Logic Models & Evaluation

April 22, 2013

Achieving the Dream™

Community Colleges Count

Designing Effective Evaluations for Your Intervention Strategies

Definition of Evaluation

Study designed and conducted to assist some audience to assess an object's merit and worth.
(Stufflebeam, 1999)

Identification of defensible criteria to determine an evaluation object's value (worth or merit), quality, utility, effectiveness, or significance in relation to those criteria.
(Fitzpatrick, Sanders & Worthen, 2004)

Definition of evaluation

- **Goal 1**
  - Determine the merit or worth of an evaluand.
- **Goal 2**
  - Provide answers to significant evaluative questions that are posed

Scriven (1991)

It is a value judgment based on defensible criteria.

Evaluation Questions

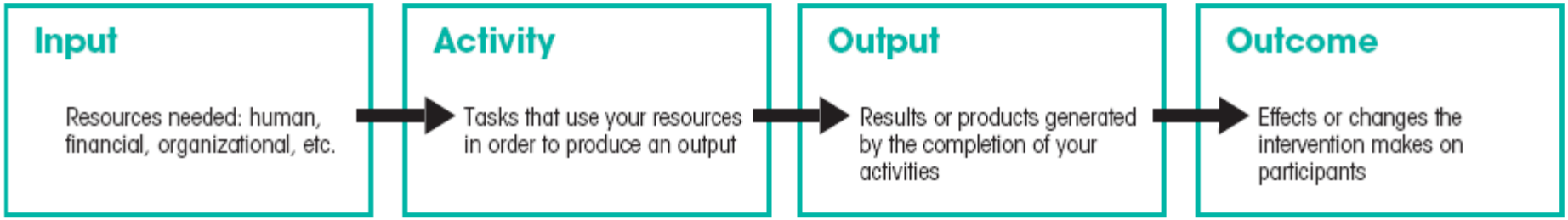
- **Provide the direction and foundation for the evaluation (without them the evaluation will lack focus)**
- **The evaluation's focus will determine the questions asked**

Need Assessment Questions?

Process Evaluation Questions?

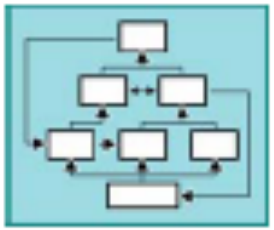
Outcome Evaluation Questions?

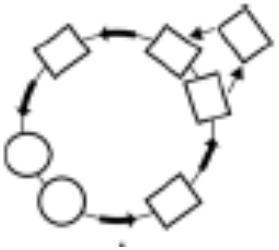
Typical Elements of a Logic Model



What does a logic model look like?

- **Graphic display of boxes and arrows; vertical or horizontal**
  - Relationships, linkages
- **Any shape possible**
  - Circular, dynamic
  - Cultural adaptations, story boards
- **Level of detail**
  - Simple, complex
- **Multiple models**





(Rincones, 2009)

Need Assessment Questions?

Process Evaluation Questions?

Outcome Evaluation Questions?

Input

What resources are needed for starting this intervention strategy?

How many staff members are needed?

Process

Is the intervention strategy being implemented as intended?

Are participants being reached as intended?

Outcomes

To what extent are desired changes occurring? For whom?

Is the intervention strategy making a difference?

What seems to work? Not work?

Success is what counts.

(Rincones, 2009)

Template

Intervention Strategy:							
Evaluation Questions	Tasks	Personnel Involved	Frequency	Data Collection			
				Sources	Methods	Sample	Instrument
Question 1	Task 1.1 Task 1.2	VP Academic IR Director	Monthly Every Term	Students	Focus Group	50	TBD
Question 2	Task 2.1 Task 2.2	IR Director IT Director	Every Term Every Year	Faculty Staff	Personnel records face-to-face Interview	At least 60%	Interview protocol to be developed

Evaluation & Research

Evaluation vs Research

	Purpose	Problem	Audience
Evaluation	To ask specific questions about a specific program	Determined by the concerns and needs of the client	An identified set of decision makers
Example	Are learning communities an effective way to engage developmental students at ABC College	Grant funder such as Lumina, Heinz, etc. – those funding AtD	Senior administrators at ABC College trying to decide whether or not to expand learning communities

