



OFFICE OF UNDERGRADUATE RESEARCH  
**LAMAR UNIVERSITY**



**WELCOMES YOU**  
**to the Ninth Annual**  
**HASBSEB Conference**

**H**umanities  
**A**rts  
**S**ocial and  
**B**ehavioral  
**S**ciences  
**E**ducation  
**B**usiness

Galloway Building  
November 19<sup>th</sup>, 2022





**Message from**  
**Lamar University's**  
**Director, School of Accounting &**  
**Information Systems**  
**Ben J. Rogers Chair and**  
**Professor of Accounting**  
**J Donald Warren Jr PhD CPA**

The College of Business and the Office of Undergraduate Research (OUR) are pleased to welcome you to the Ninth HASBSEB Conference. The Conference is the recognition of the accomplished research and intellectual contribution of students and faculty engaged in the 2022 Office of Undergraduate Research Grants and summer undergraduate research projects

We are honored to have Dr. Juan Llopis, Professor of Management, University of Alicante, our keynote speaker who will speak on international global challenges of business management. His research interests encompass human resources, management, and organizational behavior. Dr. Llopis has published over 150 papers and 15 books.

We are also pleased to recognize the recipient of the OUR grant, McNair Scholarship, and Lamar University Presidential Fellowship, Taliah Belcher, an MBA candidate. During the summer of 2022, the funds she received allowed her to travel to Germany and Sweden to conduct research on the impact of militarization on the economic growth of developed and developing countries at the Bonn Institute Centre for Conflict Studies and Stockholm International Peace Research Institute. Dr. Gevorg Sargsyan was Ms. Belcher's faculty mentor on this research project.

Please enjoy today's undergraduate research presentations.

Colleagues call Dr. Don Warren a "walking encyclopedia" and everything he did in his professional career outside academia and for Lamar is very impressive. He has an international reputation in auditing and has a long career in practice. Dr. Warren's keynote speech will cover:

- \* His professional career,
- \* His retirement from accounting practice and academic career,
- \* His formula for professional success.





## Welcome to the 9<sup>th</sup> Annual HASBSEB Conference at Lamar University



**Dr. Cristian Bahrim - Director of O.U.R.**

This year, the HASBSEB conference has a greater diversity than ever. Our keynote speaker is one of the finest friends of the College of Business at Lamar University, Professor Dr. Juan Llopis. He is a world-renowned academic researcher and a distinguished Professor of Management at the University of Alicante, Spain, where he is also the Vice-President. This past June, Dr. Llopis warmly welcomed a group of students from our College of Business at the University of Alicante, with a memorable four-hour lecture. Our students had an extraordinary experience in Alicante at both academic level and through a plethora of experiences set up by the Director of Study Abroad in Alicante, Dr. Gevorg Sargsyan. Thus, our students had the chance to visit several companies and local industries of Costa Blanca. This study abroad program in Alicante is a total success and sets up a fine example of excellence and academic rigor. My warmest congratulations go to Dr. Sargsyan and Dean French! Their students will present a special workshop about their experience in Spain.

Seventeen undergraduates will present their research and creative activities in 3 breakout sessions. The HASBSEB conference welcomes for the first time the most recent Presidential Fellows and their research done over last summer. Ms. Taliah Belcher, a major in Finances, and Ms. Tristian Tonche, a major in deaf studies & deaf education, will share their research experience in Canada and Europe, respectively. They are great examples of the opportunities such a fellowship offers to Lamar undergraduates. Thank you, President Taylor! Two breakout sessions welcome talks of a fine group of majors in Sociology, Political Sciences, and Communications. They will compete for awards and prizes offered by the Office of Undergraduate Research, the Center for History and Culture of Southeast Texas and Upper Gulf Coast, and the LGBTQ+ Initiatives Committee. Thank you, Dr. Jimmy Bryan, and Mr. Andre Favors, for offering these awards and prizes to our students!

This conference warmly welcomes four distinguished special guests: Dr. Juan Nicolau, Marriott Professor at Virginia Tech, Dr. Don Warren, Director of the School of Accounting at Lamar Univ., Dr. Mamta Singh, Director of the Mason Program at Lamar, and Ms. Susan Jackson, the Tourism Manager of the Beaumont Convention and Visitor Bureau. Enjoy a great day of academic success!

### **Office Information: Chemistry Suite 115**

Dr. Cristian Bahrim – Chem 115B / Ms. Jenna Erwin – Chem 115A  
cbahrim@lamar.edu - ext. 8290 / jerwin6@lamar.edu - ext. 8430



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## *The Office of Undergraduate Research - Advisory Board*

**Dr. Stefan Andrei** – Professor of Computer Science

**Dr. Robert Kelley Bradley** – Assistant Professor of Industrial Engineering

**Dr. Bianca Easterly** – Associate Professor of Political Science

**Dr. Gina Hale** – Associate Professor of Nursing

**Dr. Matthew Hoch** - Associate Professor of Biology

**Dr. Alyse Jordan** – Head of Research, Engagement & Learning at the Mary and Gray Library

**Dr. Edythe Kirk** - Associate Professor of Psychology

**Dr. Nicki Michalski** – Associate Professor of Communication

**Dr. Lekeitha Morris** – Associate Professor of Speech and Hearing

**Dr. Gevorg Sargsyan** – Assistant Professor of Finance

**Dr. Thinesh Selvaratnam** – Assistant Professor of Civil and Environmental Engineering

**Dr. Mamta Singh** – Associate Professor of Teacher Education

**Dr. Freddie Titus** – Associate Professor of Teacher Education, Vice President for Diversity Inclusion and Community Relations at Lamar University

**Dr. Chun-Wei Yao** – Associate Professor of Mechanical Engineering

**Mr. Juan Zabala** – Vice President for University Advancement and Chief Officer of the Lamar University Foundation

## *Co-Chairs of the 9<sup>th</sup> Annual HASBSEB Conference*

**Dr. Bianca Easterly** – Associate Professor of Political Sciences

**Dr. Gina Hale** – Associate Professor of Nursing

**Dr. Nicki Michalski** – Associate Professor of Communication

**Dr. Mamta Singh** - Associate Professor of Teacher Education

**Dr. Gevorg Sargsyan** – Assistant Professor of Finances



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## **WELCOME TO THE 9th ANNUAL HASBSEB CONFERENCE**

*All events will take place on Zoom platform with ID: **879-918-4160** and password **88888***

- |                |  |
|----------------|--|
| 8:00 AM        | Registration Opens in Galloway-Business bldg. – The hallway  |
| 8:10 – 8:40 AM | Poster Session   |
| 8:43 AM        | Welcoming Remarks<br>Dr. Cristian Bahrim – Director of O.U.R.<br>Dean Dan French – College of Business   |
| 8:45 AM        | Introduction of our Keynote Speaker by Dr. Juan Nicolau<br>Professor Marriott Professor of Revenue Management<br>Graduate Director of the Ph.D. Program<br>Virginia Tech University, The United States |
| 9:00 AM        | Keynote Speaker – Dr. Juan Llopis<br>Professor (Catedratico) of Business Organization<br>Director of Institutional Relations and Projects<br>Vice-President of the University of Alicante, Spain       |
| 10:00 AM       | Recognition of Dr. Juan Llopis for his keynote speech  |



Dr. Llopis, UA vice-President  
welcomes Dean French of  
Lamar's College of Business at  
University of Alicante, Spain  
on June 3, 2022.



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## The 9th Annual HASBSEB Conference

### KEYNOTE SPEAKER

Professor Dr. Juan Llopis

Professor (Catedrático) of Business Organization

Director of Institutional Relations and Projects

University of Alicante

9:00 a.m. – November 19th, 2022 –  
Landes Auditorium – Galloway Bldg.

### LECTURE: International and Competitive Challenges Business Management

Juan Llopis graduated with honors in Business Studies and received his PhD in 1991 from the University of Alicante. Llopis became full professor of Business Organization at University of Alicante in 2002. He was the Dean for faculty of Economics and Business from 2006 to 2012 and next, the vice-president of the University of Alicante. Since January 2021, Llopis has held a director position of the Institutional Relations and Projects.

Llopis has authored or co-authored 15 books, 32 chapters in books, 160 papers published in academic and professional journals, and 120 papers in national and international academic and professional workshops and conferences on Management and Business topics. He is a member of 15 international research projects, 20 public research projects, and 100 private research projects. He is a member of in 27 International Editorial Advisory Boards and is referee for 50 International Business Management Journals. He was also a member of 25 evaluation committees for PhD dissertations in different universities.

Llopis holds professional consulting experience for many private firms and public institutions. He is a prominent member of the Management Board of “Circle of Economy of the Alicante’s Province”, and esteem member of the Advisory Council of Sabadell East Bank. He will be speaking on international and competitive challenges that face business management in the modern world.



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## The 9th Annual HASBSEB Conference

### KEYNOTE SPEAKER

**Professor Dr. Juan Llopis**

**Professor (Catedrático) of Business Organization  
Director of Institutional Relations and Projects  
University of Alicante**

9:00 a.m. – November 19<sup>th</sup>, 2022 –  
Landes Auditorium – Galloway Bldg.

### **LECTURE:** International and Competitive Challenges Business Management

During the last decades, companies, organizations, and institutions are interacting, competing, and surviving in a Global World. Managers must make decisions in an increasingly turbulent business environment. It is crucial/critical/vital/very important to identify and classify the major challenges of globalization, having in mind that businesses are complex. Researching and understanding the "Globalization" variables that affect the business decision-making process would allow the development of effective strategies. Firms that efficiently manage these challenges will have more opportunities in the "International Arena".

The "Global" challenges can be categorized under three major themes: Environmental, Organizational, and Individual. These challenges have been analyzed from a managerial perspective using real-world examples to discover and better understand their nature. Environmental challenges like rapid change, issues related to the use of the internet, workforce diversity, globalization, international legislation and regulation, new family roles, the rise of the service sector, and global warming have been studied. Within the theme of organizational challenges, the competitive position of the business, decentralization, downsizing, organizational restructuring, self-managed teams, the growth of small businesses, organizational culture, technology, and outsourcing are discussed. Finally, under individual challenges issues of matching people and organizations, ethics and social responsibility, empowerment, brain drain, and job insecurity are addressed.



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**O.U.R. Sponsored Research**  
**2022 Summer Undergraduate Research Fellowship**  
**(SURF)**

**Chair: Dr. Mamta Singh**

- 10:00 AM                      **Madeline Doughty** – Major in Speech and Hearing Sciences  
                                    Mentor: Dr. Lilian Felipe  
                                    Department of Speech and Hearing Sciences  
                                    *“Awareness of Noise-Induced Hearing Loss Among College Band Students.”*
- 10:15 AM                      **Chloe Smith** – Major in Speech and Hearing Sciences  
                                    Mentor: Dr. Lekeitha Morris  
                                    Department of Speech and Hearing Sciences  
                                    *“Intervention for Child Speech Sound Disorders in YouTube Videos: Parent Perceptions and Clinical Utility.”*
- 10:30 AM                      **Chaley Cleckley** – Major in Teacher Education  
                                    Mentor: Dr. Mamta Singh  
                                    Department of Teacher Education  
                                    *“Genetic Technology and the use of an Oral Debate Method on Questioning Ethics in the Classroom.”*
- 10:45 AM                      **Margo Eugenio** – Major in Teacher Education  
                                    Mentor: Dr. Mamta Singh  
                                    Department of Teacher Education  
                                    *“Social-Emotional Learning & Culturally Responsive Teaching: Do Preservice Teachers have the Skill, Knowledge, & Awareness to Support Student Achievement? An Exploratory Study!”*
- 11:00 AM                      **Ally Tywater** – Major in Exercise Sciences  
                                    Mentor: Dr. Shannon Jordan  
                                    Department of Exercise Sciences  
                                    *“Rodeo Athletes: A Survey of Injuries and Accessibility to Strength & Conditioning Specialists and Athletic Trainers.”*



**11:15 – 11:30 PM**

**Coffee Break**

## **Presidential Fellows Session**

**Chair: Dr. Gevorg Sargsyan**

**11:30 AM**

**Tristian Tonche** – Major in ASL - Interpreting

Mentors: **Dr. Diane Clark and Dr. Beverly J. Buchanan**

Department of Deaf Studies and Deaf Education

College of Fine Arts and Communications

*“PISL: Deaf Native/Indigenous Current Language Acquisition.”*

**11:55 AM**

**Taliah Belcher** – Major in Finance

Mentor: **Dr. Gevorg Sargsyan**

Department of Economics and Finance

College of Business

*“Impact of Militarization on Growth of Countries.”*

**12:30 – 1:00 PM**

**Lunch Break – student lounge of the Galloway bldg.**

**12:25 PM Group Photo – in front of the Galloway bldg.**



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**Breakout Session 1**  
**Research in Sociology**

**Chair: Dr. Margo Gage Witvliet**

- 1:00 PM     Jacob Bennett  
              Major in Communications  
**Mentor: Dr. Margot Gage Witvliet**  
              *“Attitudes and Perceptions of Climate Change in Southeast Texas”*
- 1:15 PM     Liliana Flores  
              Major in Criminal Justice  
**Mentor: Dr. Margot Gage Witvliet**  
              *“The Overlook of Mental Health”*
- 1:30 PM     Alexia Falcon  
              Major in Criminal Justice  
**Mentor: Dr. Margot Gage Witvliet**  
              *“Murder Trend Analysis of Beaumont, Texas”*
- 1:45 PM     Louis D. Bryant IV  
              Major in Mechanical Engineering and Mathematics  
**Mentors: Dr. Margot Gage Witvliet and Dr. Stuart Wright**  
              *“Examining Trends (2018-2022) in TCEQ Air Emission Event Data That Occurs  
Near Charlton-Pollard Elementary School”*



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**Breakout Session 2**  
**Research in Political Sciences,  
Communication and Sociology**

**Chair: Mr. Andre Favors**

- 2:00 PM Sergio Mendez  
Major in Biology  
**Mentor: Dr. Bianca Easterly**  
*“The Inspiration to Fight Food Insecurity”*
- 2:15 PM Jasmine Boone  
Major in Corporate Communications  
**Mentor: Mr. Andre Favors**  
*“An Analysis of Pepsi’s ‘Live for Now’ Commercial via  
Burkeian Dramatistic Lens”*
- 2:30 PM Evan Gauthia  
Major in Corporate Communications  
**Mentor: Mr. Andre Favors**  
*“Rhetorical Criticism of Tinder Swindler Documentary”*
- 2:45 PM Ronnie Knighten  
Major in Psychology  
**Mentor: Dr. Margot Gage Witvliet**  
*“The Growing Threat of Feral Hogs in Southeast Texas”*

**3:00 – 3:15 PM Coffee Break**



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**3:15 – 3:45 p.m.**

**Special Guest Speaker – Dr. Don Warren,**

Director of the School of Accounting and Information Systems

Ben J. Rogers Chair and Professor of Accounting

**Chair: Dr. Gevorg Sargsyan**

**3:45 – 4:45 p.m.**

**Workshop – Study Abroad in Tourism Management  
at Universidad de Alicante, Spain**

**Chair: Dr. Komal Karani and Dr. Gevorg Sargsyan**

*Four teams will present their experience in the summer study abroad this  
past June and compete for the best presentation*

**4:45 – 5:00 p.m.**

**Art Performance Event**

**Dr. Juan Nicolau – classic guitar**

**J. Willard and Alice S. Marriott  
Professorship of Revenue Management  
at Virginia Tech University**



**5:00 – 5:45 p.m.**

**Becky & Chuck MASON STEM Initiative**

Dr. Mamta Singh, Associate Professor of Teacher Education

Ms. Itzanami Madrid, Biochemistry major and pre-service teacher



***Special Guest Speaker*****The 9<sup>th</sup> Annual HASBSEB Conference****Landes Auditorium – Galloway Building****November 19, 2022****3:15 –3:45 p.m.****J Donald Warren PhD CPA****Director, School of Accounting &  
Information Systems of the College of Business  
Ben J. Rogers Chair and Professor of Accounting****Biography**

J. Donald Warren, Jr., PhD, CPA, is the Director, School of Accounting & Information Systems in the College of Business at Lamar University located in Beaumont, Texas and the Ben J Rogers Chair and professor of accounting. Prior to joining Lamar University, he was the Director, Master of Science in Professional Accountancy and Schlobach Distinguished Chair in Accounting and professor of accounting in the School of Management at Marist College located in Poughkeepsie, New York. He previously taught in the University of Hartford and Rutgers Business School. At Rutgers, he served as the Director of the Master of Accountancy in Financial Accounting and continues to serve as a Research Fellow and a member of the Advisory Board for the Rutgers Business School Continuous Auditing & Reporting Laboratory. Don retired from PricewaterhouseCoopers LLP after a career of 31 years. He served in many capacities with the firm, including being responsible for the direction of the IT audit practice and serving as a national consulting partner on accounting and auditing matters and the firm's liaison to the Securities and Exchange Commission. His other work experience includes the US Government Accountability Office and the Financial Accounting Standards Board. His research interests include continuous audit methodologies/processes and their related technologies as well as emerging technologies in accounting and auditing. He is a member of the American Accounting Association, American Institute of Certified Public Accountants, the Institute of Management Accountants Internal Control and ISACA.



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# Study Abroad in Spain - College of Business

**A Chance to Learn, Make Friends, and See Beautiful Places**



**Rich Academic experience for  
Lamar students**



Universitat d'Alacant  
Universidad de Alicante

Dr. Llopis, UA vice-President welcomes Dean French of  
Lamar's College of Business and his study abroad students.



UA started from of a military airport...



Learning from great lectures...



Visiting a beautiful campus...



Lamar students cheer near  
the UA symbol!...



Meeting exceptional faculty and renown researchers...



Being recognized with  
an UA certificate of  
completion!...



Guided tours offered by  
UA's professional staff...



Getting inspired and motivated...



**Muchas Gracias, Universidad d'Alicante!**

O.U.R. is grateful to our group photographer Mr. Josh Wilson, *Marketing Coordinator* of the College of Business





**Lamar students, faculty, and staff in Alicante – Spain  
.... enjoying the jewel of Costa Blanca....**



**Many Thanks  
To Dr. Sargsyan, Director of  
the Program and his team, for  
this wonderful experience!**



**Muchas Gracias, Alicante!**



**The most beautiful promenade  
Lamar students ever walked...**



**O.U.R. is grateful to our group photographer Mr. Josh Wilson,  
*Marketing Coordinator of the College of Business***

**5:00 – 5:15 p.m.**

**College of Education & Human Development**

**Lamar University**

**Becky & Chuck MASON STEM Initiative**

**Dr. Mamta Singh, Associate Professor of Teacher Education**



Becky & Chuck MASON Summer Scholar Program offers a paid Summer Teaching Internship program for STEM majors where students gain both theoretical and practical K-12 classroom teaching and learning experience by working with K-12 students. Students get to experience teaching and pedagogy under the supervision of both K-12 and Education faculty. Students gain comprehensive experience in K-12 teaching career-related special assignments and projects.

**Program Objectives:**

- To attract qualified STEM majors to a pathway to teaching who otherwise would not have considered teaching as an option in their career.
- To increase qualified STEM teacher candidates

**Program Learning Outcomes:**

- The teacher candidate will demonstrate science teaching materials and methods in the K-12 classroom
- The teacher candidate will demonstrate Texas Essential Knowledge & Skills (TEKS) and a 5E instructional model to develop integrated science and math lesson plan
- The teacher candidate will demonstrate in written assignments integrated science and math lesson plan
- The teacher candidate will develop a 5E lesson science lesson plan, and short activities build within the lesson plan, implement, prepare an assessment report, and provide personal reflection
- The teacher candidate will learn how to improve communication skills: oral, written, and formal teaching demonstration and how to better manage time





**Ms. G Teaching density to 5th grade students**



**Ms. P Teaching force and motion to 5th grade students**



**5:15 – 5:45 p.m.**  
**Using a 5E Lesson Plan to Teach 5th Grade Science**

**by Ms. Itzanami Madrid**

**Biochemistry major and pre-service teacher**



This study aimed to determine the effectiveness of using a 5E lesson plan to teach 5<sup>th</sup> grade students at Pietzsch-MacArthur Elementary (PMAC) about the three states of matter, and the differences between physical and chemical changes. Two sessions of students, the first with about 26 students, and the second with about 20 students, were assessed for the study. First, a pre-assessment was given to gauge their previous knowledge. The students were then engaged into the lesson by dancing to a YouTube video that had them dance like the various states of matter. Then, part of the lesson was given to go over the

information asked in the pre-assessment, and to introduce the concept of physical change with the melting of ice cream, which is an experience the students could relate to. An oobleck activity was used for the explore phase and gave the students hands-on experience with the differences between physical and chemical changes. However, the students did not correctly identify that the addition of iodine to the oobleck was a chemical change. Next, the concepts of physical and chemical changes were discussed to explain the observations they made in the oobleck activity. An Edpuzzle was then used to further expand upon chemical changes, followed by a mid-assessment to determine what they had learned so far. To elaborate on physical and chemical changes, some pictures were shown, and the students were asked to answer if the picture showed a physical or chemical change. Finally, in the evaluate phase, the students were given a post-assessment. The projected 60% content mastery was assessed by looking at the average of the

post-assessment scores for each session. The first session exceeded the projected content mastery, with a 70%. The second session was just under the projected content mastery with a 57%.



