

# THE UNIV. OF TEXAS AT EL PASO COLLEGE OF SCIENCE MATHEMATICAL SCIENCES DEPT.

**¡BIENVENIDOS (WELCOME)!**

*note:* From the top of <http://www.math.utep.edu/Faculty/lesser/schedule.html> or our Bb course shell, you can access this syllabus if you misplace yours, want to explore its many links or see any addendums. Syllabus is subject to change by the instructor to meet new mandates or course needs, especially for unexpected changes with respect to class size, technology resources, grading resources, department/UTEP policies, regulations (ADA, FERPA), severe weather or epidemiological conditions, etc. The yellow highlighted parts are tied to current conditions of the pandemic, which of course may evolve and need clarification or change.

Course Number: MATM 5361-001 (CRN# 28389)

Course Title: Qualitative Research in Mathematics Education

Credit Hours: 3

Term: Spring 2021

Course Fee: none

Course Meetings & Location: because this is an online class, material and communications are handled mainly through Blackboard with no in-person meetings; we must all keep set aside MW 4:30-5:50pm for synchronous meetings (probably in Blackboard Collaborate Ultra, but some may be in Zoom; the link is on the left-hand sidebar of our course shell homepage) even though we may use only a subset of those slots, based on the trajectory of the course

Instructor: Dr. Larry Lesser (rhymes with ‘Professor’, spelled like < ).

See my bio or background on my homepage

<http://www.math.utep.edu/Faculty/lesser/> or

hear my introductory rap at <https://www.youtube.com/watch?v=sFizdFK09I8>,

or read the 2020 interview of me in *Journal of Statistics Education* at

<https://www.tandfonline.com/doi/pdf/10.1080/10691898.2020.1733342>.

I’ve also worked as a state agency statistician, a HS math teacher, and director of a university-wide teaching center. I’ve served on national statistics education journal editorial and research advisory boards and have published both quantitative and qualitative studies in statistics education journals aimed at researchers as well as articles in journals aimed at teachers.

Office Location: ~~Bell Hall 213 (by the second floor water fountain)~~ during this stage of the pandemic, I am generally working somewhere other than my UTEP office because Bell Hall is not open for normal teaching duties

## Contact Info:

**Phone:** (915) 747-6845 during this stage of the pandemic, I generally won't be in my UTEP office to be able to answer my UTEP phone, but you can leave a voicemail on this number at any time and I will be able to access the voicemail from wherever I am

**Communication with Instructor:** To keep things related to our course gathered in one place, I prefer you contact me through the Course Messages option within our Blackboard (Bb) course shell. When Blackboard is not available, you may email me at **Lesser (at) utep.edu**, remembering to: (1) use a meaningful subject line (that includes 5361) so that I could do a keyword search and easily find it again a week later after receiving hundreds of new emails after yours, and (2) email from your **miners.utep.edu** address because it provides more security, minimizes the chance the UTEP server rejects it, and because I'm not allowed to discuss confidential information such as grades if you don't). I will generally check for and reply to messages at least once a day, except during holidays. (A daily check is only fair since I'm asking you to do a daily check for possible announcements.) Just so you know, on almost all weekends, I check messages on Sunday, but not on Friday evening or Saturday.

For questions requiring live conversation (whether as a phone call, a Zoom meeting, or a Blackboard Collaborate Ultra meeting), remember to include several possible times that would work for you so I can reply with which option works in my schedule. If we do a phone call, note that I would be calling from a personal number that will be blocked from showing up on your Caller ID, so you'd have to be prepared to accept that call on your phone.

**Instructor Homepage:** <http://www.math.utep.edu/Faculty/lesser/>

**Fax:** (915) 747-6502 (note: this is a departmental fax, so be sure to have my name clearly on it and be aware that staff are not available to relay faxes to me outside the hours the math department office is staffed) during the pandemic, the math department is not on a regular in-person schedule, and the department's fax machine is kept in a room I do not have a key to, so do not assume during the pandemic that this will reach me in a timely manner; use email instead of faxing

**Emergency Contact:** (915) 747-5761 (during math dept office hours) during the pandemic, the mathematics department is not on a regular in-person schedule so do not count on it being answered by a live person; you may need to leave a message or email [mathdept@utep.edu](mailto:mathdept@utep.edu)

## Office hours:

If your question involves technology (e.g., an issue with a browser, connectivity, or Blackboard), contact the UTEP HelpDesk: <https://www.utep.edu/technologysupport/>.

Just so you know, on most weekends, I check messages on Sunday, but not on Friday evening or Saturday. For questions requiring live conversation (whether as a phone call or a Blackboard Collaborate Ultra meeting online), send me several possible times that would work for an appointment and I will reply with which option works in my schedule.

