Empowering Student Support Programs Through Data Analytics: A Collaborative Approach at CSUSB

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Who are we?
What is SI?

Lecture
What is SI?
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Learning strategies typically used in SI sessions:

- Identifying Key Concepts
- Paired Problem Solving
- Teaching to Learn
- Visual Mapping
- Informal Quizzes
- Note Processing
- Sequencing
- Jigsaw Text Review
- Interactive Games
- Study Planning and Techniques
- Practical Application and Associative Learning
What is SI?
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**Course Lecture**
- Presentation of course content
- All course concepts addressed
- Up to 4 hours per week
- Assignments and evaluation
- Large group environment often limits collaborative learning opportunities

**Supplemental Instruction**
- Strategic review of course content
- Key / challenging concepts addressed
- 2 hours per week
- Study strategies and exam prep
- Small group environment supports collaborative learning opportunities

**Professor / Instructor**
- Content Expert
- Master Educator
- Office hours for student support

**SI Leader**
- Study / Learning Specialist
- Content Knowledgeable
- Works closely with course instructor and SI Senior Leader
What is SI?

Qualifying courses may be characterized by:

• High D, F, W, and I rates (especially those 30% or higher)
• Infrequent examinations that focus on higher cognitive levels
• High student to instructor ratio (student has little opportunity for interaction with the professor or the other students)
• Those serving as a gateway or key sequence course
• Large amounts of weekly readings from both difficult textbooks and secondary library reference works
• Faculty or academic department identification as exceptionally challenging within a major course of study
Common Questions

• Are DFWI rates for SI participants lower than non-SI students?

• Aren't students who participate in SI students who would receive an A or B without the support?

• Is SI more effective for some courses than others?
Was SI at CSUSB effective?

Let's examine the data together and see if we can find the answers
iDashboards
Was SI at CSUSB effective?

- Were SI participants "better" students?

- Matched Sample Comparison
  - Course
  - Gender
  - Ethnicity
  - Student Level
  - Pell Grant Status
  - Cumulative GPA
  - High School/Transfer GPA
  - Full-/Part-Time Status
  - Course Repeat Status

**Did You Know**

Students who attended supplemental instruction (SI) received higher grades?

**Matched Sample Comparison**

- What is matched sample?
  - Matched sample enables group comparisons by reducing the effect of bias.
  - It does so by matching each individual in the treatment group (SI) with an individual in the comparison group (non-SI) on specified variables.
  - The variables used for this comparison are listed below the figure.

Note: PST210 is not shown above due to limited sample size (n=4). SI and non-SI students were matched on course, gender, ethnicity, student level, Pell grant status, cumulative GPA, high school/transfer GPA, full/part-time status and course repeat status. Data based on students in supplemental instruction courses in Fall 2016 (n=4774) and Matched SI Sample (n=410).

What is SI? Click here.

https://www.csusb.edu/institutional-research  CSUSB Office of Institutional Research  February 2017
Was SI at CSUSB effective?

- Fall 2016 SI data
  • SI participation pattern
    • Decrease in 2nd half
    • More
      • Female
      • PELL recipient
      • Full-time student
      • Course repeater
      • Sophomore and Junior
    • No ethnic difference
  • Impact of SI
    • More As and Bs
    • Less DFWIs
    • Higher average grades
    • Even better outcomes for consistent participation
How can we continue to use the data?

- Participatory Action Research
  - Discovery: Examined available data from multiple sources
  - Measurable Action: Co-constructed a data infographic that was shared with faculty and students.
  - Reflection: In progress
How can we continue to use the data?

Diagram:
- Average Non-SI Participant
- Average SI Participant
- SI participants who attended sessions throughout the entire term

- A-s & B-s: 71%
- D-s, F-s, W-s, & I-s: 10%
What happens next?

• Examine measures of learning
• Map outcomes in course sequences
• Explore with colleagues other variables which are indicators of student success and challenges in SI courses