Teaching at PMAC action shot



Move like a state of matter



Oobleck Action at PMAC



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# **5:45 - 6:00 pm**

## **O.U.R. Awards and Prizes**

### **at the 9th HASBSEB**

### **Conference**

#### **Best SURF Project in the HASBSEB Area for year 2022:**

- **First place: \$200**
- **Runner-up: \$150**

#### **Best SURF Presentation at the HASBSEB Conference: \$200**

#### **Best non-OUR sponsored Undergraduate Research – In progress:**

- **Winner: \$200**
- **Runner-up: \$150**

#### **Best non-OUR sponsored Undergraduate Research – Early-phase:**

- **Winner: \$200**

#### **Best Presidential Fellow Presentation in HASBSEB Academic Area: \$200**

#### **Best Study Abroad Presentation: \$400**





**6:00 pm**

## **Special Awards**

### ***Top Paper Award for Gender/Sexuality Studies***

The LGBTQ+ Initiatives and Programming Committee is pleased to award a \$150 prize for the top student research on gender/sexuality studies presented at the 9<sup>th</sup> Annual HASBSEB Conference. The recipient will be announced at the conference and also be invited to and be recognized at the Lavender Award Luncheon which will be held on December 7<sup>th</sup> at noon in the Setzer Ballroom. Students interested in applying for a Lavender Award (for excellence in academics, leadership, and service) can visit:

<https://www.lamar.edu/forms/diversity/lavender-awards.html>.

**Presented by Mr. Andre Favors**  
**Department of Communication and Media**

### ***Mary Scheer Award***

The Dr. Mary Scheer Awards recognize the best research on Southeast Texas and the greater Gulf region presented at the HASBSEB conference. The Center for History and Culture of Southeast Texas and the Upper Gulf Coast bestows these awards of \$200 in honor of its founder. In 2016, Dr. Mary Scheer created the Center to advance multidisciplinary scholarship and creativity about Southeast Texas and the greater Gulf region. The Center funds research through its fellowship program, awards the Summerlee Book Prize, organizes the annual Greater Gulf Symposium, and hosts scholars and creatives who share their work with the Lamar University community.

**Presented by Dr. Jimmy Bryan – Professor of History**  
**Director of the Center for History and Culture of Southeast Texas**  
**and the Upper Gulf Coast**

## **9<sup>th</sup> Annual HASBSEB Award Winners**

### **Best SURF HASBSEB Projects for Year 2022**

**Winner:**

**Margo Eugenio** – Major in Teacher Education Research  
Research in “*Social-Emotional Learning & Culturally Responsive Teaching: Do Preservice Teachers have the Skill, Knowledge, & Awareness to Support Student Achievement? An Exploratory Study!*”

Mentor: **Dr. Mamta Singh**

Department of Teacher Education  
College of Education and Human Development

**Runner Up:**

**Chaley Cleckley** – Major in Teacher Education  
Research in “Genetic Technology and the use of an Oral Debate Method on Questioning Ethics in the Classroom”

Mentor: **Dr. Mamta Singh**

Department of Teacher Education  
College of Education and Human Development

### **Best SURF HASBSEB Presentation**

**Winner:**

**Margo Eugenio** – Major in Teacher Education Research  
Research in “*Social-Emotional Learning & Culturally Responsive Teaching: Do Preservice Teachers have the Skill, Knowledge, & Awareness to Support Student Achievement? An Exploratory Study!*”

Mentor: **Dr. Mamta Singh**

Department of Teacher Education  
College of Education and Human Development

### **Best Presidential Fellow Presentation**

**Taliah Belcher** – Major in Finance  
Research in “*Impact of Militarization on Growth of Countries.*”

Mentor: **Dr. Gevorg Sargsyan**

Department of Economics and Finance  
College of Business

## 9<sup>th</sup> Annual HASBSEB Award Winners

### Best non-OUR sponsored Research Project – In progress

**Winner:**

**Zainab Almohsin** – Major in Deaf Education

Research in “*Understanding Deaf Saudi Mothers Experiences: A Three-Dimensional Narrative Inquiry Structure.*”

**Mentor: Dr. Millicent Musyoka**

Department of Deaf Studies and Deaf Education

College of Fine Arts and Communication

**Runner-up:**

**Louis Bryant** – Major in Mechanical Engineering and Mathematics

Research in “*Examining Trends (2018-2022) in TCEQ Air Emission Event Data That Occurs Near Charlton-Pollard Elementary School.*”

**Mentors: Dr. Margot Gage Witvliet and Dr. Stuart Wright**

Department of Sociology, Social Work and Criminal Justice

College of Arts and Sciences

### Best non-OUR sponsored Research Project – Early phase

**Winner:**

**Jasmine Boone** – Major in Corporate Communications

Research in “*An Analysis of Pepsi’s ‘Live for Now’ Commercial via Burkeian Dramatistic Lens.*”

**Mentor: Dr. Andre Favors**

Department of Communication and Media

College of Fine Arts and Communication

### Best Presentation in the Study Abroad Contest

**Emily Alvarez and Miriam Chavez**

**Mentors: Dr. Gevorg Sargsyan and Dr. Komal Karani**

“*Study Abroad at the University of Alicante, Spain*”

Department of Economics and Finance

College of Business



## OFFICE OF UNDERGRADUATE RESEARCH LAMAR UNIVERSITY

**9<sup>th</sup> Annual HASBSEB Conference – November 19th, 2022**  
**Presidential Fellow Speaker**

**Tristian Tonche**

**Mentors: Dr. Diane Clark and Dr. Beverly Buchanan**

Department of Deaf Studies and Deaf Education

**11:30 to 11:55 a.m.**

### **PISL: Deaf Native/Indigenous Current Language Acquisition**



As a Presidential Scholar, I was given the opportunity to go to Canada in the summer and continue the work I began on Plains Indian Sign Language (PISL) during my McNair project. The second study continued to look at the rich history connected to PISL and the d/Deaf Native/Indigenous community as well as hearing Native/Indigenous community. The rationale for going to British Columbia in Canada was to be able to recruit more participants. Canada has a larger population of Native/Indigenous people than we do in the United States and my mentors were able to help me develop a network.

PISL was once a well-known sign language that was used widely, but unfortunately, as of today, it is an endangered language. There are currently less than one hundred individuals who fluently use PISL. The study of the language acquisition of PISL was collected by using the snowball sampling method of getting participants. The participants were then asked to complete a demographics survey and consent form. Separate interviews were set up for the participants where they were asked 12 pre-developed questions. After analyzing the interviews, the themes were found include, them all being from Canada, most being multilingual, most experiencing trauma in their schools, and discovered PISL later in life which most discovered at workshops. These results show that PISL is slowly being taught to more but unfortunately, there are still few users of PISL. Also, shows that d/Deaf Native/Indigenous Americans are not given access to PISL while growing due to the lack of awareness. All the participants have a strong agreement that they wish deeply for PISL to grow and have more light brought to it. These individuals are currently working and striving towards revitalizing PISL in the future to ensure that PISL do not become a language death.



# Traveling to Vancouver, Canada







## OFFICE OF UNDERGRADUATE RESEARCH LAMAR UNIVERSITY

### 9<sup>th</sup> Annual HASBSEB Conference – November 19<sup>th</sup>, 2022 Presidential Fellow Speaker

#### Taliah Belcher

**Mentor: Dr. Gevorg Sargsyan**  
Department of Economics and Finance  
**11:55 to 12:20 p.m.**

#### Impact of Militarization on Growth of Countries



Over the Summer, I had the opportunity to participate in a combined international study and research project. I joined LU's College of Business study abroad trip to Alicante, Spain and, after completion of the study abroad program, took my research to Sweden and Germany. In these two countries, I visited research institutes that specialize in military expenditures, the main focus of my research. In Sweden, I was a visiting researcher at the Stockholm International Peace Research Institute (SIPRI) and in Germany I was a visiting researcher at the Bonn International Center for Conflict Studies (BICC). The goal of this

study is to analyze the impact of militarization on the financial and economic growth of developed and highly militarized countries. There is a debate on the effect of defense spending on the economy of a country. Many presuppose that military expenditures hinder the growth of an economy by reducing the size of capital resources available for investment in public goods and services (such as education, health care, developing infrastructure, etc.). The guns-versus- butter trade-off theory, a foundational theory in this research, assumes that the use of resources for military expenditures prevents the resources from being used for the well-being of the public. The opportunity cost of spending on defense, rather than on infrastructure and social programs, is a huge burden to bear, especially for developing countries. In addition, defense spending drains out the skilled human capital from the economy into the military sector, thus depriving the economy and causing adverse effects on its growth. In an economy where resources are already scarce, proper allocation of capital must exist to achieve the optimal macroeconomic and financial goals. During our research, we utilized the Casual Multiple Regression Method in analyzing the effects of military expenditures on gross domestic product (GDP), foreign direct investment (FDI), investment growth, and import growth. The results of this research provide supporting evidence that these variables have little influence on GDP growth and thus indicate that militarization has virtually no impact on the financial and economic growth of developed and highly militarized countries. The conclusions reached are beneficial in determining how the economic status of a country affects its allocation of funds for militarization over investments in public goods and services.



## Traveling through Germany



Visiting Bonn



## Traveling through Sweden



Visiting Stockholm



## **SURF 2022 HASBSEB Fellows**

1

**Madeline Doughty** | Speech and Hearing |

Mentor: **Dr. Lilian Felipe**

Research in Hearing Conservation

Project: *“Awareness of Noise-Induced Hearing Loss Among College Band Students.”*

2

**Chloe Smith** | Speech and Hearing |

Mentor: **Dr. Lekeitha Morris**

Research in Child Speech Disorder.

Project: *“Intervention for Child Speech Sound Disorders in YouTube Videos: Parent Perceptions and Clinical Utility”*

3

**Chaley Cleckley** | Teacher Education |

Mentor: **Dr. Mamta Singh**

Research in ...

Project: *“Genetic Technology and the Use of an Oral Debate Method on Questioning Ethics in the Classroom.”*

4

**Margo Eugenio** | Teacher Education |

Mentor: **Dr. Mamta Singh**

Research in Teacher Education

Project: *“Social-Emotional Learning & Culturally Responsive Teaching: Do Preservice Teachers have the Skill, Knowledge, & Awareness to Support Student Achievement? An Exploratory Study!”*

5

**Ally Tywater** | Exercise Sciences |

Mentor: **Dr. Shannon Jordan**

Research in Exercise Sciences

Project: *“Rodeo Athletes: A Survey of Injuries and Accessibility to Strength & Conditioning Specialists and Athletic Trainers.”*



**Madeline Doughty**

Major in Speech and Hearing Sciences

Mentor: Dr. Lilian Felipe

Research in Hearing Conservation

Department of Speech and Hearing Sciences



## **Awareness of Noise-Induced Hearing Loss Among College Band Students**

### **Introduction**

Noise-Induced hearing loss (NIHL) is a type of sensorineural hearing loss that occurs from being exposed to loud levels of sound. In the inner ear there are hair cells that are important to the ears ability to hear different frequencies. When exposed to damaging levels of sound the hair cells may become damaged or die. When the hair cells die it is permanent as they cannot be regenerated. The more hair cells that die the more severe the noise-induced hearing loss becomes. The Center for Disease Control (CDC) and the National Occupational Institute of Safety and Health recommend you be exposed to 85 decibels of sound for 8 hours, which is known as recommended exposure limit (REL). As the decibel level of sound increases the amount of time you are recommended to hear that sound decreases. A previous study was done to assess the degree of sound student musicians in band were exposed to in the environments where they played their instruments (Washnik et al. 2021). The results of that study concluded that the sound levels the students were exposed to were at a hazardous level because they were exposed to the loud music from their instruments longer than their REL. Research has also shown that many young adults are unaware of how severely their hearing may be damaged from this exposure, and as a result are at a risk of acquiring NIHL. The purpose for this research study was to discern if exist or not a lack of hearing conservation education by assessing the band student's awareness of noise-induced hearing loss and use of hearing protection.

### **Methods**

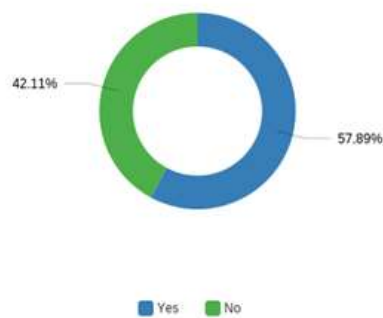
A survey method was used to prompt student musicians at Lamar University on a variety of questions related to NIHL. The survey was created through Qualtrics and the questions within the survey were constructed through a review of literature involving similar topics using a survey method. There was a total of 19 questions in the survey. The questions were grouped into five categories including: Inclusion/Exclusion Criteria, Noise-Induced Hearing Loss Awareness, Noise Exposure, Hearing Loss Symptoms, and Hearing Protection.

“Awareness of Noise-Induced Hearing Loss Among College Band Students”  
Questionnaire

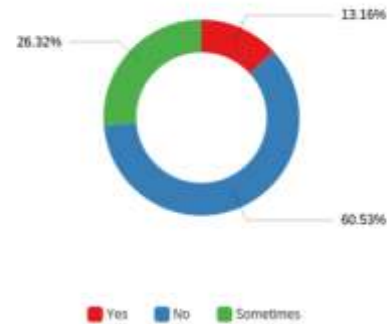
1. Gender:  
☐ Male ☐ Female ☐ Other
2. Age:  
☐ 18–25 ☐ 26–30  
☐ 31–35 ☐ >35
3. Classification:  
☐ Freshman  
☐ Sophomore  
☐ Junior  
☐ Senior
4. Which ensemble do you participate in at Lamar University? One or more options.  
☐ Wind Ensemble  
☐ Symphonic Band  
☐ Cardinal Jazz Orchestra  
☐ Cardinal Basketball Pep Band  
☐ Marching Band
5. Weekly practicing/playing amount (how many days on average do you practice or play your instrument/s):  
☐ 1–2 days ☐ 3–4 days ☐ 5+ days
6. Daily practicing/playing amount (how many hours daily on average do you play your instrument/s):  
☐ 1–3 hrs. ☐ 4–6 hrs. ☐ 6+ hrs.
7. Have you ever experienced a ringing sound in the ears after playing your instrument/s (whether it be solo or within your ensemble)?  
☐ Once ☐ Sometimes  
☐ Rarely ☐ Never
8. Do you have or have ever had a difficult time hearing noise, people, etc. after playing your instrument/s or hearing others around you play their instrument/s? (After practicing, performance, or in any other environment where you or someone else is playing their instrument):  
☐ Once ☐ Sometimes  
☐ Rarely ☐ Never
9. I have experienced ear pain due to the high volume of music during a performance.  
☐ Yes ☐ No
10. Do you wear any kind of hearing protection when playing your instrument/s:  
☐ Once ☐ Sometimes  
☐ Rarely ☐ Never
11. Is there hearing protection provided or available to you in the atmosphere in which you play your instrument:  
☐ Always ☐ Sometimes  
☐ Never ☐ Unsure
12. If hearing protection was provided, would you utilize it to protect your hearing?  
☐ Yes ☐ No
13. Have you ever heard of noise-induced hearing loss?  
☐ Yes ☐ No
14. Did you know there is a possibility your hearing could or may be affected by extended exposure to loud levels of music?  
☐ Yes ☐ No

## Results

We had 38 students complete all questions listed in the survey. When asked if the students had ever heard of NIHL, as seen in figure 1, 57.89% answered yes and 97.37% stated they knew about the possibility of hearing loss due to exposure to loud levels of sound. 44.74% of the students listened or played their instrument five or more days per week with an estimated daily dosage of 1 hour selected by 39% of students to 32% of them selecting 3 hours or more. When prompted if the students wore hearing protection when playing their instrument 60.53% did not wear hearing protection but would if it was provided or available to them (Figure 2). 60.53% noted experiencing tinnitus, a ringing sound that can be associated with NIHL, sometimes. 18.42% stated they experienced tinnitus often. 31.58% of students answered they had experienced ear pain or discomfort due to high volume of an instrument, 28.95% listed sometimes.



*Figure 1. Percentage of students who had heard of noise-induced hearing loss.*



*Figure 2. Percentage of students who stated they did not use hearing protection when playing their instrument.*

## Conclusion

Based on the student musicians answers we believe that most of the students do have awareness of noise-induced hearing loss but may not be taking appropriate measure to protect their hearing due to their answers in the categories of hearing protection and possible hearing loss symptoms. We believe the students would benefit from a hearing conservation education program to further stress the importance of hearing health as well as give them the resources they need to obtain hearing protection.

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**Chloe Smith**

Major in Speech and Hearing Sciences

Mentor: Dr. Lekeitha Morris

Research in Child Speech Disorder

Department of Speech and Hearing Sciences



## **Intervention for Child Speech Sound Disorder in YouTube Videos: Parent Perceptions and Clinical Utility**

Last summer, I participated in the SURF program with the research titled “The Portrayal of Childhood Speech Sound Disorder Interventions in YouTube Videos: A Cross-Sectional Study.” The purpose of the study was to examine the source, type of intervention, evidence, usability, and actionability of speech sound disorder (SSD) intervention-related information in the top 100 YouTube videos directed to families. I concluded that the collected videos did not reach adequate levels of understandability or actionability on average.

An extension of this research was needed to examine parent perceptions of these videos. The way parents perceive videos related to health information for their children impacts how they use the information and plays a role in if or how they engage with health care providers (Tan & Goonawardene, 2017). It is established that there is a lack of knowledge about the criteria parents use to determine the quality of online health information and make decisions (Kubb & Foran, 2020). It is important to determine the qualities in YouTube videos parents find the most helpful or informative to aid in understanding so professionals can create videos tailored to what parents feel they need and avoid what parents deem unhelpful. The following research questions guided this work:

1. Do parents’ perceptions of high-rated and low-rated YouTube videos differ?
2. How do parents with children with SSD use the internet or social media platforms to understand their child’s disorder, assessment, and/or treatment?
3. What preferences for online information and resources do parents of children with SSD have?

### **Method**

#### **Participants**

The study was approved through the IRB. Participants were recruited through flyers being dispersed at a university clinic and through personal contacts with clinical instructors at the clinic. Five parents of children with SSD participated in the research.



Parents ranged in age from 37 to 44 years of age. One participant was a grandmother. All parents were white, female, and resided in two-parent households. Parent education levels ranged from some college to a master's degree. English was the only language spoken in four of the households, while English and French were spoken in one.

## **Procedure**

The 5 highest-rated and 5-lowest rated YouTube videos from my previous study were selected to show parents. An 18-question survey instrument was developed for parents to rate the videos (Herek et al., 1988). The survey sections included overall evaluation, technical evaluation, perceived credibility, and perceived actionability. Participants were asked to score each question with scores ranging from 0 (“not at all”) to 100 (“extremely”). A 4-question open-ended short answer section was also included. Once a time was scheduled for participation, each participant completed the consent form and demographic questionnaire. Next, instructions were provided for watching and rating the videos. Participants then watched each of the 10 videos rating each video with a rating survey labeled with the video title in a quiet and empty room at the clinic. Parents received three storybooks and an early school skills pack after they completed the survey rating form.

Once parents completed the video ratings, three of the five parents participated in semi-structured phone interviews to learn more about what they liked or disliked about the videos and their general online-information seeking about their child's speech disorder. The 14 questions were developed based on review of other qualitative studies with similar research questions (Peterson et al., 2003). After completing the interview, parents received another children's storybook for completing the interview.

## **Data Analysis**

Due to the low number of participants statistical analyses have not been completed. Visual inspection of the data was completed and once more participants complete the study statistical analysis will be conducted using the IBM SPSS Software Version 24. Survey responses to high-rated and low-rated videos will be compared using a t-test. Qualitative methods were used to evaluate responses from the interviews.

## **Results**

### **Research Question 1: Do parents' perceptions of high rated and low rated YouTube videos differ?**

The five participants' perceptions of high rated and low rated YouTube videos did differ. As can be seen in Table 1, the high rated videos were rated higher by parents than the low rated videos. Although some parents rated some questions on the highly rated videos high, the overall pattern does suggest that parents' perceptions differ depending on the quality of the videos.