When you arrive in the Blackboard Collaborate Ultra room for an office hour or appointment, be sure to “speak up” or hit the “raise hand icon” so I’ll know you’re there in case I’m looking away by answering a student email. My usual scheduled Spring 2021 Bb Collaborate Ultra office hours are held in a room that is not the room for class meetings, but instead is this room on Mondays and Wednesdays from 3:33-4:15pm at <https://us.bbcollab.com/guest/ceceed02ee3c409489d1b9e3c878dac9>

### Textbook(s), Materials:

#### **Required textbook:**

No required book to buy! To tailor the course to specific mathematics education research and because no single book completely covers all goals of this course, we will use handouts, individual articles (usually drawn from the bibliography list later in this syllabus), online resources and demonstrations, taking into account class backgrounds, interests, and time available. Remember to do each reading before any live meeting when we discuss it.

Each reading is available in one or more of the following ways (depending on logistics and copyright issues):

- First try the Internet (e.g., for open-access journals and websites).
- If that doesn’t work, see if they are posted in our class Blackboard shell
- Then try the UTEP library website -- from its home page, type the name of the journal’s title into the MinerQuest Search window and choose TITLE from the dropdown menu. This usually results in your being able to access the journal from one or more sources and sometimes you can access more years than the listing says.
- Next try the UTEP library electronic reserve via library homepage: Research → course reserves → search by Instructor → Lesser → 5361 or 5360
- Finally, try the UTEP library hardcopy reserve at Circulation Desk (under Lesser or 5360 or 5361). For example, the 2012 reference book Atkins and Wallace book *Qualitative research in education* (Sage Publications) is available using 2-hour checkout from the UTEP library hardcopy reserve for MATM/MATH 5361 at the Circulation Desk.

### Course Objectives (Learning Outcomes):

Students will....

- Increase ability to navigate, critique, and synthesize the research literature in mathematics education (which is assumed to include statistics education)
- Gain familiarity and hands-on experience with (primarily qualitative) methodology options and how to choose an option that aligns with the student’s research question in mathematics education
- Develop understanding of criteria for rigor, reliability and validity in qualitative research
- Develop understanding of triangulation (four types: data, researcher, theory, method)
- Develop understanding of how qualitative methods can complement quantitative methods
- Understand pitfalls and ethical principles of (qualitative) research and how to comply with Institutional Review Board (IRB) requirements

- Write and present a mathematics education research paper that uses current edition of APA style
- Learn how to contribute to and benefit from being part of a community of (emerging) scholars, including peer debriefing and feedback on oral and written communication

**Course Activities/Assignments:** Students will participate in a variety of activities and assessments, informed by factors such as available technology and grading resources.

**Assessment of Course Objectives:** Assessments may include assessments (such as quizzes or written reflections), exams, presentations, and a final project.

**Course Schedule:** Census Day: **Wed., Feb. 3**  
 Midterm Exam: **currently set for 9am March 28-9am March 30**  
 Deadline to Drop with a “W”: **Thurs. April 1**  
 Presentation (10-min.) of Final Papers: **during last 2 regular meeting days (May 3 & 5); let me know if you have a major conflict with both days, and I can give you information about uploading (by 4:30, May 5) a video of your presentation**  
 Final Papers: due **Wed. May 5, 11:59pm**  
 Finals Week meeting (as scheduled by UTEP registrar) **Mon. May 10, 4-6:45pm** (this could be used for individual feedback on papers, if graded by then)

**Grading Policy:** after any rescaling needed for all components to be on the 0-100 scale, the grade is determined by the usual cutoffs of 90-80-70-60 based on these 4 parts:

- \* Midterm Exam (20%) **currently set for 9am March 28-9am March 30**; at least a week or two in advance, I’ll confirm exact date and material covered
- \* Discussion Board Reflections (5%): This is based on doing whatever Discussion Board posting is assigned by each week’s deadline. To get credit, the post needs to be a sincere, constructive, thoughtful, specific post relevant to the question – not just something like “I agree!” without explaining why
- \* Homework/Projects (25%)
- \* Final Paper (35%) – due May 5, 11:59pm; details about what is expected in the paper are at the end of syllabus
- \* Oral Presentation of Final Paper (15%) **during last 2 regular meeting days (May 3 & 5); let me know if you have a major conflict with both days, and I can give you information about uploading (by 4:30, May 5) a video of your presentation**
- \* Extra-Credit: up to 5 points added to everyone’s midterm exam score based on class response rate on end-of-course evaluations (95% = 6 pts, 90% = 5, 85% = 4, 80% = 3, 75% = 2, 70% = 1), assuming UTEP keeps allowing this reward and lets me access the rate in a timely manner

## TECHNOLOGY REQUIREMENTS

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having

technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop and be able to scan images if necessary (there is a handout in the Bb course shell of how to do that with your phone). A webcam is sometimes available for checkout from UTEP tech support and is nice to have so we can see each other during live conversation, for example. You should also have at least a built-in microphone so that you can talk to me during an online office hour and so that we can model the verbal and non-verbal communication that is part of data collection strategies we study in the course such as observations and interviews.