Evaluation vs Research

	Purpose	Problem	Audience
Research	To test generalizable principles or theories	Determined by the researcher	Other researchers or experts in the field
Example	Do underprepared students have low academic self-efficacy	A group of 500 students from 5 institutions will complete an academic self-efficacy index and scores will be correlated to grades and GPA	Faculty in colleges of education will use this research to train elementary educators on techniques to increase academic self-efficacy

Evaluation vs Research

	Manipulated Independent Variable	Random Assignment
True Experiment	Yes	Yes
Quasi Experiment	Yes	No
Non Experiment	No	No

Why Experimental Design is Difficult at Community Colleges?

- Nothing is random (by nature) in colleges
- Most things cannot be controlled for
- We have difficulty manipulating the independent variables that we think make a difference (income status, academic ability, etc.)
- We feel it's unethical to withhold a treatment from a group that desperately needs it – just to prove something works

The one-group pretest-posttest design

- Used when you are mostly interested in "within subjects" change.

- Used when you can't randomly select subjects and randomly distribute them to treatment groups.

ABC College

- The Core Team worked with the faculty teaching the Student Success Course to create an assessment tool to measure study skills and test-taking tips. Students were pre-tested during the first week of class and post-tested at the end of the term. Their post-test scores were compared to their pretest scores to determine changes.

Problems with one group pre/post

- Students can change just by sitting in class for a semester which could cause changes in subjects – maybe it isn't what you taught them (how do you know?)
- When subjects take a pretest it sometimes sets them up to learn more during the course because they remember what they didn't know on the pretest.
- Would you not expect their study skill to improve over the semester just by completing the course – would the behavior change by itself
- What can you not control for that could cause the difference – time of day, difference in teachers, composition of the students in the class, their previous experiences…..

The static-group comparison

- Involves two groups, one gets the treatment and the other receives a different treatment. You can have more than two groups if you want.
- Two groups are selected, group one gets the treatment, the second gets an alternative treatment, neither are pre-tested, both are post-tested.
- Results are compared.

The static-group comparison

X_1 0

X_2 0

Two existing classrooms of students. Class 1 receives traditional College Writing and class 2 receives College Writing plus supplemental instruction. Grades are compared for both groups at the end of the term.

The pretest-posttest control group design

Group 1 (random) pretest ---exper. treatment ---- posttest

Group 2 (random) pretest ---------- posttest

R	0	X^1	0
R	0	X^2	0

Example

- ABC college tests the success of a newly revised orientation program for new students
- As students enroll, they are randomly selected and randomly enrolled in one of two different orientation programs. Group 1 was given a new orientation program with heavy focus on student engagement, increased faculty/student contact and emphasis on student support programs. Group 2 completed the regular orientation program. Both groups were pre and post tested using several attitude and behavior assessment tool.

Quasi-experimental Design Nonequivalent groups/nonequivalent control group design (Pretest-Posttest)

Group 1 (not random) pretest ---exper. treatment ---- posttest

Group 2 (not random) pretest ---------- posttest

0 X 0

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0 0

ABC College

- The English faculty conduct a withdrawal pilot intervention study. Teachers volunteer to study the literature, create strategies and change the way they teach class to attempt to decrease withdrawals. 10 sections were used for the withdrawal pilot and 10 similar sections were used as a comparison group.

Once grades were in …

		Comparison Group		Intervention Group	
English Classes	**A**	**66**	**25.9%**	**58**	**24.4%**
	B	**73**	**28.6%**	**78**	**32.8%**
	C	**31**	**12.2%**	**32**	**13.4%**
	D	**2**	**.8%**	**5**	**2.1%**
	F	**17**	**6.7%**	**31**	**13.0%**
	I	**3**	**1.2%**	**0**	**0%**
	W	**63**	**24.7%**	**34**	**14,3%**
Unsuccessful Completions	**F,I,W**	**83**	**32.6%**	**65**	**27.3%**

There were 5.3% fewer W's, I's and F's in the Intervention Group when compared to the Control Group