**Table 1:** *Ranges for the ratings of high rated videos versus low rated videos*

	HV 1	HV 2	HV 3	HV 4	HV 5	LV 1	LV 2	LV3	LV 4	LV 5
P1	98-100	98-100	99-100	90-100	99-100	80-100	60-100	90-100	60-99	70-90
P2	95-100	85-100	1 25; 1 65; rest 75-100	80-98	85-95	30-70	10-50	20-55	0-100	60-85
P3	All 100s	All 100s	All 100s	75-100	All 100s	60-100	10-100	75-100	50-100	25-100
P4	1 30; 2 50s; rest 100	1 50; rest 100s	2 50s; rest 100	80-100	90-100	30-100	0-100	0-100	65-85	0-10
P5	80-100	90-100	90-100	90-100	85-100	50-100	85-100	50-100	80-100	0-70

In the short-answer section of the survey, parents commented that the videos they rated low “were too vague,” “had too much going on,” and “could use more explanation.” For the videos that parents rated high, parent commented that the videos “had very clear instructions,” “has instructions and tips to help child,” and parents generally praised how specific the presenter was about the subject.

### **Research Question 2 and 3: Parents’ use and preferences of online information**

Based on the three interviews collected to date, several overall ideas or themes were evident regarding parents’ preferences with the internet and how they use it to learn more about their child’s speech sound disorder. The parents (1) prefer watching videos over reading, (2) use professionals as their first, main, and preferred source of information, (3) find it hard to trust online information, (4) find reading other parents’ experiences helps them in different ways.

When asked about some of the cons of the internet, one parent responded, “I think there’s just...an overload of information [on the internet] ...And that’s just hard to decipher what you need and what you’re not going to need.” Another parent noted that YouTube has been helpful for her, stating “The only thing that I think I’ve really done is went to YouTube and compared other kids...[it’s] like a peace of mind for me, you know, with her and her progress and how she sounds.” When asked how they would compare the internet to direct professional information, one parent said, “I believe the professional can explain things better and knows more. Like, you get mixed information online.” One of the biggest trends was that each parent preferred to watch a video with the information they needed rather than read an article with the same information. “I definitely prefer a video rather than just reading it. Or at least where you can hear it and read it... I don’t learn good with just trying to read.”

## **Conclusion**

Although there is a visible trend that parents agree with professional ratings on understandability and actionability of the YouTube videos, more participants are needed to draw concrete conclusions from this research. This project will be extended during fall to gather more parents for rating videos and to interview parents

who have already completed them. We will continue recruiting parents until we have reached at least 20 participants. Understanding the content of SSD intervention-related videos is especially relevant for parents because of how integral they are in the intervention process. The results of this work will provide a better understanding of what parents find to be useful and helpful when identifying internet resources for their children with SSD. In turn, this study will help speech-language pathologists understand how they can best support parents in identifying useful internet resources and how to make their own YouTube videos more effective.

There is opportunity for possible continuation of this research. This research only examines parent perceptions of videos about childhood SSD interventions. Future research could involve looking at a variety of speech or language disorders, or altogether as a whole. In addition, analyzing speech-language pathologists' perceptions about videos and comparing them to parents' perceptions could help bridge the gap in understanding between the two groups, leading to better outcomes for patients.

Throughout this summer, I gained further insight into how research is conducted and learned about different approaches to intervention for later coursework in Speech and Hearing Sciences. Prior to starting this research project, I had a very limited experience of interacting with parents on a professional level within the realm of speech-language pathology. Due to the great involvement of parents in this field, it is a highly necessary skill to acquire. This experience allowed me to develop that skill. It also helped me understand more about how a university clinic functions which will be an immense benefit and head start in graduate school. In addition, this experience gave me an interest in looking into different ways to become involved with a university clinic.

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**Chaley Cleckley**

Major in Teacher Education

Mentor: Dr. Mamta Singh

Research in Ethics in Classroom Instruction

Department of Teacher Education



## **Genetic Technology and the Use of an Oral Debate Method on Questioning Ethics in the Classroom**

### **Abstract**

The purpose of this study was to assess the effectiveness of an oral debate in the science classroom regarding stance and content retention on genetic technology and its use in CRISPR-Cas9 with Covid-19. There are many studies on the debate method, but few, if none, assess the effectiveness of this method on content retention (vital to standardized testing) or analyze the change of stance in students. In this study, an argument-based learning method was explored while guiding the participants to explore basic knowledge and understating of genetic technology and its relation to Covid-19 in humans. Pre-mid-post content knowledge assessments and debate methods were used. The qualitative data from an oral and written debate method were compared against each other as another data source in addition to the assessment scores. Overall, findings suggest that there was little difference in content retention and no change in stance after oral and written debate methods. Larger, prospective studies are warranted to further investigate these initial findings.

**Keywords:** debate method, argumentation, preservice teachers, eighth-grade students, pre-mid-post assessment, Genetic Technology, Covid-19



## Introduction

According to Liarakou *et al.* (2009), "[o]nly if teachers are knowledgeable and well disposed towards content, the necessary knowledge and values can be properly incorporated into the learning process, providing students with the appropriate capabilities to deal with the relevant issues in their everyday lives" (p. 121). In addition, and considering today's social issues, the benefits of an educator being a lifelong learner also promote the connection with pupils and keep the content given to students accurate and up to date. Teachers are taught and expected to be lifelong learners during their preservice courses for these reasons. One space for teachers to work on in their lifelong learning journey is CRISPR Cas9: a new, fast-growing discovery in science that allows the changing of genomes.

Debate is another opening for teachers to improve. The nurturing of critical thinking skills through debating sets a firm foundation for lifelong learning to flourish in not only teachers but students. Many studies show the benefits of the debate method, yet teachers remain apprehensive about incorporating it in their classrooms. When they choose not to implement this learning method, the students lose out on the ability to enhance important higher-order thinking skills, such as critical thinking. Not only are these skills enhanced through argumentation, but critical thinking skills may also develop more effectively (Gultepe & Kilic, 2021). This may be partly because teaching K-12 science through argumentation and debate invites students to consider the foundations of science (Osborne, 2014). A debate method can also be used virtually, accommodating technology integration in a blended learning environment. Despite the countless benefits, "...few teachers—educator programs provide opportunities for preservice teachers to understand, experience, and practice about how to incorporate argumentation in their future teaching instructions" (Chen *et al.*, 2018, p. 2).

Throughout this study, the debate method and learning of genetic technology are observed from both ends of the science classroom. The didactic strategy used in this study includes the use of an oral versus written debate method and analyzes content retention via a pre-mid-post-assessment. This study intends to weigh the

effectiveness of an oral debate method in the classrooms of eighth-grade students and preservice teachers at the collegiate level. The analysis is in terms of content retention and the changing of stance.

## Literature Review

There have been limited studies regarding genetic technology and K-12 education topics specifically related to knowledge and awareness among students and K-12 educators as it is a new area of research. We have, however, located a few studies that included some of our main attributes: Preservice teachers and eighth-grade students, debate method, pre-mid-post assessment, and genetic technology. Our review of relevant current literature provided us with many important points.

According to Anderson *et al.* (2020), teachers struggle to implement argument-based methods. Knowing this, they developed their own program to assist with the integration of argumentation. Their study analyzed the effectiveness of their strategies for the STEM Infused Science Teaching (ASSIST) program in helping K-12 teachers become more prepared and feel comfortable with using the debate method in their classroom. The authors agree that it is vital for educators to guide and sculpt students' higher-order thinking skills. They claim the resistance to using this methodology in class stems from the teacher's educational ideologies. They propose to guide upcoming and current teachers through challenging their long-held educational ideologies and theories of learning at the beginning of their professional development program. They suggest this because it becomes harder to deconstruct beliefs the longer, they are practiced. A successful debate method relies on teachers' epistemic orientations being better aligned with their content knowledge and pedagogical practices. Anderson *et al.* (2020) further states the importance of giving the teachers multiple points of access to the Next Generation Science Standards (NGSS), so that they continue to feel in control of their pedagogical practices, and the standards seem to simply be beneficial tools and practices. Overall, it is understood from this study that the integration of the debate method will happen over an elongated period. Still, it is essential to the production of our society in the end.

Gultepe and Kilic's (2021) study supports the need for the debate method because it helps students develop critical thinking skills: "...critical thinking skills develop more effectively in educational environments where scientific argumentation approach is used" (p. 193). The debate method revolves around facts supporting a side. Modeling this aloud in a classroom setting with opposing facts allows students to practice the internal monologue used in critical thinking. Students need to be heard and feel free to talk in the classroom. It is understood that participation drives learning, and " ...students stating their thoughts and opinions... become cognitively active" (Gultepe & Kilic, 2021, p. 185). The benefits do not end in the science classroom, as critical thinking skills required for these debates can also be used across subjects and outside of school. It is now also known that critical thinking must be taught along with curriculum to effectively develop critical thinking skills (Gultepe & Kilic, 2021).

Sampson *et al.* (2010) published a study on their "Argument-Driven Inquiry" (ADI) instructional model that explored how to teach high school students to argue. Their findings show that students not only produced better arguments following the model utilized, but they had a better disciplinary engagement. The authors also concluded that two issues need to be addressed to help students improve in both written and oral debates. The article noted that "the students in this study were unable or unwilling to use scientific theories, models, or laws as a tool to make sense of a natural phenomenon and to evaluate scientific knowledge" (Sampson *et al.*, 2010, p. 250). They also touched on how the groups did not explore other ideas and instead had a collective confirmation bias. The study suggested producing new instructional models that incorporate social norms, epistemology, scientific processes, and scientific content in a synchronous manner.

Macagno and Konstantinidou (2012) incorporated argumentation schemes to see how to improve classroom debate methods. The researchers recognize the issue of bypassing students' beliefs. Fundamentally, the authors notice that dialogue is important to help the students feel safe in analyzing the structure of their thinking instead of resisting perceived persuasive lessons. The student's analysis of their thinking reveals their background beliefs. Still, the student will not accept the new content and restructure their beliefs unless they

perceive the new idea to be more convincing than the ones they hold currently. This process shows how argumentation and learning go together, as the analysis and (re)building of thought structures is the main component of both processes.

According to Grooms *et al.* (2018), the current classroom practices can limit the opportunities students have to engage in argumentation or alter how they participate in these scenarios. This study had participants that were enrolled in a high school chemistry course and were between the ages of 15-17. The study found a positive relationship between content familiarity and argumentation. Grooms *et al.* (2018) also noted that their “[a]dditional analyses suggest that students can also take up and use epistemic characteristics of scientific argumentation in contexts where the science content is unfamiliar” (p.1264).

Telenius *et al.* (2020) break debate down into, “... understanding texts, analyzing and evaluating critical material, and generating hypotheses” (p. 1). Their study was looking into the possible link between the quality of argumentation and a group’s learning achievement. The researchers found that high performing groups have more argumentation when compared to average and low performing groups. This is due to participants asking more topic-related questions that led to more dialogue. In the other two groups, fewer topic-related questions were asked, and little to no discussion ensued. Chen *et al.* (2018) attributes these findings to “[f]ew teacher–educator programs provide opportunities for preservice teachers to understand, experience, and practice about how to incorporate argumentation in their future teaching instructions” (p. 2). This study was conducted on eighth-grade students, and the experimental group was taught by incorporating more argumentation in their lessons. The results show that their Recurrent On-Line Synchronous Scientific Argumentation program improved participants’ quality and quantity of arguments and their conceptual abilities. According to another study on eighth-grade students, a debating method does not cause them to dislike science class, and they have significantly higher academic achievement following its integration (Ural & Gencoglan, 2019).

Wang and Buck’s (2018) study reveals that teacher candidates’ rebuttals were enhanced and that the most confrontational aspect of debate (clash and extension) had the most success in triggering high-level arguments.

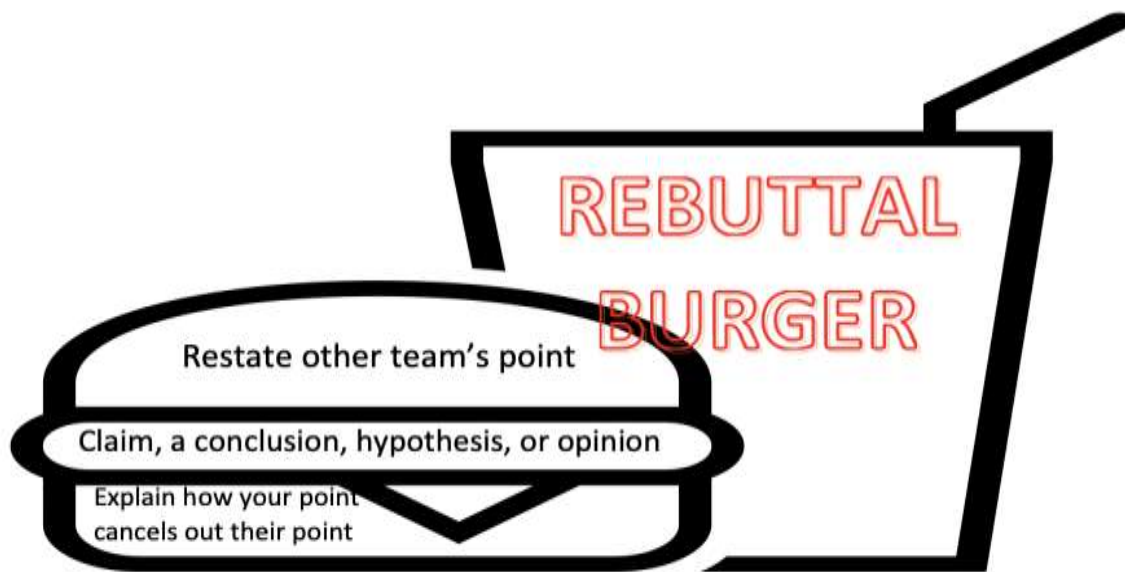


Still, it also produced the most negative attitudes toward argumentation. The researchers suggest that a rebuttal should not be the end game, but including new ideas and perspectives is important in reaching a debate conclusion. Keskin *et al.* (2013) propose that it is difficult to incorporate a nontraditional method into the classroom when it involves subjects with no clear-cut answers and requires students to share their beliefs and values. This study included prospective teachers that were juniors at a university. They concluded that the argumentative bioethics education process they implemented improved prospective teachers' argumentation skills. They also found there is no statistically significant effect of background knowledge affecting argument quality. Crippen *et al.*'s (2012) study focused on high school science teachers. These teachers participated in a professional development method focused on an argue-to-learn intervention. This study found that participants were likelier to use the internet to find evidence than the provided materials. They also saw an increase in content knowledge, but some issues arose that reveal a need for science curricula that allows students to work with and question real data.

According to a study on eighth-grade students, this method doesn't make them hate science class; actually, they have no change in attitude. However, they have a significantly higher academic achievement (Ural & Gencoglan, 2019).

## Methods

The study was conducted with two different groups of the population. The participants for this study were preservice teachers and eighth-grade students. Pre- mid- and post assessments were administered to both sets of participants. Both groups were further divided into two subgroups. A handout called the "Rebuttal Burger" (Figure 1) was given to all participants to help during the debate portion. All participants' names were replaced with a letter of the alphabet. Debate responses were reflected using the word art. Pre-mid-post assessments are in Appendix 1.



**Figure 1:** *Rebuttal Burger Handout (Cleckley, 2022)*

### Preservice Teachers

Preservice teachers enrolled in a debate course were given a consent form to sign and turn in before the lesson. They were then taught about COVID-19 and CRISPR Cas9 using a PowerPoint and took a pre- and mid-assessment. Each class was separated into two groups by splitting them down the middle. The left side engaged in an oral debate over the question, “Is using CRISPR Cas9 on COVID-19 ethical?”. The other students engaged in a written debate using the handout given.

The participants for the oral debate method were separated at random into two groups in different locations by the researcher. The researcher began instructing the students throughout the steps and started taking notes. Both groups were given five minutes to research the topic and make notes. They wrote their names, sources, ideas, etc. on scratch paper, which was turned in at the end. We began the debate by allowing the affirmative team to share their summary (one-and-a-half minutes), followed by the negative team’s summary. The summary included their stance and reasoning for their point. We then allowed a recess (three minutes) to research more and establish counterpoints. They then each gave a rebuttal (start with opposing; three minutes each) formed by using the outline given.

In closing (starting with opposing; two minutes each) the groups summarized the argument and explained why their points were better. Closing rebuttal from opposing then affirmative- brief response to the other's closing (two minutes). We then thanked the participants and collected all papers. After four days, all students in the class, both debate participants and alternative activity participants, were asked to take the post-assessment online through Blackboard. Pre-mid-post assessments can be found in Appendix 1.

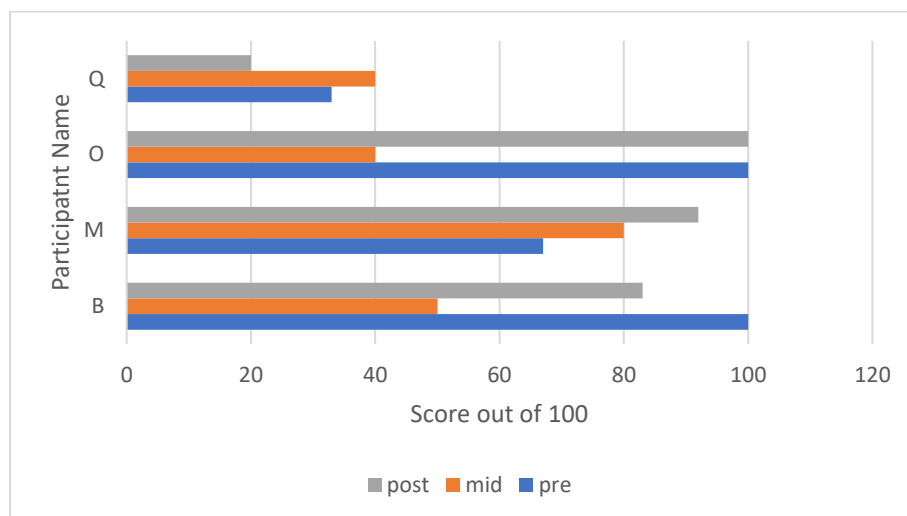
### **Eighth-Grade Students**

Eighth-grade students enrolled in a general science class were given a consent form for their parents to sign and turn in before the lesson. They were then taught about COVID-19 and CRISPR Cas9 using a PowerPoint and took a pre- and mid- assessment. We separated the class into two groups by splitting them down the middle. The left side engaged in an oral debate method over the topic question, "Is using CRISPR Cas9 on COVID-19 ethical?". The other students engaged in a written debate using the handout given. The participants for the oral debate method were separated at random into two groups in different locations by the researcher.

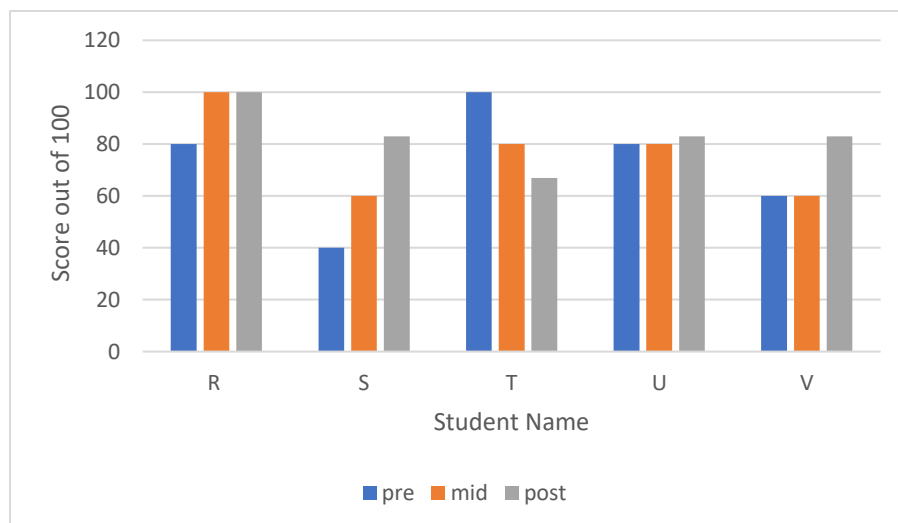
The researcher began instructing the students throughout the steps and started taking notes. Both groups were given five minutes to research the topic and make notes. They wrote their names, sources, ideas, etc. on scratch paper throughout, and it was turned in at the end. We began the debate by allowing the affirmative team to share their summary (one- and one-half minutes), followed by the negative team's summary. The summary included their stance and reasoning for their point. We then allowed a recess (three minutes) to research more and establish counterpoints. They then each gave a rebuttal (start with opposing; three minutes each) formed by using the outline given. In closing (starting with opposing; two minutes), the groups summarized the argument and explained why their points were better. Closing rebuttal from opposing then affirmative- brief response to the other's closing (two minutes). We then thanked the participants and collected all papers. After four days, all the students in the class, both debate participants and alternative activity participants, took the post-assessment online. Pre-mid-post assessments can be found in Appendix 1.