Check that your computer hardware and software are up-to-date and able to access all parts of the course. The Technology Support Center has laptops and hotspots available to students to borrow for the whole semester. The application form is found at:

[https://www.utep.edu/technologysupport/TSCenter/tsc\\_eqcheckout.html](https://www.utep.edu/technologysupport/TSCenter/tsc_eqcheckout.html)

You may need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. If you do not have word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's **Microsoft Office 365** Portal.

**IMPORTANT:** If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP **Help Desk** as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

**Course Communication: How we will stay in contact with each other**

Because this is a **synchronous** online class, we won't see each other in person, but there are a number of ways we can keep the communication channels open:

**Office Hours:** We will not be able to meet on campus, but scheduled office hours will be available for your questions and comments about the course. Those office hours will be held on Blackboard Collaborate Ultra using this link: Mondays and Wednesdays from 3:33-4:15pm at

<https://us.bbcollab.com/guest/ceceed02ee3c409489d1b9e3c878dac9>

(note, this is a different URL from the one we use in Bb for virtual class meetings)

- **Technology help:** contact the UTEP HelpDesk at <https://www.utep.edu/technologysupport/>.
- **Discussion Board:** You will usually have weekly opportunities to interact on the Discussion Boards.
- **Help from the instructor:** contact the instructor by using the Course Messages tool in Blackboard (or as a backup, by email)

At least once a day, I will generally check for and reply to messages, except during holidays. (A daily check is only fair since I'm asking you to do a daily

check for possible announcements.) Just so you know, on most weekends, I check messages on Sunday, but not on Friday evening or Saturday. For questions requiring live conversation (whether as a phone call or a Blackboard Collaborate Ultra meeting online), send me several possible times that would work for an appointment and I will reply with which option works in my schedule. If we do a telephone call, note that I would be calling from a personal number that will be blocked from showing up on Caller ID, so you would have to be prepared to accept that call on your phone.

- **Announcements:** Check the Blackboard announcements each day for any updates, deadlines, or other important messages. (Another option is that by checking your official email each day, you will find out if there is a Blackboard Announcement, but by logging into Blackboard you will also be able to check on activity in the Discussion Boards, Course Messages, etc.)

#### Makeup Policy:

Makeups or extension requests should be very rare because the course has built-in flexibility (e.g., the midterm exam is available online during a 2-day window) and many assignments have quite a bit of advance notice. However, if an unusual situation arises, you need to take the initiative to send me a Course Message, or voicemail (747-6845) within 24 hours (or the earliest medically possible opportunity) that tells me: what specifically you are requesting and the reason for it (even if it takes another few days to relay to me written documentation such as a letter from an employer/athletic/military supervisor, doctor's note, jury summons, etc.). While I don't need to know every detail, I will ask for something less vague than just saying "I had personal/technology issues".

#### ALTERNATIVE WAY TO SUBMIT WORK IN CASE OF TECHNICAL ISSUES

If you are experiencing difficulties submitting your work through the course website, please contact the UTEP Help Desk. Remember there is a document in our course shell describing how to use your phone to take a picture of work and upload it as a PDF file.

Save all your work in a separate Word document as a backup. This way, you will have evidence that you completed the work and will not lose credit and you can email me or the grader your backup document as a last resort.

#### POLICY ON AN INCOMPLETE GRADE FOR THE COURSE

Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

**Drop Policy:** According to UTEP Curriculum and Classroom Policies, "When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop

the student from the class with a grade of “W” before the course drop deadline and with a grade of “F” after the course drop deadline.” While I would have the right to do this, I am letting you know that I choose not to be the one to drop you from the course – you will instead need to contact the Registrar’s Office yourself to initiate the process by the deadline to make sure you won’t be at risk of receiving a failing grade. The reason for my policy is because I have found that the very cause of an extended absence is what may also prevent you from being in touch to discuss it with me in a timely manner, and I have had some students actually prefer a likely F to dropping the course due to a particular requirements of their financial aid or military service agreement.

**Academic Integrity Policy:** It’s UTEP’s policy (and mine) for all suspected violations to be referred to the Office of Student Conduct and Conflict Resolution (OSCCR) <https://www.utep.edu/student-affairs/osccr/> for investigation and disposition (see the Handbook of Operating Procedures, <https://www.utep.edu/vpba/hoop/>). Cheating, plagiarism and collusion in dishonest activities are serious acts which erode the university’s purpose and integrity and cheapen the learning experience for us all. Don’t resubmit work completed for other classes without specific acknowledgment and permission from me. It is expected that work you submit represents your own effort (or your own group’s effort, if it is a group project), will not involve copying from or accessing unauthorized resources or people (e.g., from a previous year’s class). You must cite references that you do consult, using **APA style** with complete citations even for websites and people you consult.

