



# Global Skills for College Completion

UHCC Math Discipline Meeting

Honolulu Community College

April 2, 2011



# Troubling Statistics

- Less than 30% of students complete an Associates Degree
- 60-80% of students need developmental education
- Less than 60% of low income adults successfully complete these classes



## What is Global Skills for College Completion (GSCC)?

- A 28-month project funded by the Bill and Melinda Gates Foundation as part of its post-secondary education investment in doubling the number of young adults in the U.S. with a postsecondary credential by 2020.



# GSCC Principal Investigators

- Gail Mellow, President, LaGuardia Community College
- Diana Woolis, Co-Founder, Knowledge in the Public Interest
- Gerardo de Los Santos, The League for Innovation in the Community College



# GSCC Team

- Center for Applied Research at Piedmont Community College
- Knowledge in the Public Interest
- LaGuardia Community College
- The League for Innovation in the Community College
- London Knowledge Lab/Dr. Diana Laurillard
- SRI International, Center for Technology in Learning

# GSCC Faculty

- 25 faculty in developmental English and mathematics (12 math and 13 English) from 15 community colleges located in 13 states across the country from Massachusetts to Hawaii.
- Selected through a competitive process.
- Chosen for high success rates and outcomes attainment.





## GSCC is designed to...

- engage faculty as research-practitioners in a structured online community.
- link high performing faculty to each other.
- determine successful faculty practices.
- discover faculty patterns.
- map practices to student learning outcomes.
- raise Basic Skills Pass Rates to 80%.

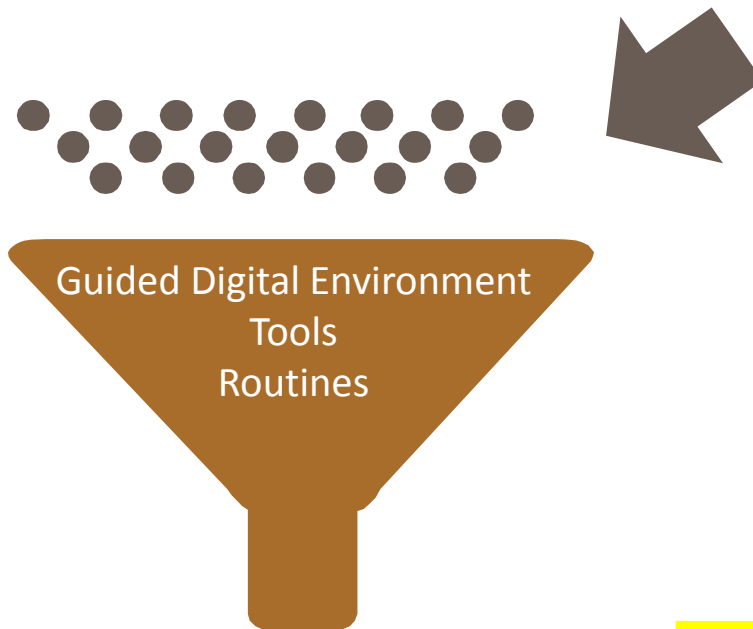
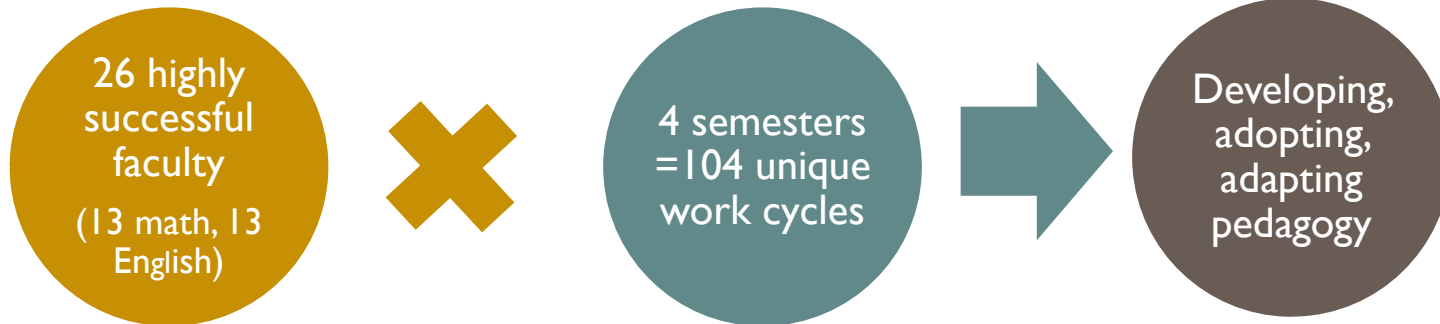


## It's already being done

- GSCC believes that the secret to dramatically-improved basic skills pass rates already lies in the classroom.
- The goal is *not* to develop a single math and a single writing curriculum, but to uncover themes and patterns which can be used by any faculty to lead to measurably stronger student learning.
- GSCC is entirely devoted to uncovering, testing, and refining these basic skills math and writing pedagogical themes and patterns.