## Results

The results section is organized into two sections headed “Assessment scores” and “Debate.” Within both sections are the results for preservice teachers and eighth-grade students separated in this order. For the assessment scores of preservice teachers (figure 2), the data indicates that, on average, the mid-assessment was the lowest score at 52.5%. The data shows a decrease overall, with a preassessment average score of 75% and a post-assessment score of 73.75%. For eighth-grade students (Figure 3), the data indicates that the students retained content knowledge. The average for the pre-assessment scores is 72%, increasing to 76% in the mid assessment and then 83.2% in the post-assessment.



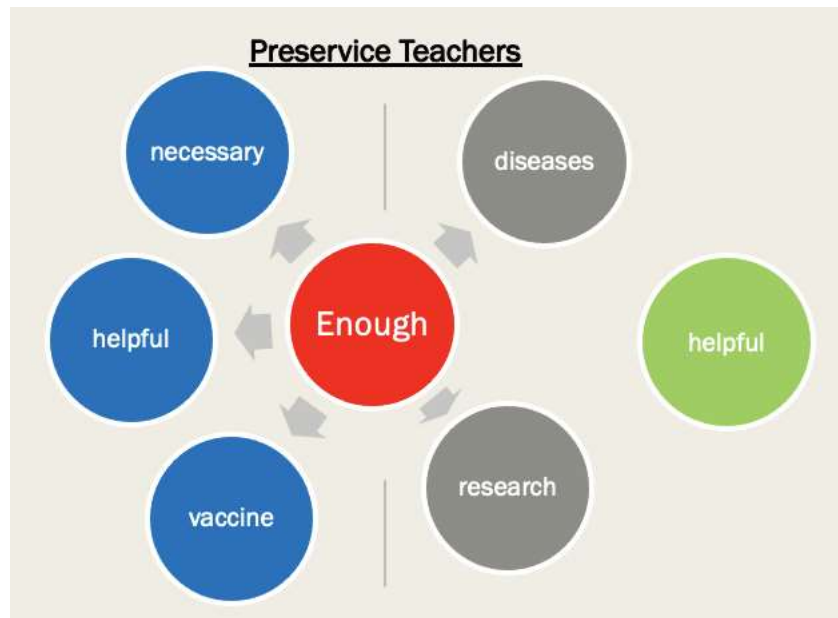
**Figure 2:** *Preservice Teacher's Scores- pre-mid-post assessment scores*



**Figure 3:** *Eighth-Grade student's Scores- pre-mid-post assessment scores*



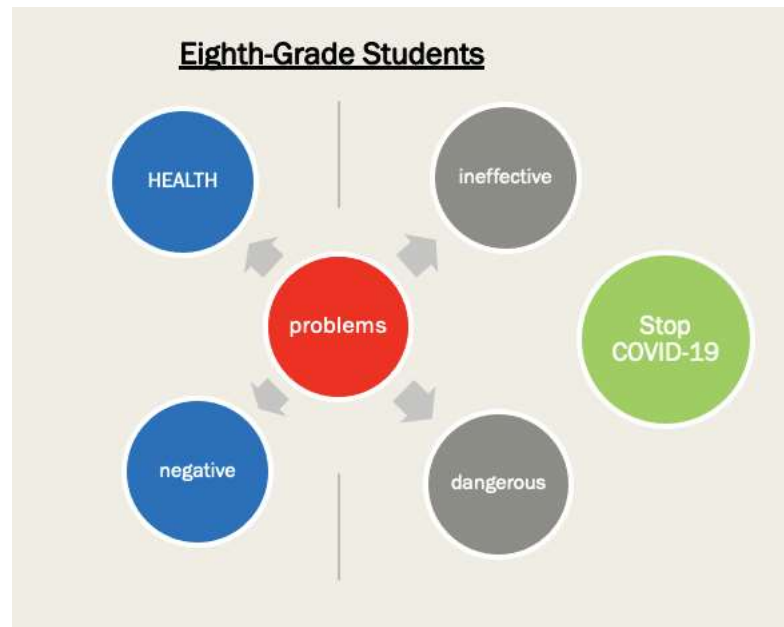
## Debate



**Figure 4:** Word art from the debate with Preservice Teachers

The word art above indicates the most common words from the student's arguments. Student participants either wrote a written argument in paragraph form or participated in the oral debate while writing down individual and group points. In this graph, the word in red is the most common word. The words surrounding the red words are the words most associated with the red word. Whether the associated (blue and gray) words are used before or after the red word (meaning the associated words are used as a noun or an adjective) in a sentence is indicated by color and the vertical line. Some examples would be: "helpful enough", "necessary enough", "enough research", and "vaccine is enough". The green word indicates the second most common word used.

The word art above indicates the most common words from the student's arguments. Student participants either wrote a written argument in paragraph form or participated in the oral debate while writing down individual and group points. In this graph, the word in red is the most common word. The words surrounding the red words are the words most associated with the red word. Whether the associated (blue and gray) words are used before or after the red word (meaning the associated words are used as a noun or an adjective) in a sentence is indicated by color and the vertical line. Some examples would be: "health problems" and "problems caused by this treatment could be dangerous." The green word indicates the second most common word used.



**Figure 5:** Word art from the debate with Eighth-Grade students

## Data Analysis

### Preservice Teachers

Only 22% of participants completed the pre, mid, and post-assessments. They decreased assessment scores but appeared to have a better debate that included more claims and deeper dialogue. We cannot analyze the return of consent forms for this population due to participants' age of consent and signing on the spot.

### Eighth-Grade students

Out of the mere 29% of the eighth-grade students that turned in the consent forms, 80% were against the use of CRISPR Cas9 on COVID-19. These participants had shallower dialogue and fewer claims, agreeing with whoever spoke up in their group. In the Pre-mid-post assessment data, the eighth-grade students had an increase in assessment scores and appeared to have retained content knowledge.

## Discussion

Our review of the current literature indicates that better programs and models need to be modified to implement the debate method in K-12 classrooms. The resulting model must keep students engaged, and open-minded, participating with unique dialectic questions, and actively restructuring their opinions and beliefs. This method also must be taught alongside content. This process starts with the training of teachers, which will take time as they must restructure their epistemological orientations. The research method indicated that teachers either are in opposition to including the debate method in their classes, or they are unsure of how to execute this plan. Regardless, it is increasingly evident that argumentation is vital to the continued success of our education system. The integration of the debate method is inevitable, and as teachers learn this method, they will be employing the same skills and tools that they will guide their students through, and subsequently, they will be drawing the same benefits. The debate method is continually growing in the world of education for its undeniable and indispensable benefits. When this methodology is implemented in classrooms, critical thinking skills improve, disciplinary engagement increases, content knowledge increases, and the students become cognitively active. As the students are exposed to debate more, they become better debaters, and their benefits increase, cycling upwards towards a more well-rounded student. The debate method is essential to our ever-evolving society, and current classroom practices hinder students when they limit argumentation.

## Preservice Teachers

Due to their body language, it was evident that the teachers were unsure of how to carry out both written and oral debates. As in Sampson *et al.*'s (2010) study, they were less likely to use handouts and information and relied on the web. Our current data does not seem to support Bloom's Taxonomy. This may be because portions of our population are less likely to submit their consent forms or complete the post-assessment. When compared to the Telenius *et al.* (2020) study, this group would fall under an average performing group since they engaged in some questions and dialogue, but it did not render deep discussions. According to Grooms *et al.* (2018) study, there is a positive relationship between a good debate and having background knowledge on the subject. Therefore, our

data should have less quality information as they have limited exposure to the concept of CRISPR Cas9 (Grooms *et al.*, 2018). For this group, they did a decent job of arguing the societal ramifications and consequences despite the limited understanding of this genetic technology complex. It was found that only 24% completed all three assessments. The most common words indicated that most participants were satisfied with the use, or absence, of this genetic technology if it meant a better outcome for the population.

### **Eighth-Grade students**

Compared to the study by Telenius *et al.* (2020), this group would fall under a low-performing group since they did not engage in questions and dialogue and did not render deep discussions. Most eighth-grade students that turned in the consent forms were against the use of CRISPR Cas9 on COVID-19. This data may indicate a stronger link between participation and holding a perceivably argumentative viewpoint, for example, being against using CRISPR Cas9 on COVID-19. Our current data does not seem to support Bloom's Taxonomy, but it is not of volume to challenge this theory either. This population had at least a one-year gap since their last exposure to a lesson over cells, organelles, and DNA. According to Grooms *et al.* (2018) study, "(the) results indicate that a positive relationship does exist between content familiarity and high-quality argumentation..." (p.1264). Therefore, our data should have less quality information. Only 29% turned in their parental consent forms. Out of those that returned them, 80% were against the use of CRISPR on COVID-19. In this population, it seemed that the eighth-grade students had one of the same issues as Sampson *et al.*'s (2010) 10<sup>th</sup> graders: "[G]roups do not always discuss a wide range of ideas and the actions of a group seem to reflect a collective confirmation bias" (p. 250). The physical models sparked students' interest and peaked engagement for a few minutes. They became cognitively active like is hoped for during argumentation.

### **Both Groups**

Participants were expected to draw from their content familiarity with the COVID-19 content while they were freshly introduced to the CRISPR Cas9 portion. This was expected to benefit the study since they could not



incorporate epistemic characteristics of a debate as easily. They both seem to share the collective confirmation bias with Sampson *et al.*'s (2010) participants. Keskin *et al.*'s (2010) findings of argument quality not relying on previous content knowledge was also found in our data. These participants were concerned more with individual health and how it would impact them negatively, while the preservice teachers cared more about rationality and how we should allot society's resources. This may point to a gradual introduction of concepts in education. Teachers teach consequences and caution and then build up into necessity and inclusivity. I'm unsure if it is intentional, but it mirrors the gradual progression across K-12 standards.

In conclusion, Preservice teachers seemed to look at the narrative from the point of view of scarcity and the distribution of societal resources. This differs from the eighth-grade students' point of view of health and personal consequences. Also, eighth-grade students were more likely to use handouts than the preservice teachers. No one changed their viewpoint following argumentation. This may indicate that there was no restructuring of beliefs, and no learning was happening (Anderson *et al.*, 2020). The qualitative data does not appear to support Toulmin's argumentation model.

## Conclusion

**Preservice Teachers:** There does not seem to be a change of opinion or stance regarding whether a participant used an oral or written debate method. Growth in content knowledge was not apparent in the preservice teachers, but the eighth-grade students did show an increase. The reluctance to use handouts in this group shows a mistrust of information and a willingness to find unique points. Their points, being more gauged towards society as a whole and distribution of resources, shows maturation and a more liberal mindset that is a staple of collegiate campuses and coursework.

**Eighth-Grade students:** Only 29% turned in their parental consent forms. Out of those that returned them, 80% were against using CRISPR Cas9 on COVID-19. This may be caused by the opposition that creates a sense of power and power, in turn, excites the interest of students in the debate. There does not seem to be a change of

opinion or stance regarding whether a participant used an oral or written debate method. There was a retainment of content knowledge. Their points veering towards a personal health consequence may be due to their age and maturity level along with the content depth as they watch their teacher's reason.

### **Both Groups**

These were not the results expected. We expected some change of position, probably by only one or two participants, but there were none. We also expected clear content retention in both groups but only saw it in the eighth-grade students. The quality of arguments was lower than expected in both groups. They seemed to stop conversing over the given point after rebutting. There were little questions and dialogue following, and the next point was brought up promptly. The collective confirmation bias allows the gap to be filled between a group's active and withdrawn members. It also seems that just because the debate seems shallower than anticipated does not mean the students do not understand the content. They could have a deep debate but not understand the content fully. The debate will most likely be reliant on a confirmation bias and revolve around the points of the boldest student with the greatest reputation of being smart. This methodology may not be the best for standardized testing prep, but it is vital to our society and individual success.

### **Implications**

If using an oral debate in the classroom, the teacher should randomly select participants. This will help distribute those against the topic at hand more evenly and thus result in better participation across both groups. Handouts should still be provided for the diverse learner's needs. Even better, physical replicas, when appropriate, help engages students. A teacher should compel and encourage the group that is in favor of the proposition, as they seem to be less likely to participate. An effective model should also include a more rigidly structured outline, have examples, and require students to go further into the points, deepening the argument.

## Recommendations

It may be beneficial to this study and teachers to have students unaware that they are carrying out a debate. For instance, in our oral population of this study, we could have had the students become “health experts” for the US and decide whether we should use this genetic technology on this disease. This way, they are not intimidated by the term “debate” and are more fascinated by the idea of having a say. This will link back to their natural ability of argumentation while being facilitated by a teacher. To avoid confirmation bias, it may be a good exercise to have students write down their ideas for a separate debate statement. Then, have each person present their points individually while the others write their rebuttals. This will inevitably take time but should spark more ideas, increase confidence, and deepen the dialogue.

## Limitations

We came across some limitations during this study. When conducted, it was the end of the semester for both populations, leading to decreased participation, motivation, and interaction. We could not use most data due to a lack of consent forms or incompleteness of the post-assessment. The teacher of the lesson was not a certified teacher and had limited experience in teaching. The lesson depth and questions changed across populations due to age and grade factors. We were limited in the data received, as all was written, and no recordings were obtained. When writing, the human brain prunes information, and we may have subsequently missed some data. Also, the participants in the oral debates wrote the points from their whole group and not just themselves, which made differentiating individual’s ideas harder. These combined factors may have skewed the results.

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## **Appendix 1**

*The correct answers to the questions will include a “\*” following the answer choice.*

### **Pre-assessment**

1. RNA is read in sections called
  - ☐ Codons\*
  - ☐ trices
  - ☐ Triplets
  - ☐ Genes
2. Translation is a process that produces
  - ☐ mRNA
  - ☐ Polypeptide chains/ proteins\*
  - ☐ tRNA
3. Amino acids are joined together to form
  - ☐ DNA
  - ☐ Ribosomes
  - ☐ Proteins\*
  - ☐ RNA
4. What is a genome?
  - ☐ All the genetic material of an organism\*
  - ☐ the nucleus
  - ☐ where the genetic material is stored
  - ☐ a type of cell
5. What is a virus?
  - ☐ An infectious agent of small size and simple composition that can multiply only in living cells of animals, plants, or bacteria.\*
  - ☐ A relatively large protein that destroys cells of living organisms
  - ☐ An infectious agent that has its own DNA and travels through the blood stream to prey on other cells
6. What is a trait?
  - ☐ A genetically determined characteristic\*
  - ☐ A specific genome
  - ☐ All human genes mapped
  - ☐ Viral DNA

### **Mid-assessment**

1. Why is CRISPR "better" than other gene editing tools? check all that apply
  - ☐ Cheaper\*
  - ☐ Simpler\*
  - ☐ faster\*
  - ☐ easier
2. Where was CRISPR discovered?
  - ☐ Salmonella
  - ☐ E. coli\*
  - ☐ C. coli
  - ☐ B. coli

3. What is the most abundant biological life form on earth?
  - Bacteria\*
  - humans
  - viruses
  - fungi
4. What is the "envelope" of the spherical virus made of?
  - proteins
  - carbohydrates
  - lipids\*
  - enzymes
5. What is CRISPR used for in the bacterial immune system?
  - help bacteria replicate inside the host cell
  - change the genome of new viruses
  - defend against invading viruses\*

### **Post-assessment**

1. How does a virus replicate?
  - through meiosis
  - through asexual reproduction
  - inside the host cell by hijacking the reproductive system\*
2. What does Cas9 do?
  - Cuts the DNA\*
  - opens the path into the cell
  - inserts new DNA
3. What happens after CRISPR binds to PAM on the DNA?
  - records the sequence
  - Unwinds the double helix\*
  - breaks off the codon
4. What is the role of CRISPR in nature?
  - create new cells
  - kill infected cells
  - Defends against invading viruses\*
5. What does the Latin word for virus mean?
  - disgusting
  - poison/ slimy liquid\*
  - sickness
  - rampant
6. What kind of virus is COVID 19?
  - helical
  - polyhedral
  - spherical\*
  - complex
7. Is using CRISPR in the fight against COVID ethical in your opinion? Why or why not?

---

\* correct if states reason and belief

8. Do you have any other points to add into the discussion of the ethical part of using CRISPR on COVID?

\_\_\_\_\_ \*not for points

9. What does CRISPR stand for?

- Clustered regularly interspaced palindromic repeats\*
- Colligated regular intercellular placement regimen
- Cancer regulating innovative production reme

10. What is the benefit of having a lipid envelope on a spherical virus?

- Helps keep the virus healthy
- helps the virus enter a host cell\*
- Provides nutrients to the virus until it locates a host cell

11. What bacteria was CRISPR found in?

- Salmonella
- Pneumonia
- E. Coli\*

12. Is CRISPR the first genome editing tool?

- Yes
- No\*

## **Eighth-Grade students**

*The correct answers to the questions will include a “\*” following the answer choice.*

### **Pre-assessment**

1. Where is DNA located?

- Attached to the rough ER
- Inside the nucleus\*
- Free floating in the cell
- Surrounding the mitochondria

2. What does a ribosome produce?

- Lipids\*
- Carbohydrates
- Proteins
- Nucleic Acids

3. What is a virus?

- An infectious agent of small size and simple composition that can multiply only in living cells of animals, plants, or bacteria.\*
- A relatively large protein that destroys cells of living organisms
- An infectious agent that has its own DNA and travels through the blood stream to prey on other cells
- An infectious agent that robs cells of their DNA

4. What is a trait?

- All of the parts of a human cell
- The differences between the generations of a species
- A graph of all chromosomes in a given species
- A characteristic that an organism can pass on to it's offspring through DNA\*

5. Where are ribosomes found within a cell? Check all that apply

- ☐ Floating freely in the cytoplasm\*
- ☐ Attached to the rough ER\*
- ☐ Attached to the smooth ER
- ☐ Inside the nucleus

### **Mid-assessment**

1. What is the function of CRISPR Cas9 in a bacteria cell?

- ☐ change the genome
- ☐ fight off invading viruses\*
- ☐ kill the cell before a virus can
- ☐ change the bacteria genome before the virus gets to the nucleus

2. What have scientists tweaked CRISPR to do to humans?

- ☐ change the genome\*
- ☐ keep track of all viruses that have invaded
- ☐ fight off invading viruses
- ☐ kill the bacteria after infection

3. Which is larger?

- ☐ Bacteria\*
- ☐ Virus

4. Which is living?

- ☐ virus
- ☐ bacteria\*

5. The term "virus" comes from a Latin word meaning

- ☐ To infect
- ☐ Disease/ sickness
- ☐ Slimy liquid/ poison\*
- ☐ vile/ foul

### **Post-assessment**

1. What is the function of CRISPR Cas9 in a bacteria cell?

- ☐ change the genome
- ☐ fight off invading viruses\*
- ☐ kill the cell before a virus can
- ☐ change the bacteria genome before the virus gets to the nucleus

2. What have scientists tweaked CRISPR to do to humans?

- ☐ change the genome\*
- ☐ keep track of all viruses that have invaded
- ☐ fight off invading viruses
- ☐ kill the bacteria after infection

3. In your opinion, should CRISPR Cas9 be used on Covid-19? \*correct if answered

- ☐ Yes
- ☐ No



4. Type 2 points supporting your yes/no answer? \* if you wrote the paragraph type n/a  
○ \_\_\_\_\_\*not for points
5. Which is living?
- virus
  - bacteria\*
6. What is a trait?
- All of the parts of a human cell
  - The differences between the generations of a species
  - A graph of all chromosomes in a given species
  - A characteristic that an organism can pass on to its offspring through DNA

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## **Social-Emotional Learning & Culturally Responsive Teaching: Do Preservice Teachers have the Skill, Knowledge, & Awareness to Support Student Achievement? An Exploratory Study!**

### **Abstract**

Social-Emotional Learning (SEL) is an integral part of human development. It emphasizes the emotional well-being of the student. This spotlight allows students to excel in all areas of life, including academics. Similarly, Culturally Responsive Teaching (CRT) highlights students' need for more diverse and relatable curricula. Students who are more able to relate to the classroom lessons are shown to be more interested and better understand classroom instruction. We administered a pilot survey to a group of fourteen preservice teachers. We then followed up the study with a focus group of preservice teachers. The findings suggest that, while preservice teachers hold little knowledge of SEL and CRT, they recognize the importance of the topics. The findings also highlighted that the preservice teachers held surface-level knowledge of the frameworks after just one lesson and activity, emphasizing the need for any resources regarding these topics to be implemented into Educator Preparation Programs (EPP).