Most Strategies…

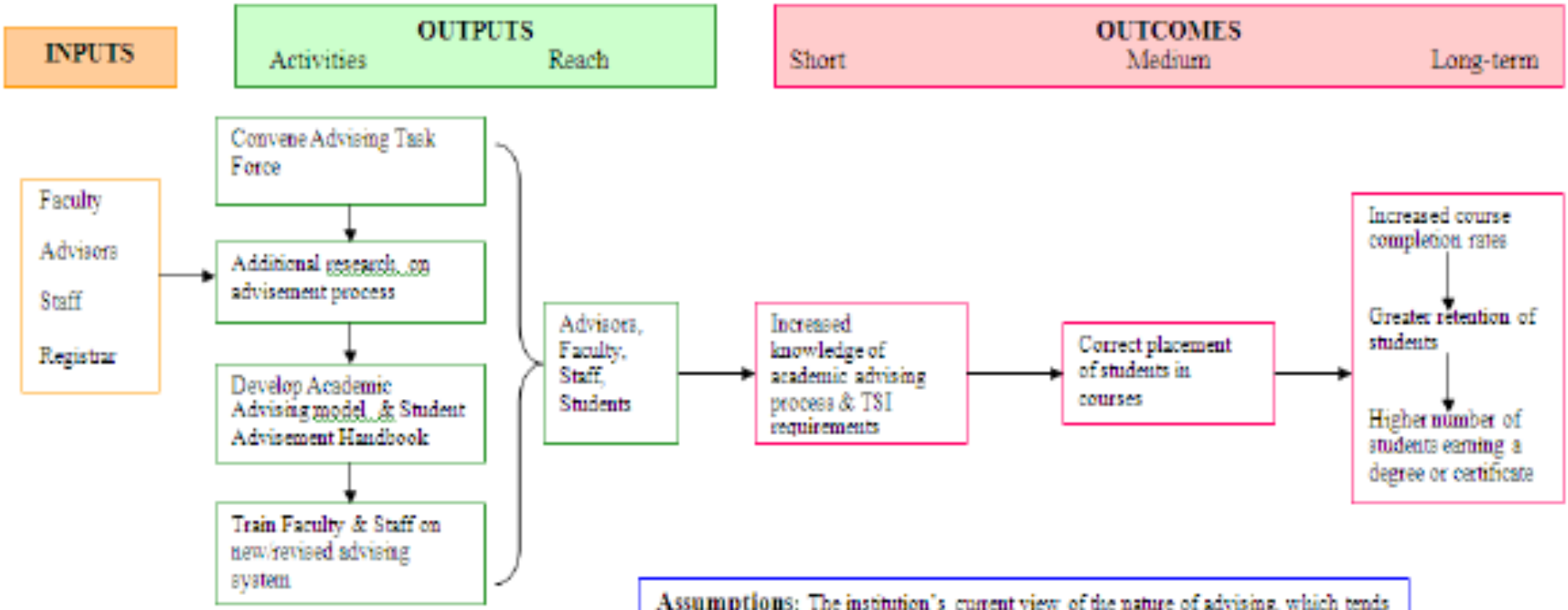
- Involve the evaluation of interventions and are asking the question “did it work?”
- Are not research studies
- Don’t have to find statistically significant differences (may not be important differences)
  - Or worry about power, significant sample sizes, etc.

Logic Models and Evaluation Plan at College of The Mainland

Logic Model Worksheet—Advising for Academic Success

Situation: Evidence indicates that the Academic Advising process does not function in a manner that supports student success.

Priority: Establish an advisement framework to ensure that prerequisites are met, improve student retention, and increase successful course completion rates.



Assumptions: The institution's current view of the nature of advising, which tends to be narrowly focused on the student's schedule for a particular term, will change dramatically, with much greater emphasis placed on placement in the correct courses, mentoring, etc. There will be a much reduced reliance on part-time advisors during registration periods. As our culture changes to focus on student success and data-informed decision-making, our improvements may actually be exponential.

External Factors: The institution's planned reorganization efforts will result in much less narrowly defined roles for those personnel most involved in advisement (faculty, counselors). Training in culturally relevant instruction (under the developmental education goal) will cross-hatch into mentoring activities by faculty as they become more engaged as advisors.