# The Design



**GSCC PEDAGOGY**

=

**80%**  
pass rate



# Faculty Tasks

- **First Semester**

- Describe Everything
- Choice Event
- Three Videos
- Weekly Pedagogy Circle

- **Third Semester**

- Describe Everything
- Try new theme/tag
- Weekly Peer Comment
- Three Videos
- National Jam

- **Second Semester**

- Describe Everything
- Tag
- Three Videos
- Weekly Peer Comment on Tagging
- Student Jam

- **Next Semester**

- Link Learning Activities or specific examples to tags and themes
- And.....

# GSCC

Global Skills for College Completion

How We Worked-First Semester

## Groundwork

Math and English developmental faculty whose pass rates were exceptionally high, were nominated by college Presidents. **26 GSCC Fellows** were selected from those nominees through a competitive process.

**SRI's** research and evaluation team was selected to be the GSCC evaluator, from a pool of 22 applicants.

**Diana Laurillard** of the London Learning Lab and author of the Conversational Framework joined GSCC as an advisor

The GSCC Team prepared from August through December 2009 for the first semester work with faculty. The GSCC project *polilogue* was launched, a **video mash-up** was prepared to orient the faculty to the project's underlying theory, goals and work process, and a Jam on the project took place in December.

## Exchanging Practice

### Polilogue

The GSCC Polilogue is the faculty's online community. The polilogue invites group deliberation. More than sharing best practices, this space promotes analysis, feedback and synthesis of the collective knowledge of the faculty group.

**2,988**  
Total  
Polilogue  
Posts

**26**  
Pedagogy  
Circle  
Discussions

**647**  
Coffeeklatch  
Posts

**26**  
Choice  
Events

### ePortfolios

Each faculty has an ePortfolio. Here comprehensive summaries of lessons, including lesson plans and post-class class descriptions, teaching materials, examples of student work, student assessments and feedback are recorded and reflected on.

**12**  
classes recorded  
by each faculty

**212**  
lessons recorded  
in ePortfolios total

### Events

In person  
and online

Face to face  
Faculty kick off  
meeting in  
January 2010

Close of first  
semester face  
to face meeting  
in August 2010

Online  
Student Jam  
with  
**340**  
student  
participants  
from  
**15**  
campuses

## Results

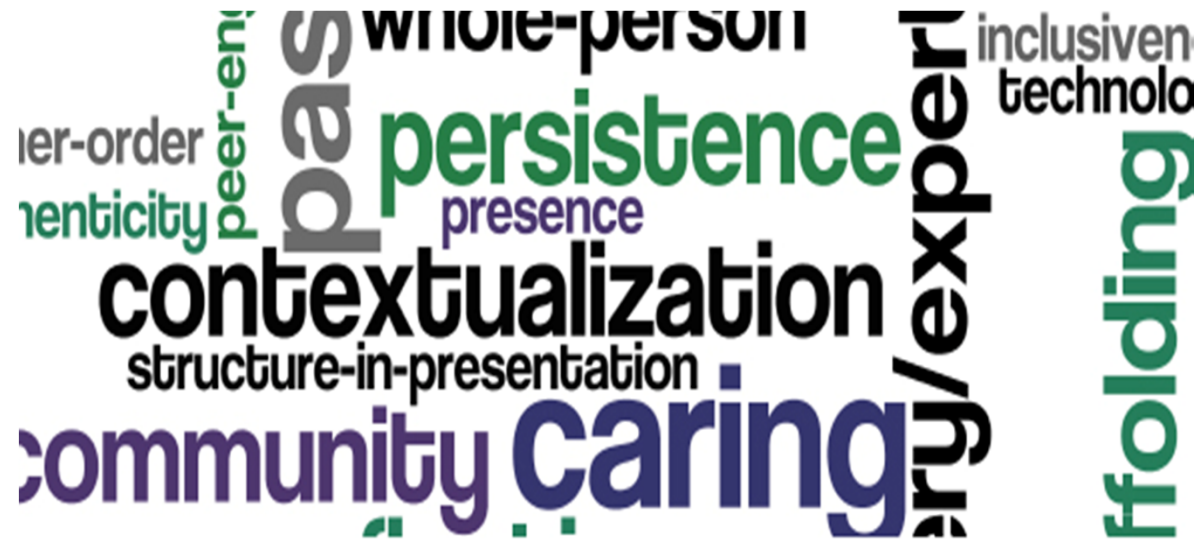
**28** pedagogical themes were identified by analyzing faculty online work in polilogue and eportfolios, together with the Student Jam results.