**Keywords:** Social-Emotional Learning (SEL), Culturally Responsive Teaching (CRT), Preservice teachers

### **Introduction**

SEL is the process in which students “acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions” (CASEL, 2022). SEL programs have been shown to improve academic performance, create healthier relationships, and improve mental

wellness, among other benefits (CASEL, 2022). SEL provides students with the tools to not only succeed in school but in life as well (Keene, 2020). However, EPP does not include enough substantial training on SEL, leaving preservice teachers confused about what SEL looks like in practice (Waajid et al., 2013). A lack of prior knowledge regarding the SEL framework, combined with a lack of SEL-focused professional development opportunities, creates a staff unable to properly support the emotional well-being of their students (Ferreira et al., 2021). The same confusion and overall lack of preparation are not just directed toward SEL but CRT as well. CRT is the use of cultural characteristics and perspectives of diverse students as conduits for teaching (Gay, 2002). This framework is built on the idea that instruction is more personally relevant, has higher interest appeal, and is learned more quickly and completely when students are more able to relate. The framework has been shown to improve the academic achievement of culturally diverse students. CRT implores teachers to complete an “internal audit,” assessing and realizing personal biases or harsh realities that might be difficult to look at (Rucker, 2019). Although CRT is a significant approach for in-service and preservice teachers to consider, EPP offers little to no content that might aid teacher candidates’ cultural awareness and responsiveness (Karatas & Oral, 2019). The lack of substantial knowledge regarding both SEL and CRT was the primary motivation for this study.

The purpose of this study was to assess preservice teachers’ knowledge of SEL and CRT. Both frameworks are vital to student success as they encourage the adaptation of instruction to incorporate the well-being and background of each student. As both topics are so important, I was curious about the explicit knowledge and understanding preservice teachers had of the subjects. Before our SEL/CRT lesson and activity, our groups admitted no extensive knowledge of the subjects. However, following just one lesson and activity where preservice teachers learned the foundations of each subject, preservice teachers were much more understanding of the topics and confident in their ability to implement these frameworks in the classroom.

## Literature Review

SEL “describes the mindsets, skills, attitudes, and feelings that help students succeed in school, career, and life” (Panorama Education, 2015). Effective SEL practices “must be equitable” (Harvard Graduate School of Education, 2021). SEL must be “supportive, affirming, and beneficial for students of all cultures, backgrounds, and identities,” fighting against oppressive systems that impact social development and well-being (Harvard Graduate School of Education, 2021). When SEL professionals subscribe to a culture/racial-blindness practice, students of color are disproportionately affected and greatly failed (Ford, 2020). To properly use SEL, educators must not only teach students the skills and knowledge to identify and cope with emotions but must also understand why students behave and act in certain ways. SEL is a crucial factor in raising academic achievement. Improved

attendance and fewer disciplinary problems are also associated with students with strong social-emotional abilities. The CASEL Model is a prominent framework in SEL studies (Ross & Tolan, 2017).

The model lists the following five competencies, according to *Social and Emotional Learning in Adolescence: Testing the CASEL Model in a Normative Sample* (Ross & Tolan, 2017, p. 1172-1173).

1. Self-regulate, or the ability to “regulate thoughts, emotions, and behaviors,”
2. Self-awareness, or the ability to “recognize one’s emotions and accurately assess one’s strengths and weaknesses,”
3. Social awareness, or cognizance of the “culture, beliefs, and feelings of the people and world around them,”
4. Intrapersonal skills, or the ability to “communicate, work well with peers, and build meaningful relationships,”
5. Reliable decision-making or the ability to “make plans for the future, follow moral/ethical standards, and contribute to the well-being of others.”

According to *Why Not Social and Emotional Learning?* these competencies can be easily integrated into the classroom’s daily routine. They can be as simple as a check-in with students, allowing students the time to reflect on their learning and overall environment and encouraging students to establish constructive relationships (Billy & Garriguez, 2021). SEL programs accomplished “significant effects” across various categories, including “improved SEL skills; attitudes toward self and others; positive social behaviors; reduced conduct problems; emotional distress; and improved academic performance” (Payton et al., 2008). Despite the proven importance of SEL in child development, some educators criticize its implementation, citing that “it takes valuable time away from core academic material” (Payton et al., 2008, p.16). However, research suggests that “SEL programming not only does not detract from academic performance but increases students’ performance on standardized tests and grades” (Payton et al., 2008, p. 17). SEL interventions improved the academic performance of student participants by 11 percentile points (CASEL, 2022.). These essential social-emotional abilities have been found to improve family connections, college or graduate school success, and the rate of high school graduation over the long term; even better, they have been demonstrated to lessen criminal activity and boost community involvement (Keene, 2020). While SEL can be an explicit, free-standing lesson that teaches students the social-emotional competencies, it can also be general teaching practices that foster a supportive social environment and emotional development in students, integrating practices that support SEL within the context of academic instruction and ensuring administrators and school leaders understand how to facilitate SEL as a schoolwide goal (Dusenbury et al., 2015).



SEL, in its most basic form and implementation, is classroom management; it informs teachers' expectations for the classroom and sets a precedent for how students interact with one another and the teacher throughout the year (Norris, 2003). These programs are progressively important as schools are "increasingly diverse, serving students from different cultural, social, and economic backgrounds" (Keene, 2020, p. 4). Regardless of this nature, preservice teachers are underprepared or simply lack the confidence to utilize this framework inside the classroom, our findings show (Keene, 2020). As growing concerns about safety surround the nation's schools and classrooms, students need these SEL interventions that supply them with the tools to cope with the societal, personal, academic, and socioeconomic challenges that plague them (Sugishita & Dresser, 2019). Despite the proven benefits of SEL programs and the growing need for their implementation, Educator Preparation Programs (EPP) do not substantially include training on SEL fundamentals and how to utilize the framework in the classroom (Waajid et al., 2013). SEL can only be successful when educators target "multiple levels of the school social-ecological system" (Dyson et al., 2021). It must be at work, not just in the classroom; rather, it must be well-absorbed to follow the student in all aspects of life. EPP must provide preservice teachers with enough knowledge and practice to successfully implement SEL in the classroom; furthermore, schools and administration must continue their education with related professional development opportunities (Ferreira et al., 2021). Despite Texas preservice teachers being required to complete 150 clock hours of training to demonstrate "proficiency in ensuring high levels of learning, social-emotional development, and achievement" of students, preservice teachers seem to lack a complex understanding of the framework (Education Commission of the States, 2020). SEL is an extremely important framework that preservice teachers understand frighteningly little.

SEL, essentially, is a framework aiming to improve student achievement. Similarly, CRT hopes to improve student academic performance by utilizing classroom diversity as means of teaching.

By third grade, culturally diverse students are "one or more years behind in reading" (Rucker, 2019). CRT is an effective tool that allows diverse students to actively combat the achievement gap. CRT is "using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching" (Gay, 2002). Culturally Responsive Teaching is predicated on the idea that academic knowledge and skills are more personally relevant, have higher interest appeal, and are learned more quickly and completely when situated within students' lived experiences and frames of reference. Instruction that is ignorant of student background and behavior sparks student defiance, while more relevant instruction and representation provokes student engagement (Wlodkowski & Ginsberg, 1995). In the 2017-18 school year, 79% of U.S. public school teachers were non-Hispanic White, while public elementary and secondary schools remained majority-minority (Schaeffer, 2021). In a field where America's teachers are not representative of the racial and ethnic diversity inside the classroom, these teachers must hold explicit, complex knowledge of students' backgrounds and lived experiences. Being a culturally

responsive teacher is not an easy task; it requires educators to foster open, raw conversations that allow students to analyze and face the different forms of “power, privilege, and marginalization that mark the classroom” (Bissonnette, 2016). It asks educators to tackle their own biases and recognize a harsh reality- racism is a living entity that impacts our daily lives, subconsciously or explicitly, positively, or negatively. Further, the instruction fully depends on educators’ explicit knowledge about cultural diversity, an understanding that is “imperative to meeting the educational needs of ethnically diverse students” (Gay, 2002). CRT requires educators to have a “contextual understanding of how cultural heritages are developed and preserved” because, without such a deep level of understanding, misappropriations occur (Evans et al., 2020). Educators can too easily reframe students’ cultures that perpetuate stereotypes in a sour attempt to be more culturally responsive; as such, it is important for educators to not only have a clear understanding of diverse cultures but also of CRT practices that “authentically activates” diverse students’ experiences and perspectives (Evans et al., 2020).

Developing a more culturally relevant curriculum and pedagogy is one important way educators can allow CRT to inform their teaching. By providing more diverse, culturally responsive lessons, the academic performance of ethnically diverse students improves. Successful teachers of African American and Hispanic students were “proficient in infusing their students’ culture throughout the teaching and learning process” (Siwatu, 2011). Despite the importance of CRT to an increasingly diverse classroom, many teachers and preservice teachers remain confused while planning for “peer assistance, native language use, and family and community involvement in their lessons” (Rose, 2015). A lack of knowledge of the theory’s principles is also prevalent as many educators consider their subjects and cultural diversity “incompatible” (Gay, 2002). However, this belief does not consider the notion that CRT is not simply a rule for the classroom; rather, CRT is a “shift in mindset” that encourages a unique approach to planning and an overall, more representative classroom experience (Ferlazzo, 2021). The goal for teachers using CRT in the classroom is to become “warm demanders”- structured teacher who does not lower standards or expectations for diverse students and is, rather, willing and able to help (Ware, 2006). Upon understanding this, teachers can utilize CRT in all subjects; for example, a science class assessing lead contamination in Flint, Michigan may also analyze environmental racism (Ferlazzo, 2021).

The benefits of using CRT can extend outside the classroom, as students whose cultures and experiences are represented and validated are “more open” to accepting and befriending students of diverse cultures, thus creating a more positive school climate (Campbell, 2021). CRT, at its core, is a lens that views student diversity as a benefit, as opposed to an obstacle. The framework reverses the “traditional view” of assessing poor academic performance that highlights barriers to learning and instead focuses on students’ strengths, found in classroom diversity (Campbell, 2021). CRT is an important approach for teachers, yet undergraduate programs do not provide content to improve teacher candidates’ cultural responsiveness (Karatas & Oral, 2019). Educator

programs must prepare preservice teachers to enter increasingly diverse classrooms. Providing more diverse resources, encouraging teacher candidates to reflect on their background (racial identity, socioeconomic class, etc.), and helping preservice teachers distinguish between adequate teaching and culturally responsive teaching (Mburu, 2022). More explicitly, teacher educators can utilize facilitative texts to “scaffold” language and content regarding diversity-related subjects, combat myths and stereotypes about diverse families by using read-and-respond techniques and hold open, honest conversations, and connect diverse literature to real-world issues (Howard et al., 2018). The ultimate goal of education is not for students to be able to regurgitate information and recite facts but to learn how to become functioning members of society, interact with others, and make logical decisions. By creating a classroom where all members are listening to one another and sharing their opinions, ideas, and experiences, a “great deal” of critical thinking transpires (Lenski, 2005).

These topics are extremely important in discussions of educating the whole child, yet there seems to be a fundamental lack of knowledge regarding the subjects. This misunderstanding motivated us to ask the question of what preservice teachers knew about the subjects. Therefore, our research objectives for this study are: (1) To assess if preservice teachers have the skills, knowledge, perspectives, and awareness to support students’ social-emotional learning (SEL) and (2) To assess if preservice teachers are aware of culturally responsive learning (CRL)

## **Methods**

For our research project, we administered a pilot survey to a group of 14 preservice teachers during the Spring 2022 semester. The pilot survey consisted of 38 questions published by Panorama Education. Based on these results, we narrowed our selection to 10 questions to guide our research. Following the pilot survey responses, the study was conducted with a focus group of five preservice teachers. The preservice teachers participated in a pre-survey consisting of the chosen ten questions that best-measured knowledge of social-emotional and culturally responsive learning. Following the pre-survey, preservice teachers participated in a lesson, learning about social-emotional and culturally responsive learning. Within the lesson, participants watched a short video regarding the impact of social-emotional learning on student academic achievement and character development. After the lesson, participants were guided in a self-reflective activity.

Participants were given a canvas, paints, brushes, and a pencil. They were told to divide the canvas into equal halves; on the bottom half, participants wrote any negative emotions and experiences they recently had. After, they chose a color to bury/paint over those feelings. Then, participants painted a tree trunk and branches to symbolize all the positive aspects of their life- emotions, people, hopes, etc. Participants were given creative freedom, following the completion of instructions, to create a piece that resembled all positive aspects of life.

After participants completed their painting, they wrote a brief reflection on the day's lesson and activity. Additionally, they completed the post-survey, consisting of the same 10 questions, to measure whatever knowledge and understanding gained.

## Findings

The study findings are organized into two sections: 1. Pre-post-survey responses, 2. Activity and Reflections. Pre-post survey responses are depicted in table 1 and figures 1-10.

Overall, the findings show a positive shift in the data from the pre-survey responses to the post-survey responses. Preservice teachers grew more confident in their knowledge of SEL and CRT. Additionally, the preservice teachers found more value in the content and the proven benefits of each framework.

### Pre-post Survey Responses:

**Question 1:** How confident are you that you can engage students who typically are not motivated?

Preservice teachers felt 20% slightly confident in their ability to engage with unmotivated students, 60% somewhat confident, and 20% quite confident. Following the lesson and activity, 80% of preservice teachers said they were quite confident, and 20% said they were somewhat confident in their ability to engage with students who typically are not motivated. From pre-survey to post-survey, we see a positive shift in the data, with preservice teachers feeling more confident in their ability to engage with unmotivated students.

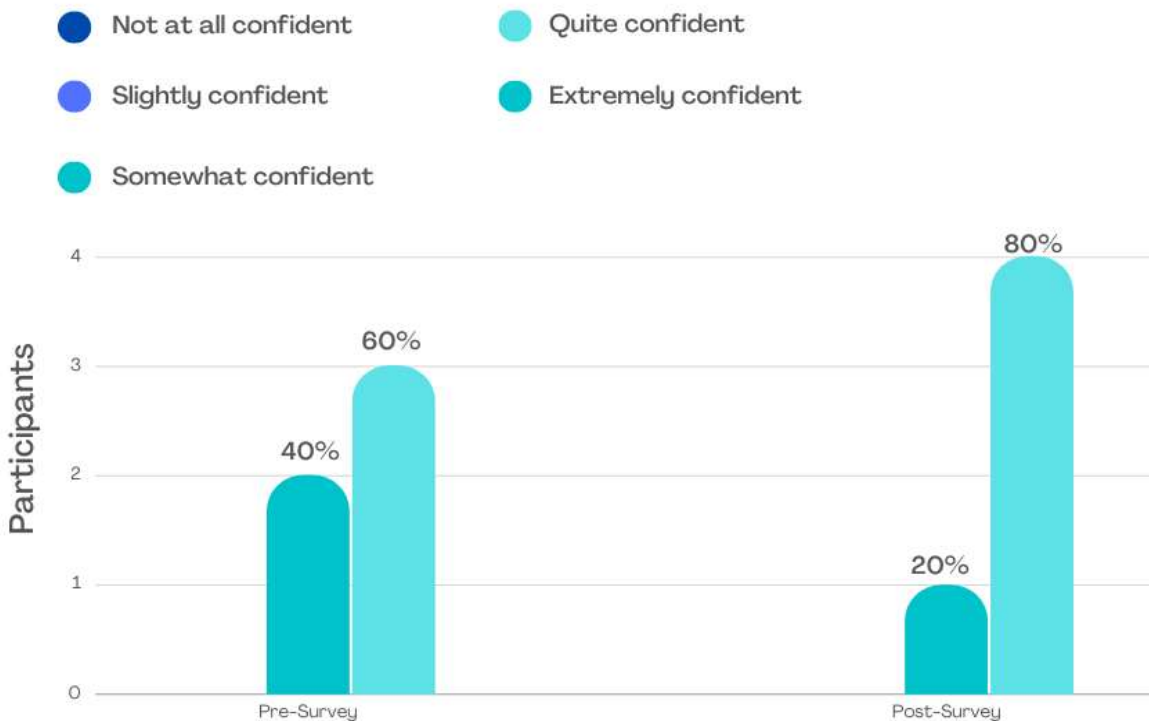


**Figure 1:** Showing the preservice teachers' response to the question: How confident are you that you can engage students who typically are not motivated,”



**Question 2:** How confident are you that you can support a student’s growth and development?

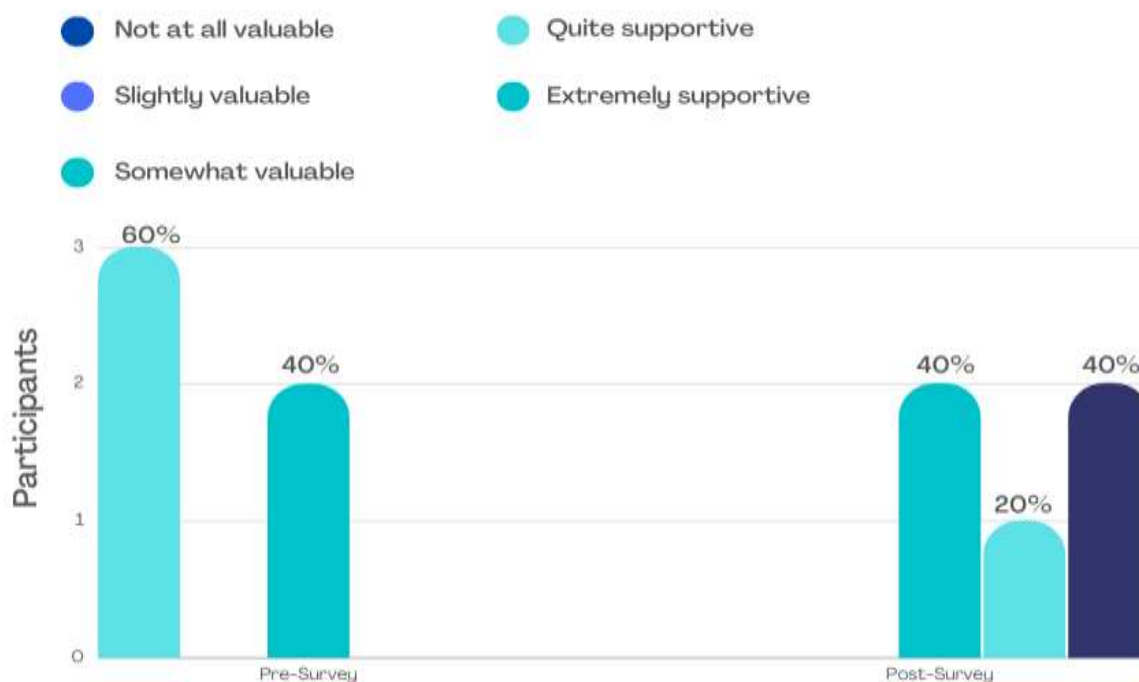
Preservice teachers felt 40% somewhat confident in their ability to support a student's growth and development and 60% quite confident. Afterward, 80% of preservice teachers said they were quite confident in their ability to support a student’s growth and development, and 20% said they were somewhat confident. There is a positive shift in the data from pre- to post-survey, with preservice teachers more confident supporting students’ growth and development.



