Increasing Math Achievement at Hakipu’u Learning Center Public Charter School: A Gap Analysis

Kenneth T. Ito

The Problem

- HLC must have 76% of 10th Grade Students Pass the Statewide Standardized Math Test to Meet Annual Yearly Progress (ATP) Mandated of No Child Left Behind.
- Presently, only 29% are Passing the Test

Methods

Mixed Methods
Survey of HLC Teachers (N=9)
29 Quantitative Items
Qualitative Item
Triangulate Quantitative + Qualitative
Generate a Solutions Plan
Generate an Evaluation Plan

Implementation Plan – 2017

Knowledge
• Teacher Training
• Know the Test!
• No Calculators

Motivation
• Teacher Certification
• Rewards for Professional Development
• Rewards for Student Success

Organization
• Improve Teacher Support
• Private-Public Partnerships
• Improve Math Facilities

Evaluation Plan
(Kirkpatrick, 2006)

Reactions
Stakeholders Rate the Plan

Learning/Performance
Test Stakeholders on the Plan

Transfer of Behavior
Do Stakeholders Implement the Plan?

Results/Impact
Do 76% of HLC 10th Graders Pass the Test?

Limitations
- All Data were Self-Report from Teachers
- No Objective Measures
- No Classroom Observations
- No Student or Administration Opinions
- We Do Not Know if HLC Can Afford to Improve Facilities

Future Research

- Does the Plan “Work”?
- KMO Studies in Other Subjects at HLC
- KMO Studies at other Hawaii Charter Schools to Increase Math Achievement

Question 1
What Knowledge, Motivation, and Organizational barriers do Teachers Face in Preparing 76% of HLC Students to show Proficiently on the Hawaii Statewide 10th grade Math Test by 2017?

Teachers Survey Responses

Factual Knowledge: 11% Certified Teachers; 89% No Professional Development in Teaching Math
Conceptual Knowledge: 33% No Beginning/End of Year Tests; 53% Do Not use Lesson Plans
Procedural Knowledge: 100% Calculators on Tests; 56% Unaware of Test Benchmarks
Metacognitive Knowledge: 0% said Students were Focused; 0% Students Prepared for the Test
Motivation: 33% of Teachers Not Motivated; 0% Students Motivated to Take the Test
Organizational: 22% of Teachers said HLC Provides Necessary Facilities; 0% Necessary Training

Question 2
What are the Recommended KMO Solutions Needed to Empower 76% of Students to Pass the 2017 10th Grade Math Test?

1. Increase Teacher Knowledge
   Factual: Certification Programs / Ongoing Education
   Conceptual: Syllabus; Lesson Plans; Fall-Spring Testing
   Procedural: No Calculators; Know The Test!
   Metacognitive: Prepare Students (practice tests, etc.)

2. Increase Motivation
   Reward Teachers for Professional Development
   Reward Teachers for Student Test Success
   Motivate Students to Show Proficiency on the Test

3. Overcome Organizational Barriers
   Support Teacher Development / Training / Resources
   Improve Facilities

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