**284** curriculum resources were catalogued in the Pathfinder database, and are searchable by teacher, theme, topic etc.

The themes were grouped into **3 domains**: Instructional Values, Instructional Approaches, and Instructor Qualities.



# Themes



A word cloud of educational themes. The most prominent words are 'persistence' (green), 'contextualization' (black), 'caring' (purple), 'community' (purple), 'whole-person' (black), 'peer-enrichment' (green), 'structure-in-presentation' (black), 'experiential' (black), 'folding' (green), 'inclusiveness' (black), and 'technology' (black). Other smaller words include 'higher-order', 'presence', and 'passive'.



# Themes

- Manifestations of teacher qualities, instructional values and instructional approaches.
- Drawn from faculty work and tested in the classroom.
- Are a work in progress and may evolve as outcomes are assessed.
- Patterns are the sequencing or organization of themes.





# Themes: Domain I Instructional Values

- **Supportive Context:**
  - Enjoyment
  - Whole Person
  - College Transition
  - Comfort
  - Caring
  - Self-Efficacy
  - Inclusiveness
- **Classroom Approaches**
  - Time on Task
  - Differentiated Instruction
- **High Level Cognition**
  - High Expectations



# Themes: Domain 2

## Instructional Approaches

- **Supportive Context**
  - Community Building
  - Accessibility
  - Feedback
- **Classroom Approaches**
  - Reflection/Meta-Cognition
  - Structure
  - Variety of Approaches
  - Mixed Activities
  - Contextualization
  - Peer Engagement
  - Baseline
  - Scaffolding
  - Connections
  - Higher Order
  - Assessment
  - Technology



# Themes: Domain 3 Instructor Qualities

- Attitudes Toward Teaching
  - Persistence & Intentionality
  - Adaptability
  - Presence
  - Authenticity
- Attitude Toward Subject
  - Mastery/Expertise
  - Passion





# Finding Pedagogical Patterns

- Aggregated online tags across 25 faculty over 16 weeks
- Used exploratory **cluster analysis** (Everitt, 1993) to discover latent categories in tag data
  - Finds patterns of similarity across individual instructors, grouping them into faculty families
- Initial analyses run on Semester 2 data
  - Began with 6 categories comprising 90% of tags used by faculty; faculty reviewed
  - Most recent cluster analysis features 10 categories based on faculty review/input, which were reduced to three clusters



## Six Category Schemes

- IA - High Level Cognition
- IA - Highly Structured Instruction
- IA - Supportive Context
- IA - Multiple Approaches to Instruction
- IV - Highly Structured Instruction
- IV Supportive Context