**Figure 2:** Showing preservice teachers’ responses to the question: “How confident are you that you can support a student’s growth and development,”

**Question 3:** How valuable are social-emotional learning (SEL) professional development opportunities?

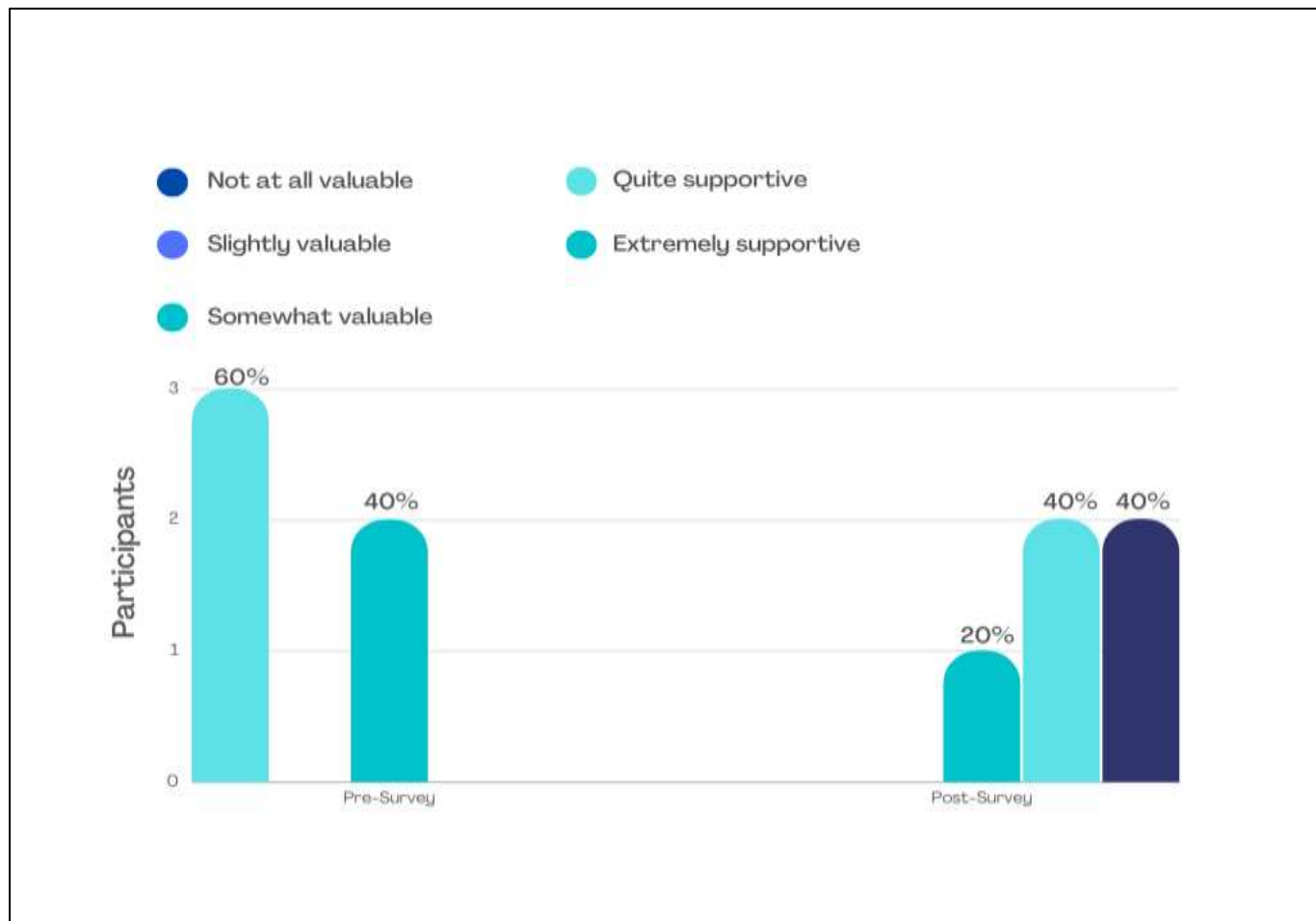
60% of preservice teachers said such opportunities were not at all valuable, while 40% said they were somewhat valuable. After one lesson, 40% of preservice teachers found SEL development opportunities somewhat valuable, 20% found opportunities quite supportive, and 40% found these opportunities extremely supportive. Overall, there is a positive shift in the data, as preservice teachers better understood the value of SEL development opportunities.



**Figure 3:** Showing preservice teachers' responses to the question: "How valuable are social-emotional learning (SEL) professional development opportunities,"

**Question 4:** Overall, how much do you learn about supporting your students’ overall social-emotional learning (SEL) from school?

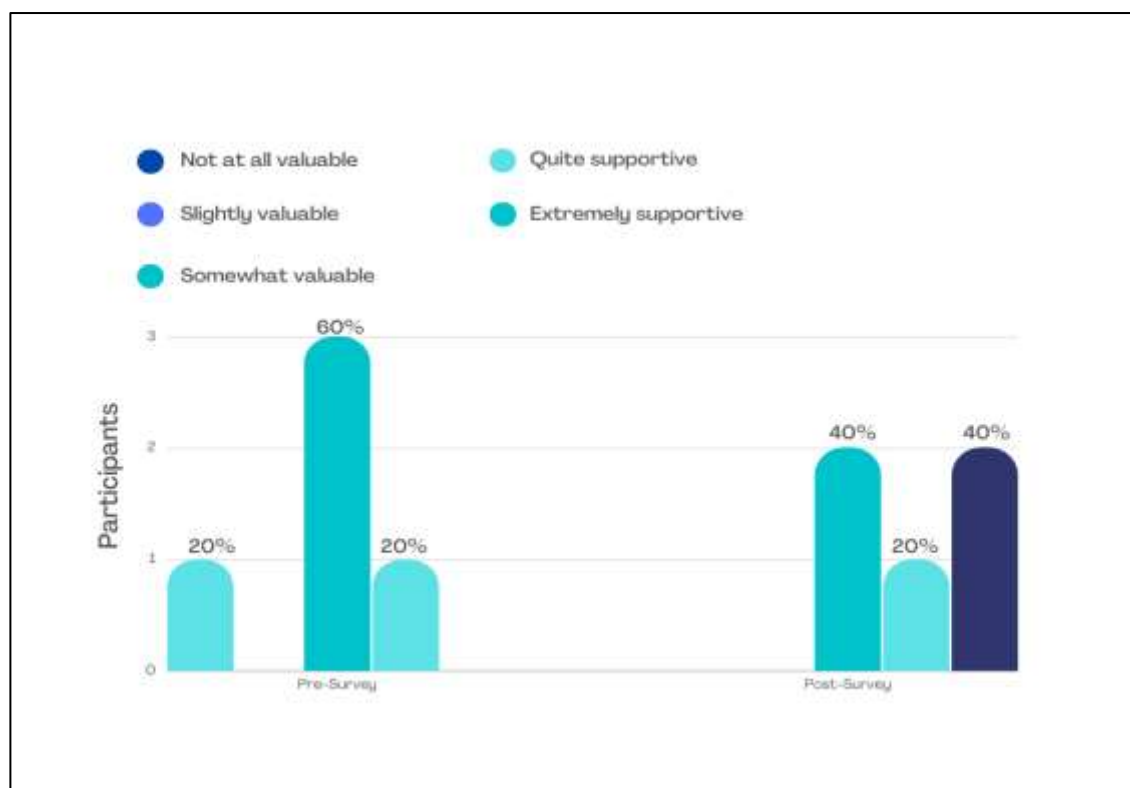
60% of preservice teachers said the content was not at all of the value and 40% said the content was somewhat valuable. In the post-survey, however, 20% of preservice teachers said such content was somewhat valuable, 40% said quite supportive, and 40% said extremely supportive. There is a positive shift in the data from pre- to post-survey, with preservice teachers better understanding and finding the value in SEL-focused content.



**Figure 4:** Showing preservice teachers’ responses to the question: “Overall, how much do you learn about supporting your students’ overall social-emotional learning (SEL) from school”

**Question 5:** How valuable are equity-focused professional development opportunities?

20% of preservice teachers found these opportunities not at all valuable, 60% found them somewhat valuable, and 20% found them quite supportive. Following the lesson, 40% of preservice teachers moved to say such opportunities are somewhat valuable, 20% found such opportunities quite supportive, and 40% said they were extremely supportive. There is a positive shift in the data that reflects preservice teachers' improved understanding of the value of CRT aspects.

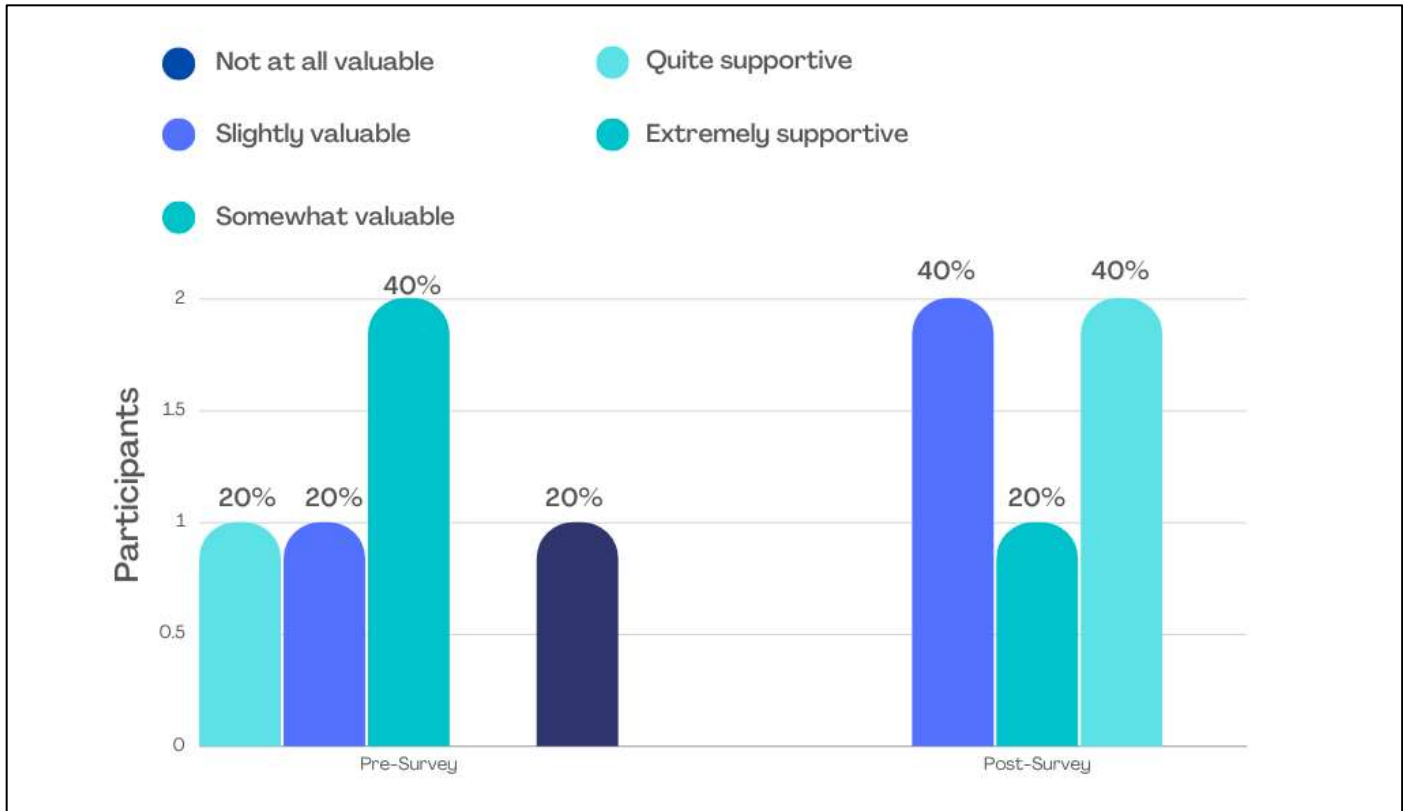


**Figure 5:** Showing preservice teachers' responses to the question: "How valuable are equity-focused professional development opportunities,"



**Question 6:** Overall, how effective is your school in helping advance student equity?

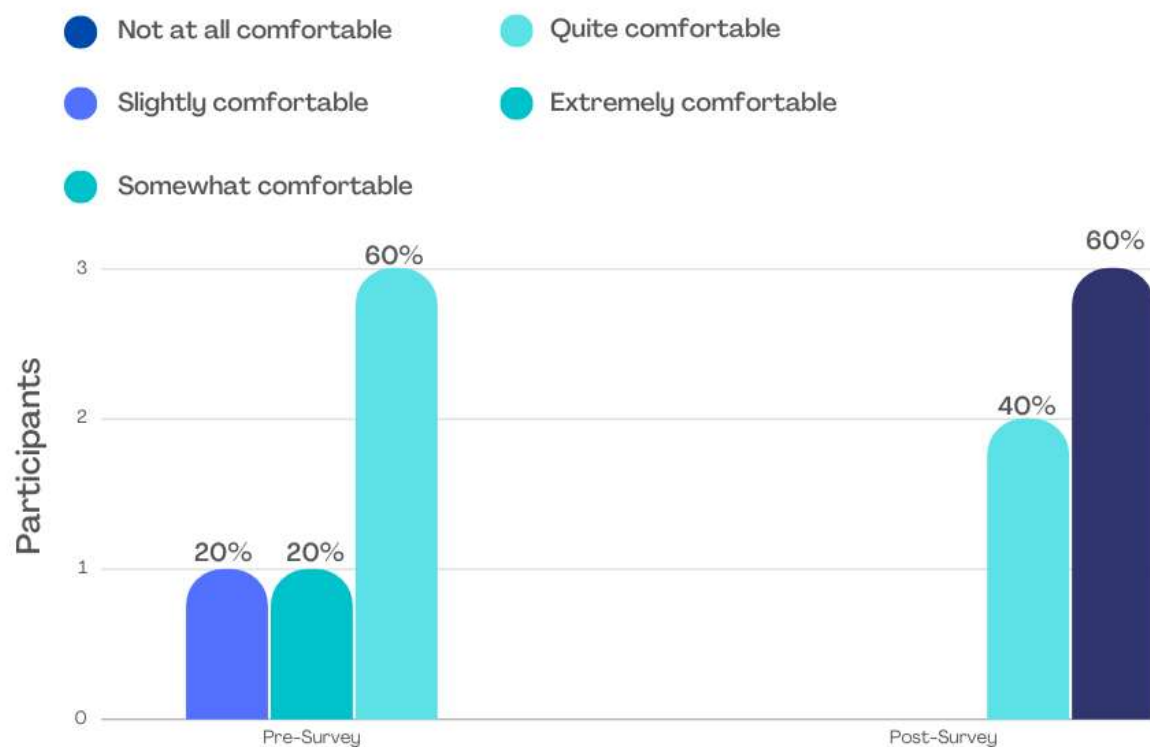
20% of preservice teachers admitted the help was not at all valuable, 20% said slightly valuable, 40% said somewhat valuable, and 20% found the help to be extremely supportive. In the post-survey, however, 40% found help slightly valuable, 20% answered somewhat valuable, and 40% answered quite supportive. Overall, there is a positive shift in the data, with preservice teachers finding greater value in the help to advance CRT practices and student equity.



**Figure 6:** Showing preservice teachers' responses to the question: Overall, how effective is your school in helping advance student equity?

**Question 7:** How comfortable would you incorporate new material about people from different backgrounds into your curriculum?

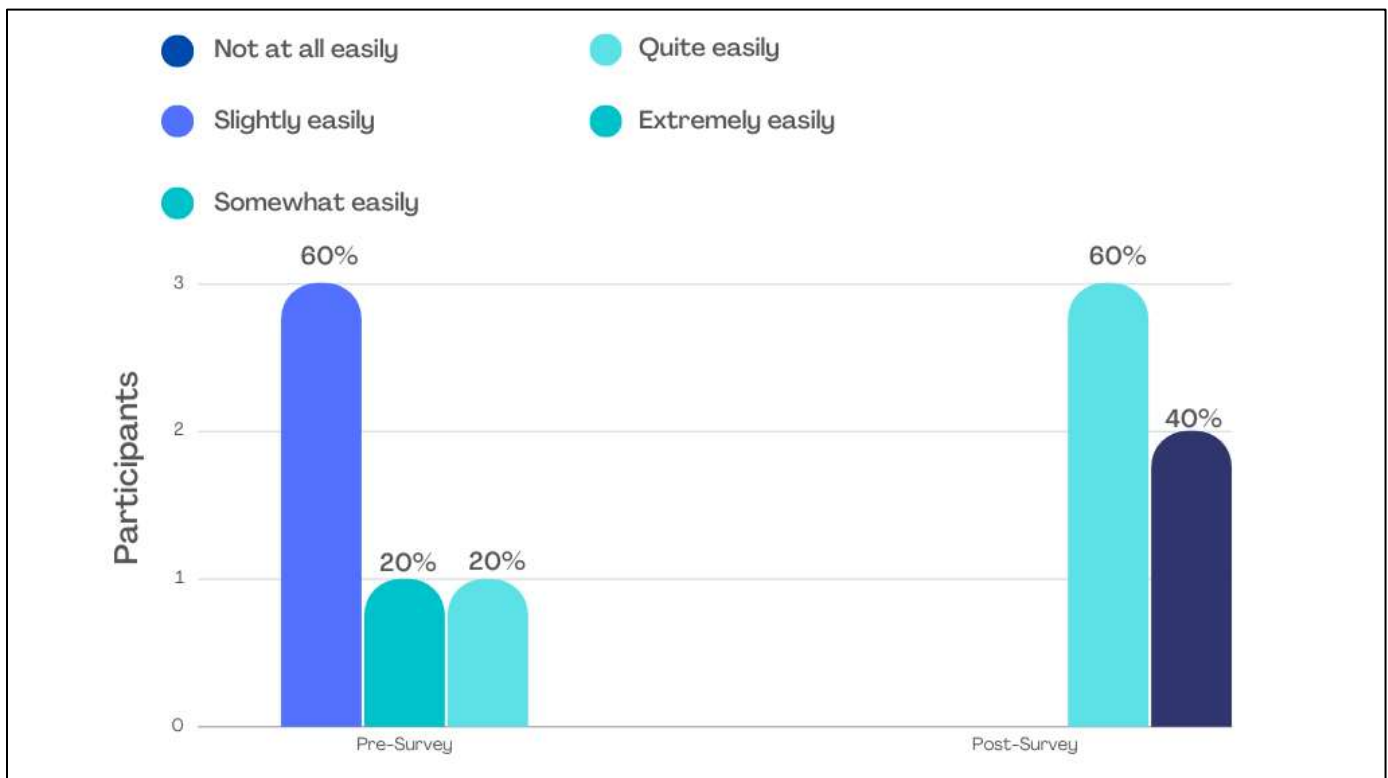
20% of preservice teachers said slightly comfortable, 20% said somewhat comfortable, and 60% stated they would be quite comfortable incorporating more reflective material. These figures moved post-survey as 40% grew quite comfortable with this ability, and 60% became extremely comfortable. There is a positive shift in the data, as preservice teachers are more comfortable with the CRT framework and using it in classroom instruction.



**Figure 7:** Showing preservice teachers' responses to the question: How comfortable would you be incorporating new material about people from different backgrounds into your curriculum?

**Question 8:** When a sensitive issue of diversity arises in class, how easily can you think of strategies to address the situation?

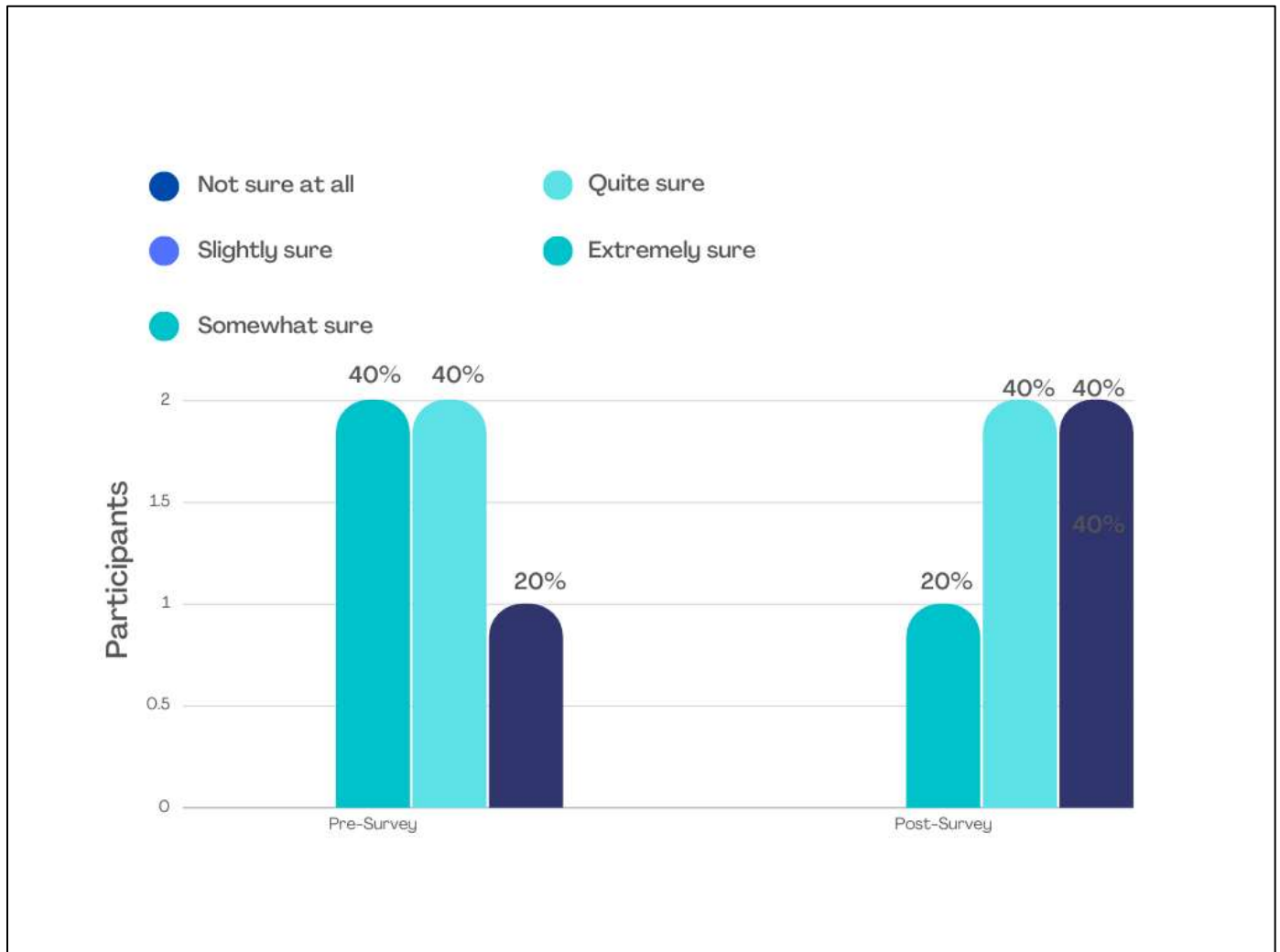
60% of preservice teachers answered slightly easily, 20% said somewhat easily, and 20% of preservice teachers said they could think of strategies quite easily. These figures also showed growth, as 60% answered quite easily, and 40% stated they could extremely easily address sensitive issues of diversity. There is a positive shift in the data, as preservice teachers learned about CRT and were better equipped to use the framework in classroom management.