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. **Cheating** may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. **Plagiarism** occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. (Some of your coursework and assessments may submitted to a plagiarism-detecting software such as SafeAssign. SafeAssign is used review assignment submissions for originality and will help you learn how to properly attribute sources rather than paraphrase.) **Collusion** involves collaborating with another person to commit any academically dishonest act.

**For Group Work:** Within a group, members are allowed to divide up subsets of the project for which individuals will take the initial responsibility for coordinating efforts, but it is expected that by the time a group turns in a writeup that all members have read, discussed, contributed to, and understand what is being turned in. Group members may even discuss general ideas and strategies with members of other groups, but **NOT** share parts of actual written work. At a minimum, to be safe, put away all written notes and writing materials and recording devices before having any intergroup conversations. And if you still see a “gray area,” play it safe and ask the instructor!

**Civility Statement:** We should all strive to follow basic standards of courtesy. Our comments during class discussions should focus constructively and respectfully on the intellectual merit of a position, *not* critiquing the person expressing it. Finally, know that free speech has limits and that the *UTEP Handbook of Operating Procedures* prohibits communication that is harassing, disruptive, or that incites imminent violations of law. Violations may be referred to the Office of Student Conduct and Conflict Resolution or Campus Police.

## NETIQUETTE

Googling netiquette reveals that many universities have such guidelines such as UTEP: <https://www.utep.edu/extendeduniversity/utepconnect/blog/october-2017/10-rules-of-netiquette-for-students.html>

As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these **netiquette** (network etiquette) guidelines in mind. Violations may result in disciplinary action.

- Always consider your audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor. You can critique someone's statement while respecting, not attacking, the person who made the statement. No harassment or inappropriate (e.g., profane, hateful, racist, sexist, etc.) postings will be tolerated and sustained/deliberate violations will be referred to the Office of Student Conduct and Conflict Resolution (OSCCR) if necessary.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

**Student Accommodations Statement:** The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University.

If you have or believe you have a disability requiring accommodations, you may wish to self-identify by contacting the Center for Accommodations and Support Services



(CASS; 747-5148; East Union Building 106; [cass@utep.edu](mailto:cass@utep.edu); <https://www.utep.edu/student-affairs/cass/>) to show documentation or register for testing and services. CASS will ask you to discuss needed accommodations with me within the first 2 weeks of the semester or as soon as disability is known, and at least 5 working days before an exam. At the start of a term, CASS sometimes has processing delays, and you are responsible to contact (and follow up with) CASS promptly so that I receive the CASS accommodation letter as soon as possible. CASS provides note taking, sign language, interpreter, reader and/or scribe services, priority registration, adaptive technology, diagnostic testing for learning disabilities, assistance with learning strategies/tutoring, alternative testing location and format, and advocacy. Depending on the specifics of your accommodations, I may need to email you to set up a live conversation with you about the best approach, so please be responsive. In summer 2020, CASS launched the online portal AIM (Accessible Information Management) at <https://www.utep.edu/student-affairs/cass/> that allows students to access or request services online 24/7.

**Military Statement:** Give me an email or written documentation as soon as possible if you anticipate the possibility of missing large parts of class due to military service.

### COVID-19 PRECAUTIONS

You must STAY AT HOME and REPORT if you (1) have been diagnosed with COVID-19, (2) are experiencing COVID-19 symptoms, or (3) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at [screening.utep.edu](https://screening.utep.edu). If you know of anyone who should report any of these three criteria, you should encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to [COVIDaction@utep.edu](mailto:COVIDaction@utep.edu).

For each day that you attend campus—for any reason—you must complete the questions on the UTEP screening website ([screening.utep.edu](https://screening.utep.edu)) prior to arriving on campus. The website will verify if you are permitted to come to campus. Under no circumstances should anyone come to class when feeling ill or exhibiting any of the known COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, and alternative instruction will be provided. Students are advised to minimize the number of encounters with others to avoid infection.

Wear face coverings over your nose and mouth when in common areas of campus or when others are present. If you choose not to wear a face covering, you may not enter a UTEP building. If you remove your face covering, you will be asked to put it on or leave the classroom. Students who refuse to wear a face covering and follow preventive COVID-19 guidelines will be dismissed from the class and be subject to disciplinary action according to Section 1.2.3 *Health and Safety* and Section 1.2.2.5 *Disruptions* in the UTEP Handbook of Operating Procedures.