IA = Instructor Approaches

IV = Instructor Values

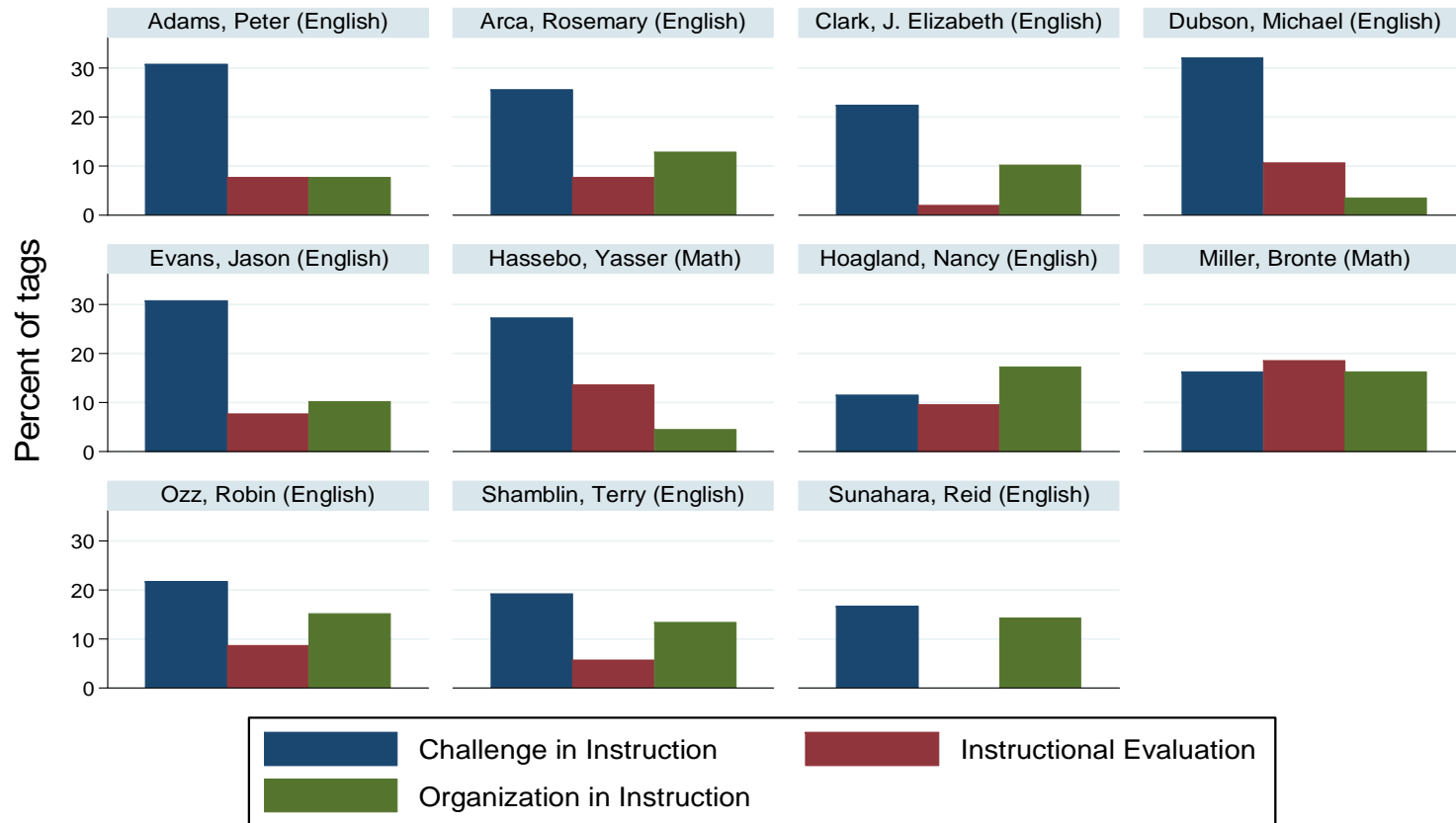


# Finding pedagogical patterns

- Developmental faculty members differ in how much they emphasize 3 pedagogical approaches:
  - Strong organization of content (math faculty here)
  - Frequency of assessment (Mix)
  - Use of challenging activities (English faculty here)
- Developmental faculty members share these pedagogical approaches:
  - Building individual student study skills/confidence
  - Building a supportive classroom climate
  - Use of group activities and varied ways of presenting content