**Figure 8:** Showing preservice teachers' responses to the question: When a sensitive issue of diversity arises in class, how easily can you think of strategies to address the situation.

**Question 9:** How sure are you that you can figure out a good way to get your schoolwork done well?

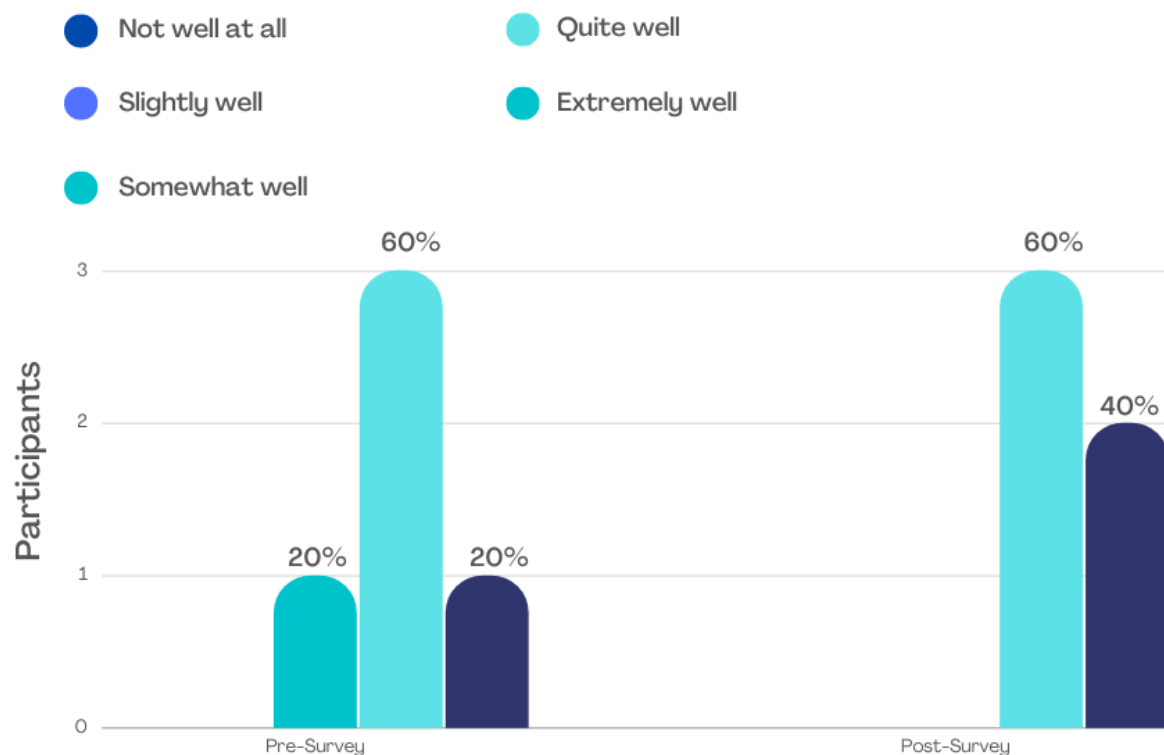
40% of preservice teachers said they were somewhat sure, 40% said they were quite sure, and 20% said they were extremely sure. In the post-survey, 20% of preservice teachers moved to somewhat sure, 40% answered quite sure, and 40% answered extremely sure. There is a positive shift in the data as preservice teachers grew more confident of themselves in academic contexts.



**Figure 9:** Showing preservice teachers' responses to the question: How sure are you that you can figure out a good way to get your schoolwork done.

**Question 10:** Overall, how well can you figure out how to learn things?

20% of preservice teachers answered somewhat well, 60% said quite well, and 20% said extremely well. Following the lesson, 60% of preservice teachers found they could figure out a new way to learn something quite well, while 40% answered extremely well. A positive shift in the data reflects preservice teachers' confidence in their understanding of new academic material.



**Figure 10:** Showing preservice teachers' responses to the question: Overall, how well can you figure out how to learn things.



### Activity and Reflections:

Following the pre-survey, the focus group participated in a lesson and activity to learn about social-emotional learning and culturally responsive teaching. After, participants were instructed to give a brief reflection.

Table1: Preservice teachers' reflection based on activity

Preservice Teacher	Reflections
Student A	She learned topics that, before, she was unfamiliar with. She admitted that the SEL activity helped her understand negative and positive emotions and the necessity to “learn to grow from your negative side into something positive.”
Student B	She learned that “a lot of people we are taught in school are white-based.” She admitted that the lesson and activity made her reflect on this notion. She learned that showing more diversity in classroom instruction helps students of all cultures and ethnicities.
Student C	She learned the importance of social-emotional learning and observing students' emotions. She stated that “teachers must be able to recognize and address problems.” She learned that for SEL to be effective, it must be implemented outside the academic environment. She also learned how SEL could positively impact academic performance.
Student D	She learned about the positive relationship between SEL and academic performance. She also reflected on how SEL can create more positive emotions and a more positive environment as students learn to emote in healthier ways.
Student E	She learned that “helping students with managing their negative emotions promotes less disruptive behavior in the classroom.” She also reflected on acknowledging and integrating these varying cultures into the lesson, as students can feel seen and represented. She reflected on the importance of community and the positive relationship between a safe and healthy community and students' well-being.

Overall, the preservice teachers showed an upward trend in understanding and confidence in Social-Emotional Learning and Culturally Responsive Teaching. Participants understood not only the foundations of these topics and what they are but also understood the importance of utilizing these frameworks in the classroom.

## Discussion

In our study, we aimed to assess preservice teachers' knowledge and understanding of SEL and CRT. Unlike data collection found in existing literature, we collected data from a focus group (based on responses from the pilot group/survey) that solely informed our findings. With a smaller group, we could better assess prior knowledge of both frameworks and content understanding and retention, another aspect we did not see in the existing literature. Like in the existing literature, we agree that both frameworks are increasingly important to student achievement. However, in our literature review and our study, we find that EPP seemingly does not address either topic with much, if any, depth. It is important that teacher candidates can enter the classroom equipped with the knowledge and skill to educate the whole child.

With that, we had two objectives for the study. Our primary objective was to assess if preservice teachers had the skills, knowledge, perspectives, and awareness to support students' SEL. EPP includes insufficient training and content for preservice teachers to completely understand and implement the SEL framework in the classroom (Waaqid et al., 2013). Due to this lack of SEL instruction, preservice teachers have little to no knowledge of the framework and struggle to find its initial value. Texas requires preservice teachers to complete 150 clock hours of training to demonstrate “proficiency in ensuring high levels of learning, social-emotional development, and achievement” of students. Yet, in our findings, our participants were not confident in their knowledge of or ability to do any of those aspects (Education Commission of the States, 2020).

Our second objective was to assess if preservice teachers were even aware of CRT. Generally, undergraduate programs do not provide content that will improve preservice teachers' cultural awareness or the ability to utilize CRT in the classroom beyond theory (Karatas & Oral, 2019). Preservice teachers are not “adequately prepared” to use CRT and follow its principles (Evans et al., 2020). Like SEL, preservice teachers are not comfortable with CRT; they are not comfortable diversifying their instruction, nor are they prepared to enter and communicate with the increasingly diverse classrooms the field of education is seeing.

In both these circumstances, preservice teachers are not to blame. Our findings highlight an eagerness to learn and implement these frameworks on behalf of the preservice teachers, an attitude undescribed in the existing literature. It is the responsibility of EPP to do more than simply teach these topics, though that requirement is not quite met. EPP must embody these principles so preservice teachers can witness their successful implementation in classroom settings. EPP has an important task to ready teacher candidates for the realities of the classroom. In doing so, must evolve curriculum and instruction in a way that prepares teacher candidates and allows students to succeed further.

## Implications

SEL is necessary for teaching. It gives students the tools to properly identify, manage, and cope with emotions; in turn, these students can better focus on academic instruction. Once teachers can understand students' well-being and students can understand their well-being, academic performance improves. Similarly, with CRT, when students feel seen and represented in their lessons, they pay more attention and perform better on academic measures. This study highlights an unfortunate fact- Preservice Teachers are unaware of these beneficial frameworks, and educator-prep courses are not updated with the theories necessary for the modern classroom.

## Recommendations/Future Studies

In future studies, we hope to examine in-service teachers' ability to understand and implement these frameworks. We would also look at how these frameworks would work at an administrative level.

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**Ally Tywater**

Major in Exercise Science

Mentor: Dr. Shannon Jordan

Department of Health & Kinesiology



## **Rodeo Athletes: A Survey of Injuries and Accessibility to Strength & Conditioning Specialists and Athletic Trainers**

The literature on injury prevention and injuries sustained by rodeo athletes is lacking. Depending on what level rodeo athletes are competing at, whether that be collegiate or amateur, they may not have access to strength & conditioning coaches and athletic trainers. In addition, many collegiate rodeo teams are considered club teams, do not have access to their university strength & conditioning staff or athletic trainers, and are on their own for treatment of injuries sustained while competing. Professional rodeo athletes have access to the Justin Boots Sports Medicine Team at professional rodeos events but may not utilize strength & conditioning coaches in training or rehabilitation. Both athletic trainers and strength & conditioning coaches play a vital role in keeping athletes healthy, preventing injuries, and helping them recover when injuries do occur. This project is designed to survey rodeo athletes, athletic trainers, and strength & conditioning coaches in order to add to the body of literature regarding how these athlete train, what preventative measures they practice, and if the athletes have access to these specialists.

My mentor Dr. Shannon Jordan and I formulated a set of survey questions for each group: rodeo athletes, athletic trainers, and strength & conditioning specialists. After we created the list of questions for each category, we reached out to experts in the three areas for help. These experts then reviewed the questions and gave their feedback on changes such as wording and readability. Some of the experts even sent ideas for further questions within the categories. After creating the final set of questions, we then created our survey using Qualtrics to then be sent out to individuals within the three categories.



## Introduction

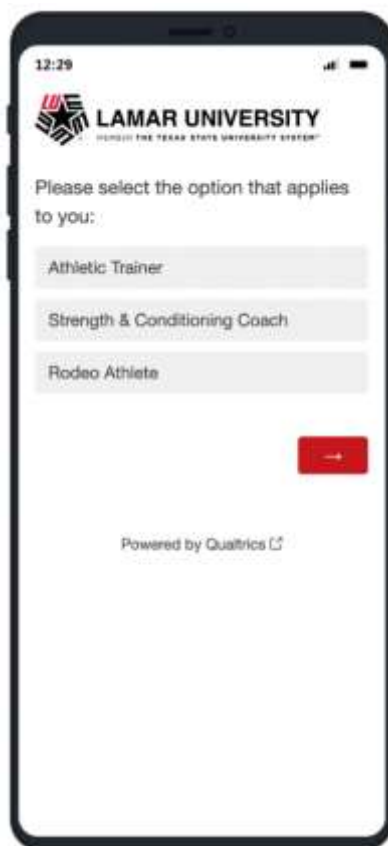
Traditional rodeo events are usually comprised of rough stock riding, steer wrestling/roping, and barrel racing (1). These events are learned at a young age, usually in 4H or FFA, and continue into high school, collegiate, semi-pro, and professional level competitions. Rough stock riding is considered to be bull riding or bronco riding (1). In steer wrestling, a competitor rides a horse while tracking down a steer, swiftly dismounts the horse, flips the steer over, and gets the steer flat on its back (1,2). The current world record for such a feat is 2.4 seconds. According to the Professional Rodeo Cowboys Association (PRCA), both the horse and steer are traveling close to 30 miles per hour when the cowboy is supposed to jump off the horse and wrestle the steer (2). Rodeo events carry a high risk of injury from contact and also from the jolting and twisting from riding the animal (1). Furthermore, there are few studies to date regarding movement analysis of these rodeo sports, which would help allied health professionals such as strength & conditioning coaches and athletic trainers improve prevention and treatment of injuries in rodeo athletes.

## Methods

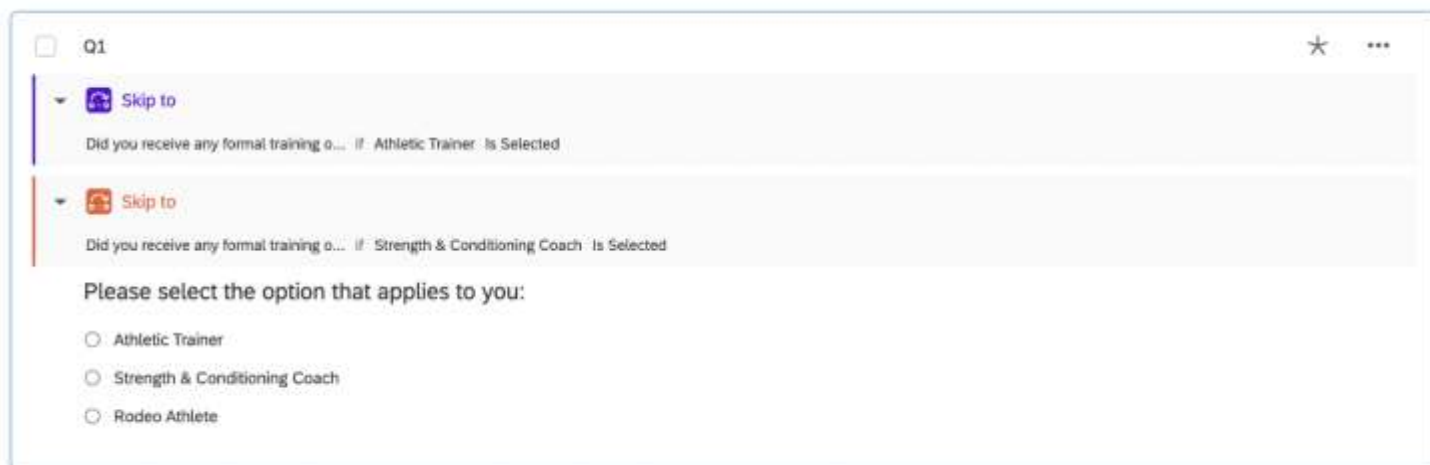
This survey collected anonymous data and was sent out via Qualtrics. As it did not require identifying information, it qualified for exempt status with the IRB. Basic information such as age, sex/gender, college/professional competitor, years of rodeo experience, rodeo event(s) was collected, however, no specific identifying information was collected. My mentor Dr. Shannon Jordan and I formulated a set of survey questions for each group: rodeo athletes, athletic trainers, and strength & conditioning specialists. We created the list of questions and reached out to experts in the area for help. These experts then reviewed the questions and gave their feedback on changes such as wording and readability. Some of the experts even sent ideas for further questions within the categories. Once the final set of questions was gathered, we then created our survey using Qualtrics that was sent out to individuals within the three categories. In addition to the below questions, specific questions were formulated and validated by experts.

The question sets have been programmed into Qualtrics. During this process, I learned how to use Skip Logic to program the survey to direct a participant to a certain question based on the answer to a previous question. The original plan was to send the survey out early summer 2022, however, many of the strength & conditioning coaches and athletic trainers are collegiate and not available during the summer. In addition, the collegiate competitors are also hard to contact during the summer. The survey can be taken using a computer, tablet, or mobile device.

Figure 1 is a depiction of what the survey looks like on a mobile device. Once the participant selects the category that applies to them, Skip Logic will direct them to the next question for their category (Figure 2). Once the survey data was collected, we analyzed the data and presented the findings.



*Figure 1. Mobile Device Opening Question*



*Figure 2. Example of Skip Logic for the Opening Question*

Tables 1, 2, and 3 provide questions for rodeo athletes.

**Table 1. Rodeo Athletes: Questions For Injury Prevention and Injuries Sustained**

Question	Response
1 Do you have access to athletic trainers during practice?	Yes or No
2 Do you have access to athletic trainers during competition?	Yes or No
3 Do you wear protective gear during practice? *	Yes or No
4 Please list what protective gear you wear in practice	Open Ended
5 Do you wear protective gear during competition? *	Yes or No
6 Please list what protective gear you wear in competition	Open Ended
7 If you do not wear the same protective gear in practice and competition, why?	Open Ended
8 Have you sustained muscular injuries such as sprains in practice or competition?	Yes or No
9 If yes, what location on your body?	Open Ended
10 Have you sustained fractures in practice or competition?	Yes or No
11 If yes, what location on your body?	Open Ended
12 Have you sustained a pneumothorax (collapsed lung) in practice or competition?	Yes or No
13 If yes, were you wearing a protective vest that particular day?	Yes or No
14 Have you ever had a neck injury?	Yes or No

**Table 2. General Questions For Rodeo Athletes**

Question	Response
1 Do you perform any strengthening exercises?	Yes or No
2 Do you perform exercises specifically to work out your core muscles (back & abdominal)?	Yes or No
3 Do you have access to certified strength & conditioning professionals?	Yes or No
4 Do you perform exercise to improve your balance?	Yes or No
5 Have you ever had a movement analysis performed on your rodeo event?	Yes or No
6 Have you ever had your handgrip strength tested?	Yes or No
7 Please provide an example of an exercise you consider to strengthen your shoulder	Open ended
8 Please provide an example of an exercise you consider to strengthen your abdominal (core) muscles	Open ended
9 Please provide grip strength	Open ended
10 What do you do to stay lean?	Open ended
11 How many days/week do you perform exercise training outside of your rodeo event specific training?	Open ended
12 Would you trust a professional Strength & Conditioning Specialist for help training or would you rather train on your own?	Open ended

**Table 3. Rodeo Athletes: Questions For Exercise Training**

Question	Response
1 Male or Female	Male or Female
2 How many years of experience do you have in rodeo sports?	Open ended
3 What rodeo events do you compete in?	Open ended
4 What level of competition do you compete?	Amateur, Collegiate, Professional
5 When you were injured at an event, did you have access to an athletic trainer or medical staff?	Yes or No
6 Have you used the term "Play myself into shape" rather than perform exercise training (ex: weight/cardio/cross training etc.) outside of your event?	Yes or No
7 How do you travel to and from rodeos?	Open ended
8 When traveling do you maintain a healthy diet?	Yes or No
9 How often during travel between rodeos do you stand up and walk around to allow adequate blood flow to your body?	Open ended
10 Do you feel the altitude and time change between event locations affects your performance?	Yes or No

## Results

As the responses to the survey started coming in, we started putting each response into an excel spreadsheet separated by question to be able to analyze and review it easier. From here we were able to analyze the results of the survey thus far. Twenty rodeo athletes responded to our survey from professionals, to collegiate and amateur athletes. Out of the twenty athletes there were ten females and ten males. Two of these athletes had been competing for 1-2 years, three for 3-4 years and fifteen for 5 or more years (figure 3).

The seven rodeo events we surveyed were, bull riding, steer wrestling, saddle bronc, bare back, tie-down roping, team roping and barrel racing (figure 4). Seven of the athletes compete at the professional level, ten at the collegiate level and three at the amateur level. The main mode of transportation for these athletes was driving themselves between rodeo events as 19 of the athletes used this mode. When asked how they maintain a healthy

diet while traveling, ten of the athletes stated it was easier to just stop and grab fast food while one of the athletes needed more information on packing healthier foods for the road. Some of the commonalities between the athletes diet on the road were, staying hydrated, healthier snacks such as: fruits, veggies, rice cakes, yogurt and nuts, packing ready-to-eat meals and trying to choose healthier options when eating fast food. We asked the athletes how often they get up to stretch their legs and move during long trips between events and nineteen out of the twenty said the only time they do this is when they are stopping for an alternative reason such as refueling their vehicle.