**Catalog Description:** an introductory course on qualitative research methods, especially appropriate for classroom research, including interviews, observations, surveys, and artifacts. Course includes research design, instruments, rigor criteria, and the IRB process.

**Professionalism Statement:** Beyond the previously-mentioned Civility Statement, students in this course are expected to exhibit professionalism that goes beyond avoiding negative behaviors. This includes making a good faith effort in preparation for and participation in individual and collaborative class activities. This also includes supporting a classroom culture respecting “incorrect answers” as usually correct answers to a different question or valuable opportunities to address an important distinction or common misconception. (*Fun Fact:* “mistakes” led to inventing sticky notes, penicillin, and rubber tires!) Also, be open to local opportunities for professional growth or service. For example, teachers may consider encouraging K-12 students to enter an **ASA Project or Poster** (due April 1) or joining (at cheaper student rates!) professional organizations -- local (GEPCTM), state (**TCTM**), or national (**NCTM, TODOS**, etc.). You can also get a taste of student research by attending (and one day presenting at) events on campus such as the COURI symposium or Graduate Student EXPO.

**Confidentiality:** UTEP policy requires that inquiries about confidential information such as grades cannot be done over the telephone, but can be from your miners.utep.edu account or within Blackboard Course Messages and accompanied by your 800 number. If the question happens during an office hour where others are present, the instructor can bring you into a private virtual “breakout room” where no one else can hear. Grade information will be posted in our Bb course shell.

This class is **synchronous**, which means that it will have regularly scheduled virtual meetings to discuss content. Be aware that any recording of these meetings is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP’s acceptable-use policy and would be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. **You may not share recordings outside of this course.** Doing so may result in disciplinary action.

### **Copyright Statement for Course Materials**

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

campus carry: <https://www.utep.edu/campuscarry/>  
campus safety: <https://www.utep.edu/police/UTEP-Emergency-Action-Guide.pdf>

---

**Student Support:** While my training is limited to academic resources, I want anyone who feels overwhelming stress/crisis/need to know about these broader resources:

**TECHNOLOGY:** lots of great resources for learning from home, including equipment checkout, mobile hotspots, smartphone use, OneDrive, Minitab statistics software, Microsoft Office (including Excel and PowerPoint), VPN (to access Library materials) are at: <https://www.utep.edu/technologysupport/learningremotely.html>;  
UTEP HelpDesk continues to offer you technical support at <https://www.utep.edu/technologysupport/>; you can test your Internet connection from your location by going to <https://fast.com/> and make sure your upload and download speeds are at least 1-2 Mbps; UTEP is keeping open the Library's 2<sup>nd</sup> floor computer lab, reconfigured with protocols for cleaning and social distancing:  
[https://libguides.utep.edu/service\\_updates](https://libguides.utep.edu/service_updates)  
[https://www.utep.edu/advising/student\\_resources/student-success-helpdesk.html](https://www.utep.edu/advising/student_resources/student-success-helpdesk.html)

**FINANCES:** If you need assistance with tuition, books, technology, or even food and housing, there are many resources available at: <https://www.utep.edu/utepcares/> ;  
<https://www.utep.edu/student-affairs/dean-of-students-office/emergencyaid/>;  
<https://pickaproject.utep.edu/project/20528> (yes, I donated to this);  
[https://www.utep.edu/advising/student\\_resources/student-success-helpdesk.html](https://www.utep.edu/advising/student_resources/student-success-helpdesk.html)

**HEALTH:** UTEP counseling center <https://www.utep.edu/student-affairs/counsel/>;  
Student Health and Wellness Center <https://www.utep.edu/chs/shc/>;  
El Paso coronavirus hotline 212-6843  
[https://www.epcovid19.org/?utm\\_term=0\\_e40960450f-2b5e66a1bf-588156489](https://www.epcovid19.org/?utm_term=0_e40960450f-2b5e66a1bf-588156489)  
El Paso's 24-hour Mental Health Crisis Line: 779-1800;  
National Suicide Prevention Hotline or Veterans Crisis Line: 1-800-273-8255;  
NAMI (National Alliance Against Mental Illness) of El Paso: 534-5478  
<https://emergency.cdc.gov/coping/selfcare.asp>  
<https://www.cdc.gov/mentalhealth/tools-resources/individuals/index.htm>