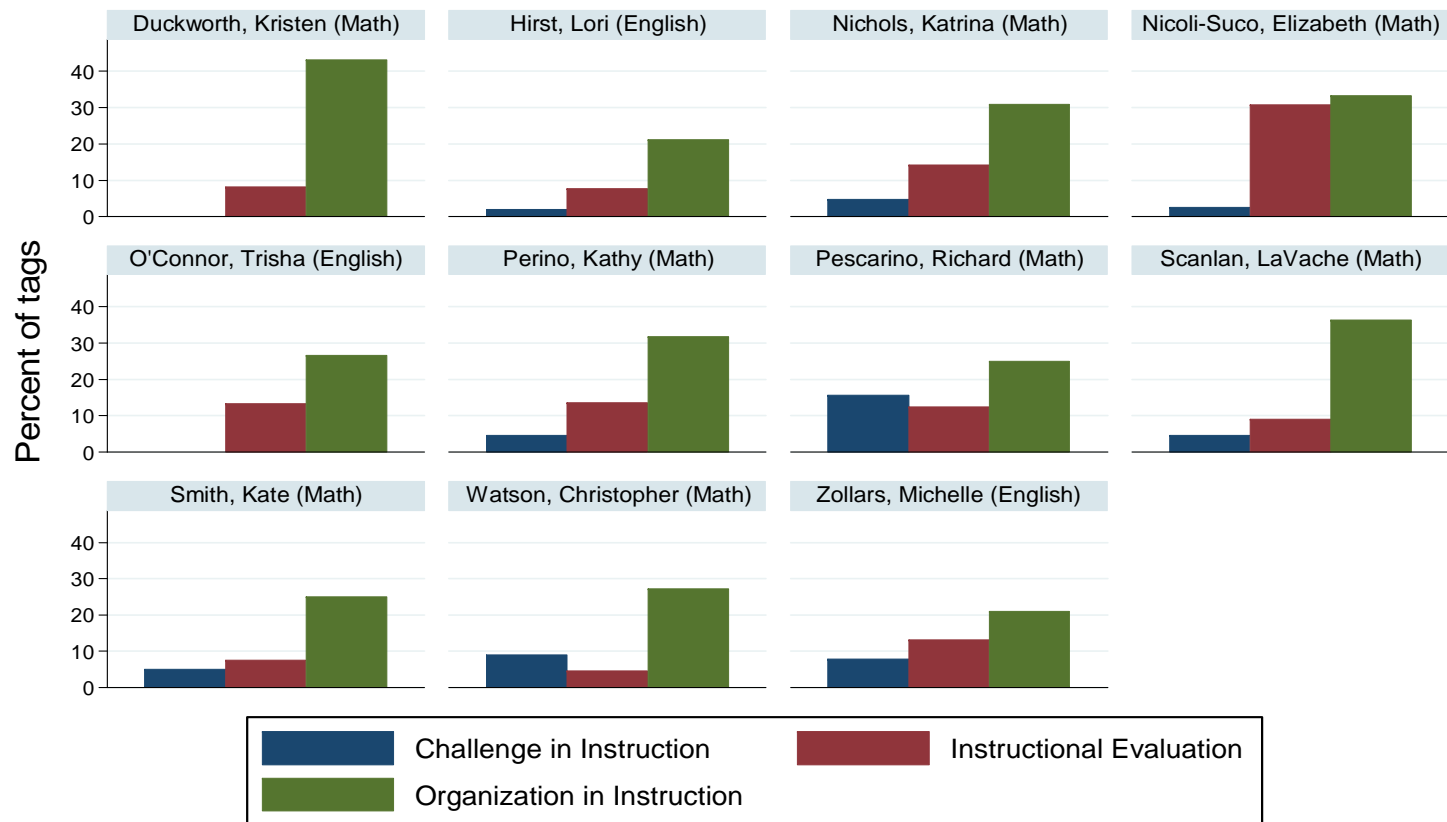
# Finding Pedagogical Patterns: Cluster I

