

# **Improving Diversity, Equity, & Inclusivity via an Equity Gap Analysis**

Esperanza Zenon, PhD  
Professor of Physical Science  
River Parishes Community College

# Agenda

- ☐ RPCC ATE
- ☐ NAPE PIPE
- ☐ PIPE STEM- Equity Gap Analysis
- ☐ DEI at Your Institution



## **Advanced Industrial Instrumentation Control Technician Training**

RPCC will deconstruct and redesign the existing Industrial Instrumentation degree program by working closely with industry partners to develop an Introduction to IIoT course and an Industry 4.0 capstone course to enrich the new degree program

## ATE Proposal Outcome #3

Integrating core STEM modules to address the academic needs of a diverse, rural student population.

### Recruitment and Retention

- ❑ NAPE PIPE STEM- Equity Gap Analysis

## ATE Proposal Language

This project will address STEM integration for diverse populations, creating an inclusive and skilled technical workforce that “encourag[es] broader representation in STEM fields, [crossing] lines of gender, ethnicity, and socio-economic status [which] has been shown to improve decision-making, solve problems more efficiently, and build better products” (Hook, 2015). Understanding the need for and the benefits of a more diverse workforce is a key component of addressing the needs of diverse, rural students pursuing degrees in technical education fields.

To increase diverse enrollment in technical education fields, this project proposes to use strategies outlined in the five Modules of the National Alliance of Partnerships in Equity (NAPE) STEM Equity Pipeline Project, based upon NSF Grant No. HRD-0734056 and Grant No. HRD 1203121, to increase the participation of underrepresented populations in the Industrial Instrumentation and Process Technology degree programs.

## NAPE PIPE

- NAPE and its partners use a five-step Program Improvement Process for Equity™ (PIPE; formerly the Five-Step Improvement Process) that is based on practical yet rigorous methods and tools to guide state and local efforts to improve access, equity, and diversity in nontraditional occupations and STEM fields.
- Through a 5-step process—*Organize, Explore, Discover, Select, and Act*—PIPE engages teams of administrators, teachers, and counselors in conducting a student data-based performance gap analysis, identifying root causes for the gaps, and developing an action plan based on research-based strategies proven to close the identified gaps. ([napequity.org](http://napequity.org))

# POSTER



## PIPE-STEM™: Equity Gap Analysis

- When implemented with the specific objective of increasing the access and success of underrepresented groups in STEM, such as in the STEM Equity Pipeline, PIPE is referred to as PIPE-STEM. In interviews conducted by independent evaluators, PIPE-STEM site participants identified five significant benefits:
  - understanding and using data;
  - increased awareness of and commitment to STEM equity issues;
  - new partnerships created;
  - increase in female and other underrepresented groups participation and retention in STEM-related programs of study; and
  - project sustainability and expansion.
- [napequity.org](http://napequity.org)



# PIPE-STEM™: Equity Gap Analysis

## Completed So Far

- Organize: Team consisting of PIs, IR, Workforce
- Explore: Gather data
- Discover: Data showed major gap in female enrollment/completion
- Select: Hypothesis based on investigating root causes for gaps

## WIP

- Act: Experiment (Action Research)
- [napequity.org](http://napequity.org)

# Root Causes Survey



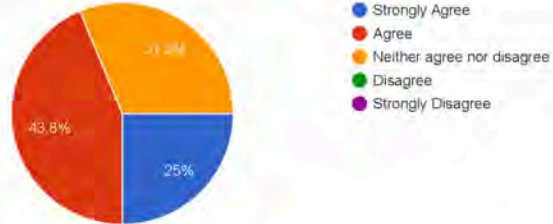
1/3/23, 9:44 AM

Student Satisfaction with RPCC Recruitment Survey

[Copy](#)

My interaction with RPCC Recruiting staff and/or Instrumentation faculty impacted my decision to attend RPCC

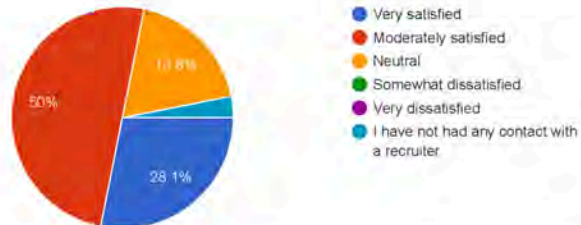
32 responses



[Copy](#)

How satisfied have you been overall with your recruiting experience at RPCC?

32 responses



# Root Causes Survey

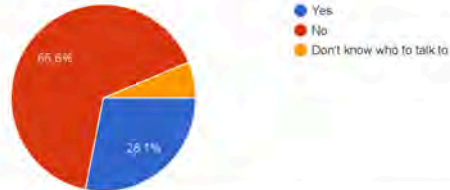
1/3/23, 9:44 AM

Student Satisfaction with RPCC Recruitment Survey

 Copy

Have you ever discussed your recruiting experience with other faculty or staff at RPCC?

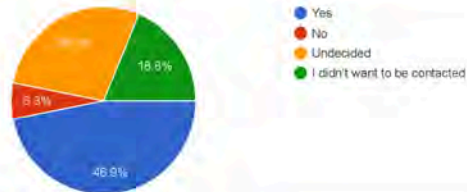
32 responses



 Copy

I would have expected to be contacted by a recruiter about such topics as choosing a major, admission requirements, financial aid?

32 responses



Esperanza M. Zenon, Physical Sciences, River Parishes Community College

### Introduction

RPCC will deconstruct and redesign the existing Industrial Instrumentation degree program by working closely with industry partners to develop an Introduction to IoT course and an Industry 4.0 capstone course to enrich the new degree program

### Method

A survey was used to gauge the effectiveness of current recruiting Practices at River Parishes Community College. STEM and Instrumentation faculty are collaborating to improve the diversity and inclusivity outcomes of the Instrumentation Program.

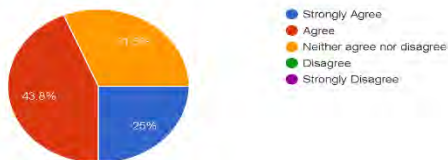
### Literature cited

National Alliance of Partnerships in Equity (NAPE) STEM Equity Pipeline Project, based upon NSF Grant No. HRD-0734056 and Grant No. HRD 1203121 (napequity.org)

### Survey Results

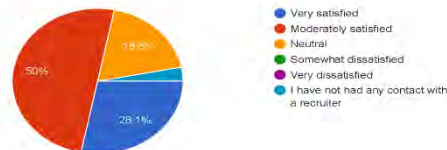
My interaction with RPCC Recruiting staff and/or Instrumentation faculty impacted my decision to attend RPCC

32 responses



How satisfied have you been overall with your recruiting experience at RPCC?

32 responses



### Equity Gap Analysis

Organize: Team consisting of PIs, Institutional Research, Workforce

Explore: Gather data

Discover: Data showed major gap in female enrollment/completion

Select: Hypothesis based on investigating root causes for gaps: Focused recruiting efforts are lacking for our Instrumentation Program

Act: Experiment (Action Research): Targeted recruiting materials

Future Work:  
Outcome of using these targeted materials

### Acknowledgments

NSF ATE Grant: DUE-2000440

### Further information

I'm at ezenon@rpcc.edu if you have a question or comment.

# DEI @ Your Institution

- Let's talk!
- What does DEI look like at your institution?

# Questions?

Dr. Esperanza Zenon- [ezenon@rpcc.edu](mailto:ezenon@rpcc.edu)