## BIBLIOGRAPHY (see p. 2 for techniques for accessing articles)

- Adams, T. L., & Harrell, G. (2010). A study of estimation by professionals at work. *Journal of Mathematics and Culture*, 5(2), 1-15.  
<https://journalofmathematicsandculture.files.wordpress.com/2016/05/study-of-estimation-adams-ll-final.pdf>
- Aguilar, M.S., Rosas, A., Zavaleta, J. G. M., & Romo-Vázquez, A. (2016). Exploring high-achieving students' images of mathematicians. *International Journal of Science and Mathematics Education*, 14(3), 527-548.
- Aguilar, M.S., Rosas, A., Zavaleta, J. G. M., & Romo-Vázquez, A. (2012). Mexican students' images of mathematicians. *Proceedings of the 12<sup>th</sup> International Congress on Mathematical Education* (pp. 5838-5847). Seoul, Korea.
- Allen, C. (2005). An action research study involving fifth-grade students learning fractions through a situative perspective with story problems. Master's thesis. University of Central Florida, Orlando, FL. <https://stars.library.ucf.edu/cgi/viewcontent.cgi?article=1273&context=etd>
- Brown, T. (1996). The phenomenology of the mathematics classroom. *Educational Studies in Mathematics*, 31(1), 115-150.
- Cady, J.A., & Hodges, T. E. (2015). A comparison of textbooks' presentation of fractions. *School Science and Mathematics*, 115(3), 105-116.
- Carraher, T. N., Carraher, D. W., & Schliemann, A. D. (1985). Mathematics in the streets and in the schools. *British Journal of Developmental Psychology*, 3(1), 21-29.
- Chval, K. B., & Pinnow, R. J. (2010). Pre-service teachers' assumptions about Latino/a English language learners in mathematics. *Teaching for Excellence and Equity in Mathematics*, 2(1), 6-13.  
<http://www.todos-math.org/assets/documents/TEEM2010v2n1.pdf>
- Civil, M. (2002). Everyday mathematics, mathematicians' mathematics, and school mathematics: Can we bring them together? *Journal for Research in Mathematics Education. Monograph. Vol. 11. Everyday and Academic Mathematics in the Classroom* (pp. 40-62). Reston, VA: NCTM.
- Diamond, A. H., & Stylianides, A. J. (2017). Personal epistemologies of statisticians in academia: An exploratory study. *Statistics Education Research Journal*, 16(2), 335-361.  
[https://iase-web.org/documents/SERJ/SERJ16\(2\)\\_Diamond.pdf](https://iase-web.org/documents/SERJ/SERJ16(2)_Diamond.pdf)
- Eisenhart, M. A. (1988). The ethnographic research tradition and mathematics education research. *Journal for Research in Mathematics Education*, 19(2), 99-114.
- Fernandes, A., Anhalt, C. O., & Civil, M. (2009). Mathematical interviews to assess Latino students, *Teaching Children Mathematics*, 16(3), 162-169.
- Fullilove, R. E., & Treisman, P. U. (1990). Mathematics achievement among African American undergraduates at the University of California, Berkeley: An evaluation of the mathematics Workshop Program. *The Journal of Negro Education*, 59(3), 463-478. [especially pp. 465-467]
- Gal, I., & Ograjensek, I. (2010). Qualitative research in the service of understanding learners and users of statistics. *International Statistical Review*, 78(2), 287-296.
- Governor, D. (2017). Teaching and learning science through song: Exploring the experiences of students and teachers. Virtual Ongoing Interdisciplinary Collaborations on Educating with Song (VOICES) conference, 20-minute presentation archived at <https://www.causeweb.org/voices/2017/panel/1-1>
- Green, J. L. (2010). Highs and lows: Exploring university teaching assistants' experiences. *Statistics Education Research Journal*, 9(2), 108-122.  
[http://iase-web.org/documents/SERJ/SERJ9\(2\)\\_Green.pdf](http://iase-web.org/documents/SERJ/SERJ9(2)_Green.pdf)
- Groth, R. E. (2010). Situating qualitative modes of inquiry within the discipline of statistics education research. *Statistics Education Research Journal*, 9(2), 7-21.  
[http://iase-web.org/documents/SERJ/SERJ9\(2\)\\_Groth.pdf](http://iase-web.org/documents/SERJ/SERJ9(2)_Groth.pdf)
- Gutstein, E. (2003). Teaching and learning mathematics for social justice in an urban, Latino school. *Journal for Research in Mathematics Education*, 34(1), 37-73.
- Gutstein, E. (2006). Driving while black or brown: The mathematics of racial profiling. In Joanna O. Masingila (Ed.), *Teachers Engaged in Research Inquiry into Mathematics Classrooms, Grades 6-8* (pp. 99-118). Charlotte, NC: Information Age Publishing.  
[in the course reserves on UTEP library website under my Math 5360]
- Gutstein, E., & Lipman, P. (1997). Culturally relevant mathematics teaching in a Mexican American context. *Journal for Research in Mathematics Education*, 28(6), 709-737.
- Huberty, C. J. (2000). Judgment in quantitative research. *The Mathematics Educator*, 10(1), 5-10.