## 3-Category Scheme: Cluster 1



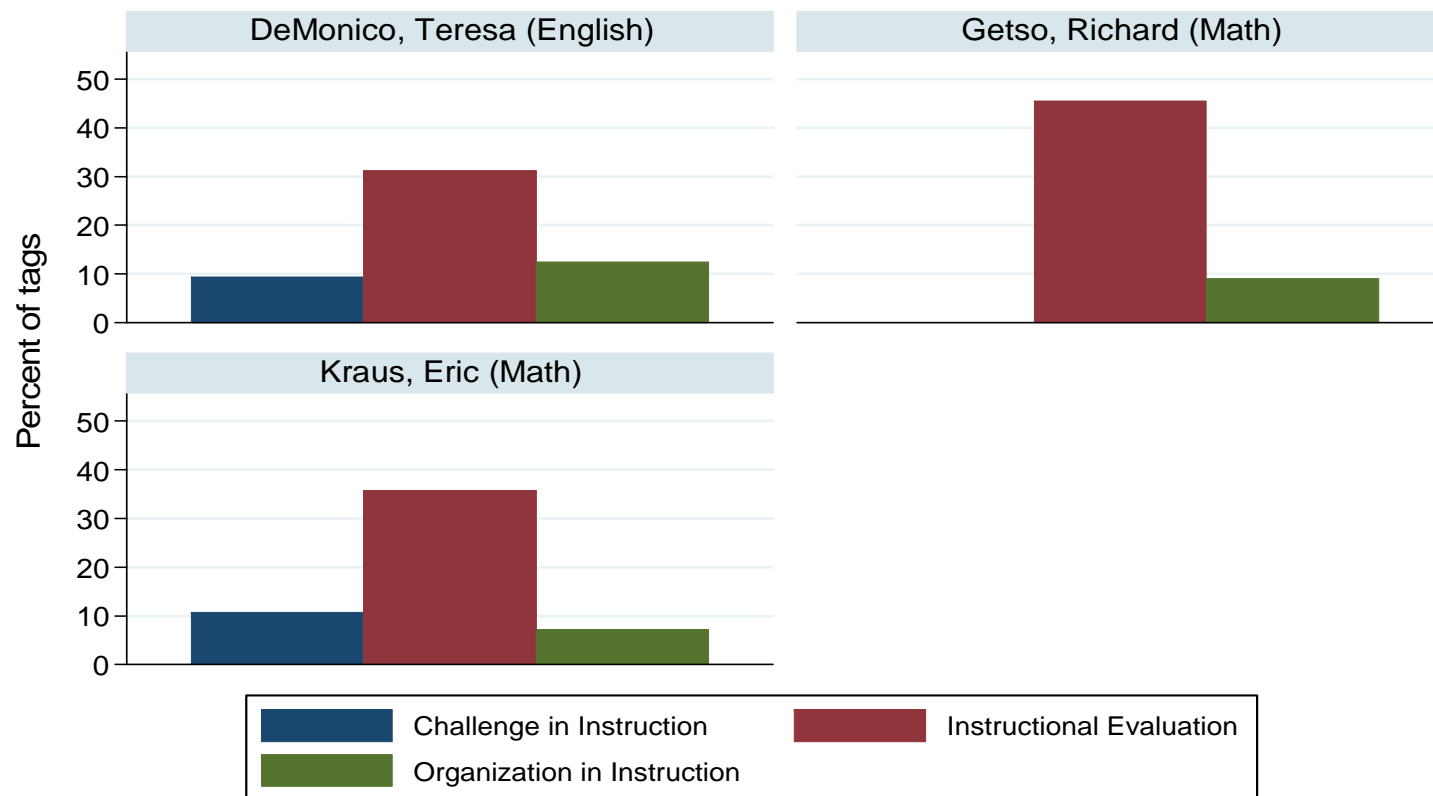
# Finding Pedagogical Patterns: Cluster 2

## 3-Category Scheme: Cluster 2



# Finding Pedagogical Patterns: Cluster 3

3-Category Scheme: Cluster 3



# What Students Had to Say





# What is a Jam?

- An online exchange.
- Like jamming in music, it is about riffing on themes.
- A group of people 'speak' together using written posts about a subject of importance to them.
- The discussion is actively facilitated to deepen the exchange.
- Asynchronous, so that participants can come and go as their schedules permit--reading and commenting when they can.





# Purpose of the Student Jam

- To understand from a student point of view what the professor does that makes it more likely that they will learn and succeed in this class.
- Students responded to the following launch questions about their experience in the GSCC class they are attending this semester.
  - What does the professor in this class do that helps you and other students learn and succeed? How does that help?
  - What might the professor do differently that would improve your learning or other students learning? Why might that help?



# Spring 2010 Student Jam

- 183 students participated
- 154 contributed posts to the discussion



## Themes from the Spring 2010 Student Jam

- Learning Together
- Patience / Time
- Accessibility/Availability
- Individualized Instruction
- Application
- Caring and Personal Connections



# Fall 2010 Student Jam

- 201 students participated
- 160 students posted comments in the discussion forums



# Themes from the Fall 2010 Student Jam

- Overall, the themes that faculty previously identified as of pedagogical importance resonate with students.
- Student comments include support for every one of the 31 themes that faculty have identified and incorporate in their developing GSCC pedagogy.
- This validates that faculty are targeting the correct critical success elements in their research.
- The top five themes were:
  - Comfort
  - Technology
  - Time on Task
  - Enjoyment
  - Structure



# Comfort

- Comfort echoed one of the top themes from the Spring Student Jam – Time and Patience.
- Students said that faculty support their learning when they create an environment where they feel safe and can speak up.
- Students said that faculty can do this by ***exhibiting an unhurried style, repeating instructions and explanations, asking and answering questions (and really listening to the questions and answers), encouraging student voices, offering individual attention, and dealing with math/writing anxiety.***



# Technology

- Technology in its various forms – the Internet, computer-based instruction, online homework programs, tutorial, and assessment programs, e-mail, course management systems, PowerPoint – is making an impact on the developmental education classroom.
- Overall, students are enthusiastic about its use and the approach of faculty in introducing and using these tools.
- The one area that causes some consternation is that of tutorial and homework programs, such as the Hawkes Program and MyMathLab.



