misconduct or sexual assault can be made anonymously or confidentially. Student Support and Intervention provides recourse for students through the Student Code of Conduct, Title IX, Affirmative Action, and other applicable policies, regulations, and laws.

## SPAN 503: Data Exploration and Analysis

### Tentative schedule

Week	Content/Theme	Assignments
	Orientation	Course overview and icebreaker
1	Data description: Types of data, measures of central tendency Selecting a research problem	<ol style="list-style-type: none"> <li>1. Video: Selecting a problem to research</li> <li>2. Discussion: Brainstorming topics of interest</li> <li>3. Video: What are descriptive statistics?</li> <li>4. Lesson: Research variables</li> <li>5. Quiz 1</li> <li>6. Exercise set: Measures of central tendency</li> </ol>
2	Study design and introduction to hypothesis testing Analyzing data from Likert scales Tools for comparing populations: <i>T</i> -tests and effect sizes	<ol style="list-style-type: none"> <li>1. Video: Introduction to research design, statistics, tests, and measurement</li> <li>2. Discussion: Planning for a study</li> <li>3. Video: What is a <i>t</i>-test? Procedures, interpretations, and examples</li> <li>4. Lesson: Likert scale</li> <li>5. Quiz 2</li> <li>6. Exercise set: Data visualization and <i>t</i>-tests</li> </ol>
3	Exploring the relationship between two variables Box plot, correlation coefficients	<ol style="list-style-type: none"> <li>1. Video: The relationship between variables</li> <li>2. Discussion: Choosing the right test</li> <li>3. Video: Interpreting the correlation coefficient</li> <li>4. Lesson: Scatterplots and line graphs</li> <li>5. Quiz 3</li> <li>6. Exercise set: Correlation coefficients</li> </ol>
4	An introduction to qualitative data analysis Surveys, questionnaires, field journals, interviews Triangulation of data	<ol style="list-style-type: none"> <li>1. Video: An overview of qualitative research</li> <li>2. Discussion: Qualitative vs. quantitative</li> <li>3. Video: Leading questions, examples and definition</li> <li>4. Lesson: Surveys, field journals, interviews</li> <li>5. Quiz 4</li> <li>6. Exercise set: Qualitative data</li> </ol>
5	Putting it all together: Summarizing data and writing up results	<ol style="list-style-type: none"> <li>1. Final data summary submission and response</li> <li>2. Discussion post wrap-up</li> </ol>

## **ONLINE LEARNING TIPS**

### **How can I be an effective online learner?**

Manage your time wisely. Online courses are similar to face-to-face courses in that there are fixed work requirements and deadlines. However, because there are no live classes to attend, some participants find that due dates fall off their radar. The best way to avoid this pitfall is to read the course requirements carefully. At the beginning of the course, record deadlines on your calendar, even deadlines for informal assignments like posting discussion comments. Budget how much time you can afford to spend on each assignment. Then schedule exactly when that time will be spent.

### **Schedule a regular time for your coursework**

Decide what time of day and which days of the week are optimal times for doing your coursework. Keep your time slots realistic—don't plan to start your coursework at midnight if you have to get up at 5 a.m., and don't pick 2 p.m. if sitting at the computer after lunch makes you sleepy. Once you've decided on a time slot in which you generally have energy, schedule it into your calendar and stick to it! Consider it a weekly investment in your future.

### **Expect the unexpected, and reward yourself**

Even the most organized students encounter events they haven't planned for, so it's healthy to expect the unexpected and not get frustrated by technical or scheduling problems. However, it's also important to stick to your work schedule as much as you can. One way to stay motivated is to give yourself small rewards for finishing projects on time. Small incentives can make finishing your work a little more inspiring.

### **How much technology knowledge do I need to feel at ease in an online course?**

You do not have to be a technological wizard to excel in an online learning environment! Even novices in the field of computer technology can be star students as long as they understand a few core concepts, including how to use plug-ins, how to access streaming video, how to participate in asynchronous discussions, and how to send email attachments. Don't be intimidated by the jargon. These concepts sound more complicated than they really are.

## RUBRIC FOR ONLINE DISCUSSION BOARD PARTICIPATION

The quality of your participation will be worth a percentage of your total course grade as indicated in the course grade section.	Points
<ul style="list-style-type: none"> <li>Professional and academic use of language in posts</li> </ul>	___/5
<ul style="list-style-type: none"> <li>Consistently posts topics related to the discussion topic; cites additional references related to the topic when applicable</li> </ul>	___/5
<ul style="list-style-type: none"> <li>Expresses ideas and opinions in a clear and concise manner with obvious connection to the topic</li> </ul>	___/5
<ul style="list-style-type: none"> <li>Displays awareness of the needs of the community; frequently attempts to motivate the group discussion; presents creative approaches to the topic and poses questions to further discussion</li> </ul>	___/5
<ul style="list-style-type: none"> <li>Meets posting minimum/maximum requirements</li> </ul>	___/5

## RUBRIC FOR FINAL DATA SUMMARY

Student provides research question(s)* to solve identified problem	2.0
Student identifies at least two statistical procedures to answer research question(s)	2.0
Student identifies at least one qualitative procedure to answer research question(s)	1.0
Student accurately analyzes data	5.0
Student effectively presents data	5.0
Student effectively discusses findings and implications	5.0

\*The research questions should aim to address an issue/theme/concern that students discovered in SLI coursework

**After the Data Analysis course (in preparation for the Action Research course)**

*Students are expected to complete the work below before the first day of class during Session I in GTO.*

Prior to the first day of class in GTO (Session I)	<ul style="list-style-type: none"><li>• Read the entire Action Research textbook (Mills, 2018)</li><li>• Create an ORJ journal entry for each chapter (<b>entries 1-10</b>)</li><li>• Write an area of focus statement and 1-2 research questions that stem from a concern/issue/theme discovered in SLI coursework; describe the possible intervention or innovation of your study; include a brief pre-reflection before you develop your proposal to answer how you would incorporate what you have learned during your degree (e.g. I have a better understanding of SLA, so I am looking at a specific methodology); <b>ORJ #11</b></li><li>• Complete “Protecting Human Research Participants Online Course” (takes approximately 3 hours); post certificate of completion to Moodle</li><li>• Find several peer-reviewed journal articles that are relevant to your area of research</li><li>• Discuss your action research ideas with your department head and/or district administrator</li><li>• <b>Ask for and obtain a letter from your school principal or another administrator in your district that gives you permission to carry out your research project</b></li></ul>
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