- <http://math.coe.uga.edu/tme/Issues/v10n1/2huberty.pdf>
- JRME Editorial Panel (2013). Positioning oneself in mathematics education research. *Journal for Research in Mathematics Education*, 44(1), 11-22.
- Kaplan, J. J., Fisher, D. G., Rogness, N. T. (2009). Lexical ambiguity in statistics: What do students know about the words association, average, confidence, random and spread? *Journal of Statistics Education*, 17(3), 1-19. <http://www.amstat.org/publications/jse/v17n3/kaplan.pdf> or <https://www.tandfonline.com/doi/pdf/10.1080/10691898.2009.11889535?needAccess=true>
- Kazemi, E., & Cunard, A. (2017). Orienting students to one another and to the mathematics during discussions. In Sherry Marx (Ed.), *Qualitative research in STEM: Studies of equity, access, and innovation*. New York: Routledge.
- Kotsopoulos, D. (2008). Beyond teachers' sight lines: Using video modeling to examine peer discourse. *Mathematics Teacher*, 101(6), 468-472.
- Lee, M. A., & Messner, S. J. (2000). Analysis of concatenation and order of operations in written mathematics. *School Science and Mathematics*, 100(4), 173-180.
- Lesser, L. M., & Kephart, K. (2011). Setting the tone: A discursive case study of problem-based inquiry learning to start a graduate statistics course for in-service teachers. *Journal of Statistics Education*, 19(3), 1-29. <http://www.amstat.org/publications/jse/v19n3/lesser.pdf> or <https://www.tandfonline.com/doi/pdf/10.1080/10691898.2011.11889621?needAccess=true>
- Lesser, L.M. & Reyes, R. (2015, June). Student Reactions to the Integration of Fun Material in a High-Anxiety Subject: A Case Study in the Teaching of College Introductory Statistics. *Transformative Dialogues: Teaching and Learning Journal*, 8(1), 1-19. [http://www.kpu.ca/sites/default/files/Transformative%20Dialogues/TD.8.1.6\\_Lesser%26Reyes\\_Case\\_Study\\_Statistics\\_Fun.pdf](http://www.kpu.ca/sites/default/files/Transformative%20Dialogues/TD.8.1.6_Lesser%26Reyes_Case_Study_Statistics_Fun.pdf)
- Lesser, L., Wagler, A., & Salazar, B. (2016). Flipping between languages? An exploratory analysis of the usage by Spanish-speaking English language learner tertiary students of a bilingual probability applet. *Statistics Education Research Journal*, 15(2), 145-168. [http://iase-web.org/documents/SERJ/SERJ15\(2\)\\_Lesser.pdf](http://iase-web.org/documents/SERJ/SERJ15(2)_Lesser.pdf)
- Lesser, L.M., Wall, A., Carver, R., Pearl, D.K., Martin, N., Kuiper, S., Posner, M. A., Erickson, P., Liao, S.-M., Albert, J., & Weber, J.J. (2013). Using fun in the statistics classroom: An exploratory study of college instructors' hesitations and motivations. *Journal of Statistics Education*, 21(1), 1-33. <https://www.tandfonline.com/doi/pdf/10.1080/10691898.2013.11889659>
- Lesser, L., & Winsor, M. (2009). English language learners in introductory statistics: Lessons learned from an exploratory case study of two pre-service teachers. *Statistics Education Research Journal*, 8(2), 5-32. [http://iase-web.org/documents/SERJ/SERJ8\(2\)\\_Lesser\\_Winsor.pdf](http://iase-web.org/documents/SERJ/SERJ8(2)_Lesser_Winsor.pdf)
- Louie, N. I. (2017). The culture of exclusion in mathematics education and its persistence in equity-oriented teaching. *Journal for Research in Mathematics Education*, 48(5), 488-519.
- McCulloch, A.W., Keene, K.A., & Kenny, R.H. (2013). What to trust: Reconciling mathematical work done by hand with conflicting graphing calculator solutions. *School Science and Mathematics*, 113(4), 201-210.
- Malik, S. (2015). Undergraduates' statistics anxiety: A phenomenological study. *The Qualitative Report*, 20(2), 120-133. <http://www.nova.edu/ssss/QR/QR20/2/malik8.pdf>
- Martinez-Sierra, G. (2014). Good mathematics teaching from Mexican high school students' perspective. *International Journal of Science and Mathematics Education*, 12(6), 1547-1573.
- Moore, K.C. (2014). Quantitative reasoning and the sine function: The case of Zac. *Journal for Research in Mathematics Education*, 45(1), 102-138.
- Nolen, A. L., & Vander Putten, J. (2007). Action research in education: Addressing gaps in ethical principles and practices. *Educational Researcher*, 36(7), 401-407.
- Pan, M. L. (2008). *Preparing literature reviews* (3rd ed.). Glendale, CA: Pycszak.  
[key excerpt of this is in the course reserves on the UTEP library website under my Math 5360]
- Parrish, C. W., Ellis, R. L., & Martin, W. G. (2019). Improving mathematics discourse through action research. *Mathematics Teacher*, 112(4), 302-306.
- Petocz, P., & Reid, A. (2010). On becoming a statistician: A qualitative view. *International Statistical Review*, 78(2), 271-286.
- Picker, S. H., & Berry, J. S. (2000). Investigating pupils' images of mathematicians. *Educational Studies in Mathematics*, 43(1), 65-94.
- Picker, S. H., & Berry, J. S. (2001). Your students' images of mathematicians and mathematics. *Mathematics Teaching in the Middle School*, 7(4), 202-208.