# Time on Task

- Time on Task, or time spent practicing skills learned.
- The opportunity to practice comes in many forms in and out of the classroom, through class activities, workshop sessions, worksheets, board work, quizzes, homework, journaling, and online work.
- Students praised all of these as enhancing their path toward passing the class.





# Enjoyment

- Enjoyment in the form of a classroom that keeps students engaged with the work.
- Two ways of bringing enjoyment in to the classroom were offered by students: the ***personality of the instructor*** and the ***design of assignments***.



# Structure

- Student suggestions for providing **structure** during presentations include ***breaking content down into smaller pieces, repeating main points, writing on the board, providing handouts, and the use of models and examples.***
- While structure in the form of an organized lecture or instructions is important, students include ***assignments clearly structured and explained, course time well managed, and an instructor who is organized and consistent*** as elements that are key as well.



# Next Steps





# Formative Evaluation: Next Steps

- Design support:
  - Number of tags has been increased to 31
  - Categories and tag definitions continue to be refined based on empirical data
  - Faculty will use as many tags as they feel are applicable, not just 3 (as in Semester 2), per lesson
  - Will re-do cluster analysis; conduct factor analysis



# Formative Evaluation: Next steps

- **Tag validation:**
  - Video validation of self-tags
  - Review of evidence that indicates if tagged pedagogical approaches result in learning and/or engagement
- **Analysis of interaction:**
  - Examination of faculty reflection/use of tags
  - Review of how much are faculty borrowing/trying out each other's instructional ideas
    - Are they using alternative pedagogical approaches than what they usually do?
    - Are they pursuing variations and refinements on their usual pedagogical approaches?

# Spring 2010 & Fall 2010 Data



# Math Completion Rates

COMPLETION RATES				
	Total Students	Complete		% Difference
		Number	Percent	
<b>BASELINE – non-GSCC faculty</b>	50,960	42,321	83.0%	3.1%
<b>BASELINE – GSCC faculty</b>	1,196	1,030	86.1%	
<b>Winter/Spring 2010 – non-GSCC faculty</b>	16,465	13,236	80.4%	4.3%
<b>Winter/Spring 2010 – GSCC faculty</b>	333	282	84.7%	
<b>Fall 2010 – non-GSCC faculty</b>	18,760	15,532	82.8%	6.0%
<b>Fall 2010 – GSCC faculty</b>	311	276	88.7%	


# Math Pass Rates

PASS RATES				
	Total Students	Pass		% Difference
		Number	Percent	
<b>BASELINE – non-GSCC faculty</b>	50,960	27,693	54.3%	12.0%
<b>BASELINE – GSCC faculty</b>	1,196	793	66.3%	
<b>Winter/Spring 2010 – non-GSCC faculty</b>	16,465	8,339	50.6%	11.2%
<b>Winter/Spring 2010 – GSCC faculty</b>	333	206	61.9%	
<b>Fall 2010 – non-GSCC faculty</b>	18,760	9,785	52.2%	14.4%
<b>Fall 2010 – GSCC faculty</b>	311	207	66.6%	



# Math Success of Completers

SUCCESS OF COMPLETERS					
	Total Students	Complete	Pass	Success of Completers	% Difference
<b>BASELINE – non-GSCC faculty</b>	50,960	42,321	27,693	65.4%	11.6%
<b>BASELINE – GSCC faculty</b>	1,196	1,030	793	77.0%	
<b>Winter/Spring 2010 – non-GSCC faculty</b>	16,465	13,236	8,339	63.0%	10.0%
<b>Winter/Spring 2010 – GSCC faculty</b>	333	282	206	73.0%	
<b>Fall 2010 – non-GSCC faculty</b>	18,760	15,532	9,785	63.0%	12.0%
<b>Fall 2010 – GSCC faculty</b>	311	276	207	75.0%	



Thank you! To learn more about  
GSCC please visit [globalskillsc.org](http://globalskillsc.org)  
or contact me directly.

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