When looking into the exercise aspect of keeping these athletes healthy and prepared for their events we asked if they had ever used the term “Play yourself into shape” or in their case “Rodeo yourself into shape.” The term means only participating in your event to keep yourself in shape, no outside exercise regimen or work. Eight of the athletes stated that they have used this term in their rodeo careers before. With rodeo being such a dangerous sport this was a scary fact to read as someone majoring in exercise science. The questions then became more exercise focused as we asked how they stay lean, and examples of different exercises to strengthen shoulders, their core, and handgrip strength. The responses to these questions were concerning as it did not seem that a majority of their athletes were able to correctly identify specific exercises used to improve those areas. One athlete when asked how they stay lean their response was “Caffeine and nicotine” while another said “[having a] high metabolism.” Some athletes did suggest helpful things such as eating healthier, running/jogging, lifting weights, swimming, and yoga for staying lean. For strengthening the shoulders muscles a majority listed overhead presses, pull-ups, push-ups, and lateral raises. When focusing on building their core muscles some good examples given were, crunches, sit-ups, planks and Russian twists. Exercises such as pull-ups, lifting weights and rock climbing were listed as helping them gain hand grip strength.

*Next, we focused on muscular injuries, skeletal fractures, neck injury and pneumothorax.*

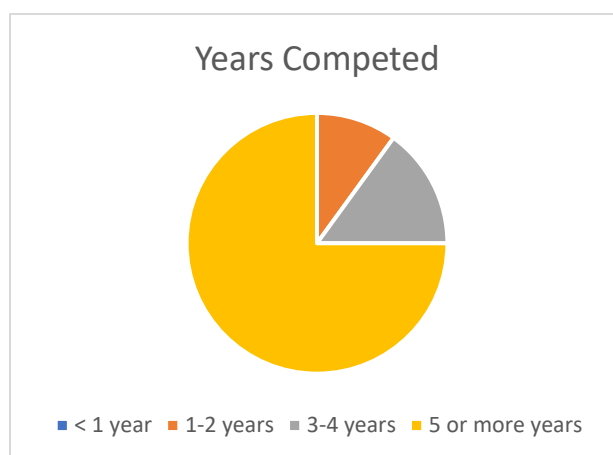
Twelve athletes stated they had never sustained a muscular injury while seven said they had. The most common of these muscular injuries were, the ankles, back, hand/wrist, and the foot/ankle. As well as the muscular injuries the skeletal fracture injuries had the same statistics with twelve athletes never having one and seven having one. Of those skeletal fractures the most common were, the hands, arms and legs.

These athletes were then asked questions regarding protective gear worn during their practice and competition. In both practice and competition, thirteen of them did not chose to wear their gear while six chose to wear the protective gear. When asked why they decided to not wear protective gear some athletes stated it was just a personal preference, or not needed for their event, others stated it was annoying to wear all of their gear just for practice. One barrel racer stated she did not wear protective gear because “I’m not scared.” Many of these

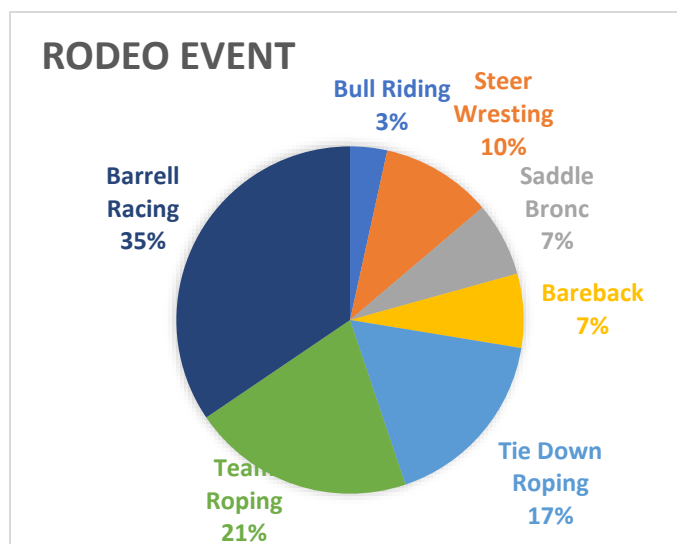
athletes stated that the question was not applicable which made us curious as to why they thought this and why they did not respond to the question further. Of the athletes that wore protective gear, four of them wore the same gear in practice as they did in competition.

Next, we moved on to the athletes' access to athletic trainers and strength & conditioning specialists during practice and competition. Among the athletes with access to strength and conditioning specialists three of those were amateur, six were collegiate, while four were professional. There were two professional, four collegiate and zero amateur athletes with no access to a strength and conditioning specialists. Among the athletes with access to athletic trainers during practice, there were only two amateur, one collegiate and one professional. In competition, there was only one amateur, three collegiate and five professional athletes with access to an athletic trainer.

*Figure 3. Years an Athlete Competed in Rodeo*



*Figure 4. Rodeo Events Surveyed*





**Table 4. Strengthening Exercises Statistics**

	Yes	No
Do you feel the altitude and time change between event locations affects your performance?	3	16
Do you perform any strengthening exercises?	15	4
Do you perform exercises specifically to work out your core muscles (back & abdominal)?	13	6

**Table 5. Injury Statistics**

	Yes	No
Have you sustained muscular injuries such as sprains in practice or competition?	7	12
Have you sustained fractures in practice or competition?	7	12
Have you sustained a collapsed lung (pneumothorax) in practice or competition?	0	19
Have you ever had a neck injury?	4	15

**Table 6. Athletic Trainer and Strength & Conditioning Specialist Statistics**

	Yes	No
Have you ever had a movement analysis performed on your rodeo event?	2	17
Have you ever had your handgrip strength tested?	3	16
Would you trust a professional Strength & Conditioning Specialist for help training or would you rather train on your own?	19	0
Do you have access to certified strength & conditioning professionals?	13	6
Do you have access to athletic trainers during practice?	4	15
When you were injured at an event, did you have access to an athletic trainer or medical staff?	8	6

## Discussion

Throughout this project, we ran into the issue of people not responding to emails. After sending many emails to not only rodeo athletes but to athletic trainers and strength & conditioning specialists, we received very few responses to our survey. Because of the lack of responses, we focused solely on the rodeo athletes portion as we have the most information available. With very few athletic trainer and strength & conditioning specialists responses, we are still working on collecting data for those groups as more data is received through the survey. Above you can see the results based on the rodeo athlete questions in tables 1, 2, and 3. Tables 4, 5, and 6 show three of the areas we focused on such as access to specialists, injuries and exercise statistics straight from the Qualtrics survey we distributed. Tables 3 and 4 gave us background information regarding the event and how long the athletes have competed in their events. Through these results, we were able to see what these athletes are doing not only diet wise but exercise wise to stay in tip-top shape. These results also shared with us the lack of knowledge among athletes in being able to correctly identify why they might be doing certain exercises. We were able to see the correlation to protective equipment, when its worn and some injuries the athletes have sustained. It was quite interesting to see how many athletes depending on the level they compete and their access to athletic trainers and strength & conditioning specialists not only during practice but competition as well. Through this survey, I feel the responses we have received thus far have given important insight to possible changes to be made within the rodeo world such as information on how to properly fuel your body when traveling, teaching athletes what exercises do what to their bodies so they will know what results to expect and that there needs to be more access to care from athletic trainers and strength & conditioning specialists.

## References

1. Meyers, M. C., & Laurent Jr, C. M. (2010). The rodeo athlete: sport science: part I. Sports medicine, 40(5), 417-432.
2. <https://www.prorodeo.com/prorodeo/rodeo/rodeo101/steer-wrestling>

## Poster Session

Poster to be set up Friday 11/18 after 12:00 p.m. or Saturday 11/19 before 8:00 a.m.  
Poster session: 8:10 a.m. – 8:40 a.m. (co-Chairs: Dr. Bianca Easterly and Dr. Mamta Singh)

*Undergraduate / In-progress / Poster*

**Presenter: Zainab Almohsin**

**Major: Deaf Education**

**Mentor: Dr. Millicent Musyoka**

**Department of Deaf Studies and Deaf Education**

**College of Fine Arts and Communications**

**Research in Deaf Studies**



### Understanding Deaf Saudi Mothers Experiences: A Three-Dimensional Narrative Inquiry Structure

Motherhood is a unique experience that is critical in the family, particularly in a healthy child's development. Previous research identifies many similarities between hearing mothers raising hearing children and Deaf children. Contrarily, the experiences of Deaf mothers raising hearing and Deaf children is an unexplored area of inquiry in most countries, including Saudi Arabia. The current study involved a group of three Saudi Deaf mothers raising Deaf and hearing children in Saudi Arabia. It aimed at documenting and interpreting the narratives shared by three Saudi Deaf mothers on their experience raising their children. Data collected through narrative interviews within a narrative inquiry approach to research allowed a contextualized and integrated understanding of the Deaf mothers' beliefs, knowledge, practices, and experiences. The data analysis adopted the narrative structure of Connelly and Clandinin's (2006) three-dimensional space (sociality, temporality, and place). The three-dimensional narrative inquiry structure acknowledges the mothers' experiences as socially constructed, connected to their past, present, and future, and context-related to a specific place, Saudi Arabia. Using the Deafcrit theory, intersectionality framework, and feminist theory lens, with the three-dimensional narrative inquiry structure, allowed the researcher to identify and interpret the mothers' beliefs, knowledge, practices, and experiences from a holistic and critical perspective. Today's presentation will include preliminary findings and possible implications of this ongoing research to policy and support of mothers with disabilities, including Deaf mothers in Saudi Arabia.

## **Breakout Sessions from 1 p.m. to 3 p.m.**

### **Landes Auditorium**

*In alphabetical order and student academic ranking*

*Undergraduate / In progress / Talk*

**Presenter: Jacob Bennett**

**Major: Communications**

**Mentor: Dr. Margot Gage Witvliet**

**Department of Sociology**

**College of Arts and Sciences**

**Research in Climate Change**

### **Attitudes and Perceptions of Climate Change in Southeast Texas**

**Background:** Prior research highlights that increased flooding and harsher storms experienced in Southeast, Texas are in part occurring more frequently because of climate change. The objectives of this study are to: i) gain an understanding of the attitudes that Southeast Texans have in regard to climate change, and ii) explore how Southeast Texans differ from other studies done on larger population groups.

**Methods:** Data were obtained from an online survey implemented in Fall 2022. Participants were recruited via small-scale snowball sampling. Participants (n = 12) were all 18+ years of age and split between male and female. Data was compared to previous research completed on the same topic, but in larger population groups.

**Findings:** Preliminary findings suggest that Southeast Texans mostly agree that climate change is real and that the response to this problem by the state and federal government has not been sufficient. Almost all reported noticing changes in the climate. However, most (75%) were not concerned that global warming would affect them in their lifetimes and were not as receptive to changing their behavior to combat climate change.

**Conclusion:** Most Southeast Texans are aware of global warming and climate change but are not aware of the effects it has already had on the Southeast Texas area. Compared to other datasets, Southeast Texans were more likely to disapprove of government response to climate change. More research with a higher number of participants and a more robust dataset is needed to gather more conclusive data.

**Presenter: Jasmine Boone****Major: Corporate Communication****Mentor: Mr. Andre Favors****Department of Communication and Media****College of Fine Arts and Communication****Research in Symbolism in Commercials**

## **An Analysis of Pepsi’s “Live for Now” Commercial via Burkeian Dramatistic Lens**

PepsiCo’s 2017 short film commercial entitled “Live for Now” featuring Kendall Jenner was the subject of much scrutiny and backlash. Kenneth Burke’s dramatistic pentad provides a lens in which to dissect the commercial gradationally. The pentad aids in identifying the choices in symbolism used in the commercial, and why those choices were perceived as controversial by the general public, various talk shows, and online media. The artifacts of the dramatistic pentad – the Act, the Scene, the Agent, the Agency, and the Purpose – can be measured against one another to identify what element of the pentad had more influence over the outcome of the commercial. Using Burke’s dramatistic ratio shows how the artifacts worked together and even against each other to produce a commercial that was ultimately removed from PepsiCo’s “Live for Now” campaign. The commercial’s use of symbolism provides ample opportunity to discuss the choices made within the ad and why they did not equate to a message that appealed to their audiences.

**Presenter: Louis D. Bryant IV****Co-author: Dr. Stuart A. Wright<sup>1=</sup>****Major: Mechanical Engineering and Mathematics****Mentor: Dr. Margot Gage Witvliet<sup>1</sup>****<sup>1</sup>Department of Sociology, Social Work, and Criminal Justice****College of Arts and Sciences****Research in Environmental Health**

## **Examining Trends (2018-2022) in TCEQ Air Emission Event Data That Occurs Near Charlton-Pollard Elementary School**

**Background:** Little information is available regarding the respiratory and systemic response of young children living near petrochemical refineries in Beaumont, Texas. Research shows an increase in poor health prevalence among people living near refineries, as well as an increase in children's asthma prevalence, as compared to those not living near industry. This study examines trends in TCEQ air emission data near the Charlton-Pollard Elementary School in Beaumont, Texas, located 0.9 miles from an ExxonMobil refinery, and the asthma prevalence of children living in the region.

**Methods:** Data on air emission events published by the Texas Commission on Environmental Quality (TCEQ) were examined between the years 2018 and 2022. Parameters for data included, but were not limited to, where the incident was reported, compounds released and quantities, and the event duration. Academic calendars for the Beaumont Independent School District were also assessed to determine if any emission events occurred on school days.

**Results:** During the five years examined for this study, seventy-four (74) air emissions events occurred near Charlton-Pollard Elementary School, producing a total of 4,466,120 pounds of hazardous air pollution. Air pollutants emitted during these events included hydrogen sulfide (H<sub>2</sub>S), ozone, sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitric oxide (NO), oxides of nitrogen (NO<sub>x</sub>), benzene, and unspeciated volatile organic compounds (VOCs), among other contaminants. On average, each event lasted 27.7 hours, with the quantity of air pollution produced per incident being 60,352.97 pounds. Forty-seven (47) out of the seventy-four (74) events, totaling 63.5% of reported incidents, occurred on school days.

**Conclusions:** To better protect children from the harmful effects of air pollution on their health and development, this study suggests the proximity of schools near refineries or industrial facilities that store or use hazardous chemicals must be better regulated.

**Keywords:** air pollution, asthma, Charlton-Pollard, air quality, Beaumont, TCEQ, industry



**Presenter: Alexia Falcon****Major: Criminal Justice****Mentor: Dr. Margot Gage Witvliet****Department of Sociology****College of Arts and Sciences****Research in Crime**

## **Murder Trend Analysis of Beaumont Texas**

**Background:** Crime is one of the most important social problems in the country, affecting public safety, children development, and adult socioeconomic status. Beaumont, Texas has the highest per capita murders in the United States, being ahead of Kokomo, IN, and Lawton, OK.

**Methods:** Data were investigated from 2016 to 2020. A mixed methods approach was utilized. Statistics on violent and murder crimes, 24/7 Wall Street, as well as interviews with Beaumont Police Department were examined.

**Results:** According to population-adjusted estimates, the instances of rape, robbery, violent assault, and homicide are expected to grow by 5% annually in the United States in 2020. The leading causes of the surge, which made 2020 the deadliest year in the United States since the mid-1990s, were an increase in aggravated assaults and, most notably, a historic 29% increase in homicides. As well, listed on City-Data Beaumont was shown at 588.3 while United States average was at 205.8. Lastly, on a scale from one to ten Beaumont has ranked to be at a seven. Showing we are higher in murder rate as of 2020 than the national rate.

**Conclusion:** Budgeting and educating the public about local laws and crimes are just two of the many uses for crime rate analyses. Beaumont's murder rates have increased quickly while violent crime rates have been steadily down.

**Presenter: Liliana Flores****Major: Criminal Justice****Mentor: Dr. Margot Gage Witvliet****Department of Sociology****College of Arts and Sciences****Research in Mental Health**

## **The Overlook of Mental Health**

**Background:** It is estimated that 34% of inmate population in Texas have mental health issues. Once incarcerated, individuals with poor mental health tend to be incarcerated longer, and they are at higher risk at returning into the system as to compared to those with better mental health.

**Methods:** Male and female law enforcements, correctional officers, and former and current inmates, in Jefferson County, aged 21 to 50 were interviewed Fall 2022. A self-reported survey was also conducted. Questions ranged from age to years of professional experience.

**Results:** After comparing law enforcement and correctional officers, it seems that both professionals agree that mental health is overlooked in the criminal justice field. It was identified that after experiencing a traumatic event while on duty, law enforcement officers tend to decline mental health services to assist them with recovery. For inmates, 80% were not offered any mental health services to assist them while incarcerated

**Conclusion:** It seems that law enforcement professionals and correctional professionals tend to suppress their emotions after experiencing a traumatic experience during their duty period, declining services to assist them. For inmate and former incarcerated individuals, the correctional system does not rehabilitate inmates, and mental health services are not provided.

**Presenter: Evan Gauthia****Major: Communications****Mentor: Mr. Andre Favors****Department of Communication****College of Fine Arts and Communications****Research in Rhetorical Criticism in Documentary**

## **Rhetorical Criticism of Tinder Swindler Documentary**

This article will focus on underlying ideas from the hit *Tinder Swindler* (Netflix) documentary. The paper focuses on the following research question, "What are some emerging themes and motives demonstrated in different episodes of *Tinder Swindler*?" to conduct a rhetorical criticism of the show. Like most reality and true-crime series, *The Tinder Swindler* portrays a blend of romance scams, revenge, human vulnerability, guilt and betrayal. This paper draws the connections between these ideas presented in different episodes, discussing how the practice of scamming is still going strong in this rapidly evolving digital era and revealing ways in which viewers can become familiar with and recognize certain motives that con artists might have to avoid falling prey to these unfortunate situations.

The *Tinder Scammer* serves as a timely reminder that there is more going on in online dating than first meets the eye. It told the unbelievable story of Simon Leviev, a con artist who pretended to be a millionaire and heir to a diamond dynasty on the dating app *Tinder* (Psychology Today, 2022). Simon scammed several ladies out of over a million dollars so he could maintain his lavish lifestyle. powerful and intimate as real ones (Christensen, 2022). Scammers might develop presentations of themselves that fit their targets' ideas to promote trust and intimacy. While the actual outcome was disappointing, hopefully, this documentary will spread awareness and prevent similar frauds in the future. Con artists are often idealized in popular culture; despite the havoc they can cause.

**Presenter: Ronnie Knighten****Major: Sociology****Mentor: Dr. Margot Gage Witvliet****Department of Sociology****College of Arts and Sciences****Research in Environmental Studies**

## **The Growing Threat of Feral Hogs in Southeast Texas**

### **Abstract**

**Background:** Feral Hogs are a growing issue that is getting worse in Southeast, Texas and across the nation due to the destruction of the environment and property. This investigation will describe and explain the amount of damage caused by these animals.

**Methods:** Secondary data were extracted from Tamu.edu and other sources that contained information on the demographics, potential dangers, and cost of damages that are caused by the feral hogs.

**Results:** Preliminary findings seem to suggest that feral hog populations are increasing rapidly and have not been culled by loosening the restrictions on hunting these animals.

**Conclusion:** Hunting feral hogs will not solve the issue, and these animals can potentially become a significant problem across all states in the United States.

**Presenter: Sergio Mendez****Major: Biology****Mentor: Dr. Bianca Easterly****Department of Political Science****College of Arts and Sciences****Research in Food Insecurity**

## **The Inspiration to Fight Food Insecurity**

The coronavirus pandemic continues to have a lasting effect on food insecurity, which the U.S. Department of Agriculture defines as “having limited or uncertain availability of nutritionally adequate and safe foods” In 2022, Jefferson County ranked eleventh in the state of Texas with a food insecurity rate of 18.2%, which is 6.4% higher than the national average. As a result, the Coronavirus State and Local Fiscal Recovery Funds (CSLFRF), a part of the American Rescue Plan Act of 2021, allow cities to create programs designed to address the negative impacts of the pandemic. On September 12, 2022, Nederland’s City Council met to consider potential solutions to the food insecurity problem in their city as well as how to disburse the funds of the CSLFRF in the community. The purpose of this study is to evaluate three potential solutions implemented in other cities and to consider their feasibility in Nederland. Based on a case study examination of Addison, Texas, West Oakland, California, and Lockhart, Texas, I conclude Nederland requires a combination of the solutions made in Addison and Lockhart towards resolving food insecurity.



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- Research opportunities inside and outside Lamar,
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