- Reid, D. K., Robinson, S. J., & Bunsen, T. D. (1995). Empiricism and beyond: Expanding the boundaries of special education. *Remedial and Special Education, 16*(3), 131-141. [especially Table 1]
- Rubel, L. H. (2007). Middle school and high school students' probabilistic reasoning on coin tasks, *Journal for Research in Mathematics Education, 38*(5), 531-556.
- Rubel, L.H., Lim, V.Y., Hall-Wieckert, M., & Sullivan, M. (2016). Teaching mathematics for spatial justice: An investigation of the lottery. *Cognition and Instruction, 34*(1), 1-26.
- Ryan, G. W. (n.d.). What are standards of rigor for qualitative research?
- Tinto, P. P., Shelly, B. A., & Zarach, N. J. (1994). Classroom research and classroom practice: Blurring the boundaries. *Mathematics Teacher, 87*(8), 644-648.
- Treisman, U. (1992). Studying students studying calculus: A look at the lives of minority mathematics students in college. *College Mathematics Journal, 23*(5), 362-372. [especially pp. 364-367]
- Turner, E., Dominguez, H., Maldonado, L., & Empson, S. (2013). English learners' participation in mathematical discussion: Shifting positionings and dynamic identities. *Journal for Research in Mathematics Education, 44*(1), 199-234.
- Weiland, T. (2019). The contextualized situations constructed for the use of statistics by school mathematics textbooks. *Statistics Education Research Journal, 18*(2), 18-38.
- Wilensky, U. (1995). Paradox, programming and learning probability: A case study in a Connected Mathematics Framework. *Journal of Mathematical Behavior, 14*(2), 253-280.
- Wilson, M.R. (1994). One preservice secondary teacher's understanding of function: The impact of a course integrating mathematical content and pedagogy. *Journal for Research in Mathematics Education, 25*(4), 346-370.
- Wilson, P.S., Cooney, T.J., & Stinson, D.W. (2005). What constitutes good mathematics teaching and how it develops: Nine high school teachers' perspectives. *Journal of Mathematics Teacher Education, 8*(2), 83-111.

#### Some general references on qualitative research:

- Mack, N., Woodson, C., MacQueen, K.M., Guest, G., & Namey, E. (2005). *Qualitative research methods: A data collector's field guide*. Research Triangle Park, NC: Family Health International.  
<https://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector's%20Field%20Guide.pdf>
- Mason, J. (2002). *Qualitative researching* (2<sup>nd</sup> ed.). London: Sage Publications.  
[http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Mason\\_2002.pdf](http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Mason_2002.pdf)
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York: The Guilford Press.  
<https://teddykw2.files.wordpress.com/2012/05/qualitative-research-from-start-to-finish.pdf>
- Blackwell introductory chapter:  
[https://www.blackwellpublishing.com/content/BPL/Images/Content\\_store/Sample\\_chapter/9780632052844/001-025%5B1%5D.pdf](https://www.blackwellpublishing.com/content/BPL/Images/Content_store/Sample_chapter/9780632052844/001-025%5B1%5D.pdf)

#### some TOOLS (mostly free) for QUALITATIVE DATA ANALYSIS:

- [http://en.wikipedia.org/wiki/Computer\\_assisted\\_qualitative\\_data\\_analysis\\_software](http://en.wikipedia.org/wiki/Computer_assisted_qualitative_data_analysis_software)
- <http://cat.ucsur.pitt.edu/>
- <http://rqda.r-forge.r-project.org/>
- <http://www.transana.org/>
- <http://compendium.open.ac.uk/institute/>
- <http://www.pressure.to/qda/>
- <http://discovertext.com/>
- <http://boardreader.com/index.php?a=a&x=1> (searches website for words)
- <http://vue.tufts.edu/index.cfm> (concept map)
- <http://texttexture.com> (graph network of key words in text)
- <http://www.liwc.net/tryonline.php> (personal vs. formal)
- <http://voyeurtools.org> (word cloud)
- <http://admin.utep.edu/Default.aspx?tabid=74274> (NVIVO)