



# Developing & Designing **IET** at your School Site

**Harbor Occupational Center | DACE | LAUSD**

Margaret Chedotte

Carlos Palma

Thomas Hernandez

Sonya Ramirez

# Purpose

- ◆ To provide the experiences and outcomes acquired over a ten month period piloting different models of IET with respect to improving math proficiency in various CTE classes.

# Engaged Outcomes

- ◆ Participants will be informed on:
  - ◆ Assessment
  - ◆ Curriculum Development
  - ◆ Data Findings
  - ◆ Stakeholder Feedback
  - ◆ Lessons Learned

# Inclusion Activity

What stage of the process is your school at with the implementation of IET?

# IET | Pilot Cycle 1

- ◆ The Beginnings: Our model of IET
  - ◆ Spring semester 2017
  - ◆ February – June
  - ◆ CTE Instructor Referral to Lab
- ◆ Math Lab
  - ◆ Monday – Friday, 10:15am - 12:15 pm

# IET | Cycle 1: ASSESSMENT

- ◆ CASAS Pre- and Post-Tests given
  - ◆ Used as a gauge of progress
- ◆ Instructor Developed Welding Quiz

# IET | Cycle 1: CURRICULUM DEVELOPMENT

- ◆ Course Outlines
  - ◆ All had Basic Math/Trade Math
- ◆ Used Math from Welding Textbook and others
- ◆ Dialogue with Instructors
  - ◆ Welding needs Basic Math, Geometry, and Tape Measure Reading
  - ◆ HVAC/R needs Basic Math, Geometry, and Tape Measure Reading
  - ◆ Medical Assistant needs Basic Math with Proportions, Apothecary Math, and Syringe Dosages

# IET | Cycle 1: DATA FINDINGS

- ◆ 11 Students Served
  - ◇ 5 significant gains (Gained CASAS level)
- ◆ 9 Welding Students
  - ◇ Welding math pre-test 22% to 62%
  - ◇ Welding math post-test 92% to 98%
- ◆ 1 Medical Assistant Student
  - ◇ Sought help as needed
  - ◇ Apothecary Math and Syringe Dosage Scales
- ◆ 1 HVAC/R student
  - ◇ Tape measure Reading and basic math assistance



# IET | Cycle 1: STAKEHOLDER FEEDBACK

- ◆ What were Instructor's takeaways:
  - ◆ Curriculum is on target
  - ◆ Need to serve more students
  - ◆ Need to be independent from Math Lab
  - ◆ Need Teacher-Directed Model more than Lab Model
- ◆ What were student takeaways:
  - ◆ Didn't like leaving their classroom
  - ◆ Liked the extra practice and one-on-one assistance
- ◆ Cycle 1 Summary

# IET | Cycle 2

- ◆ Summer semester: June 19 – July 28, 2017
- ◆ All students were informed that math instruction will be integrated in welding class curriculum. (Teacher Directed Model)
- ◆ Cohort 1: Harbor Occupational Center (main campus)
- ◆ Welding 1 class: 10:15am-11:15am Monday-Friday
  - ◆ 23 students served (captured audience)
- ◆ Non-Cohort: Wilmington Skills Center (satellite branch)
- ◆ Welding 1 class 11:30am-12:15pm Monday-Friday
  - ◆ 7 students served (captured audience)

# IET | Cycle 2: ASSESSMENT

- ◆ Pre Enrollment Assessment
  - ◆ Reading TABE Test
- ◆ In-Class Assessments
  - ◆ Instructor developed VABE Pre and Post Tests
  - ◆ Instructor developed VABE weekly Quizzes
  - ◆ CASAS Pre Tests administered during first week of class
  - ◆ CASAS Post Test administered last week of class

# IET | Cycle 2: CURRICULUM DEVELOPMENT

- ◆ ABE Course Outlines (Math 1-3)
- ◆ Welding Technology Fundamentals Textbook (Chapters 5/6)
- ◆ CTE and ABE instructor input
  - ◆ Introduce and teach industry related math concepts
- ◆ Teacher directed instruction
  - ◆ Use differentiated instruction and resources to engage students

# IET | Cycle 2: DATA FINDINGS

- ◆ Total of 30 students were served in 6 week summer term
  - ◆ Average student attendance rate was 91%
  - ◆ Students improved an average of 51% on VABE pre-test to post-test
- ◆ CASAS Benchmarks
  - ◆ 19 significant gains (Gained CASAS level)
  - ◆ 2 had some gain
  - ◆ 2 did not post-test

# IET | Cycle 2: STAKEHOLDER FEEDBACK

- ◆ Positive Feedback
  - ◆ Course content was relative to students' needs
  - ◆ CTE instructors were instrumental in advocating for VABE math class
  - ◆ Teacher Directed Instruction was successful
- ◆ Challenges
  - ◆ No Math TABE scores available
  - ◆ Continuous enrollment of new students
  - ◆ CTE classroom logistics
  - ◆ Students with different math skill set
  - ◆ Students overcoming fear of math and/or acknowledging importance of math
- ◆ Teacher support/participation/buy-in (Continuing Cycle 1 Referral System)

# IET | Cycle 3

- ◆ HVAC/R class (Cohort 2)
  - ◆ 12:45 – 1:45 Monday through Thursday
  - ◆ October to November
  - ◆ 5 weeks
- ◆ Diesel Class (Cohort 3)
  - ◆ 12:45 – 1:45 Tuesday/Thursday in CTE Room and Monday/Wednesday in Math Lab
  - ◆ November to Mid-December
  - ◆ 4 weeks

# IET | Cycle 3: ASSESSMENT

- ◆ Pre-Enrollment Assessment
  - ◆ Reading TABE Test
  - ◆ Math TABE Test for some in HVAC/R and all for Diesel
- ◆ In Class Assessments
  - ◆ CASAS Pre-Test administered during week one
  - ◆ VABE Pre- and Post-Test (Instructor Developed)
  - ◆ VABE Section Quizzes (Instructor Developed)
  - ◆ CASAS Post-Test administered during last week



# IET | Cycle 3: CURRICULUM DEVELOPMENT

- ◆ Built on Cycle 1 and Cycle 2 Feedback and Outcomes
  - ◆ Teacher Directed Only
  - ◆ Students obtaining 80% or better on VABE pre-test can opt out of Math
- ◆ HVAC/R Additional Content
  - ◆ Trig. Calculations used in duct work covered
  - ◆ Tape Measure Reading to 1/32 of an inch
- ◆ Diesel Additional Content
  - ◆ Metric Caliper Reading
  - ◆ Metric Conversions

# IET | Cycle 3: DATA FINDINGS

- ◆ HVAC/R served 17 students
  - ◆ Improved an average of 46% on VABE Pre- to Post-Test
  - ◆ CASAS Benchmarks
    - ◆ 6 gained benchmark (significant gain)
    - ◆ 11 did not post-test (found employment/work hours changed)
  
- ◆ Diesel served 18 students
  - ◆ CASAS Benchmarks
    - ◆ 9 gained benchmark
    - ◆ 4 had some gain
    - ◆ 3 did not post-test

# IET | Cycle 3: STAKEHOLDER FEEDBACK

## ◆ HVAC/R

- ◆ Student surveys positive
  - ◆ Want more time
  - ◆ Did not like CASAS testing
  - ◆ Liked that it is free and they got to refresh math skills

## ◆ Diesel

- ◆ Student surveys mostly positive
  - ◆ Want more time but at start of training
  - ◆ Don't like losing shop time for math
  - ◆ Liked the refresh of math skills

# Lessons Learned

- ◇ What we have learned
  - ◇ CTE Teachers must buy-in
    - ◆ Include in curriculum development
    - ◆ Ask “What can I help you with?”
  - ◇ It takes a cycle for some CTE instructors to see benefit
  - ◇ Teacher Directed Model works best in CTE classroom
    - ◆ CTE Teacher can chime in with how math applies in their field
- ◇ Challenges
  - ◇ Continuous enrollment
  - ◇ Variety of student skill levels

# Q & A

# Contact Information

**MARGARET CHEDOTTE**, ASE/ABE Instructor  
mchedott@lausd.net

**CARLOS PALMA**, Academic Advisor  
cep5950@lausd.net

**THOMAS HERNANDEZ**, Assistant Principal  
txh9494@lausd.net

**SONYA RAMIREZ**, Principal  
sramir1@lausd.net





January 22, 2018

# HARBOR OCCUPATIONAL CENTER