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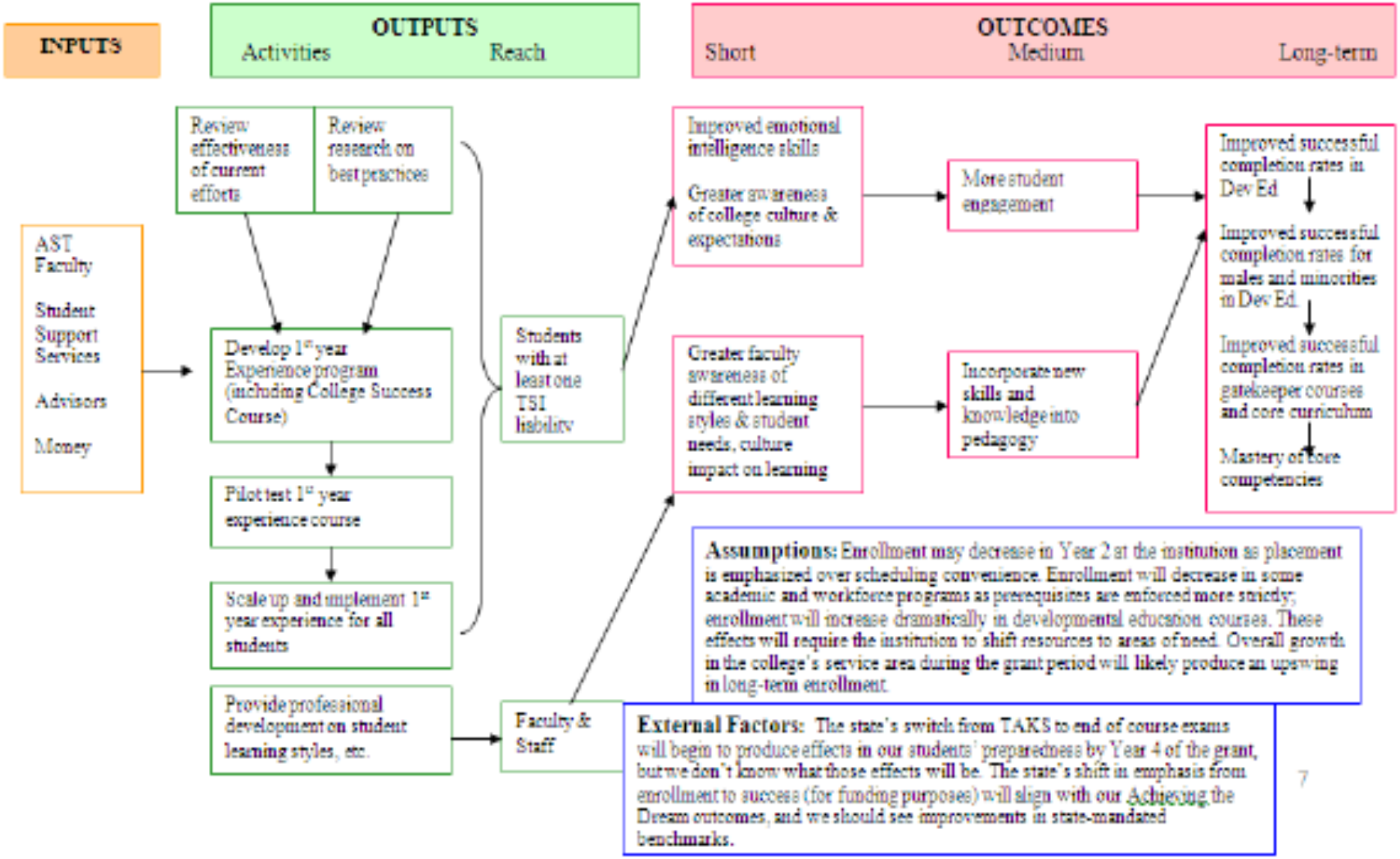
Logic Model Worksheet—Developmental Education

Situation: 90% of first-time students need developmental education in at least one subject. For those students who enroll in DE, only 44% to 53% successfully complete the course.

Priority: Improve students' successful completion of developmental courses and ensure that they are prepared for college level courses.



Priority 1: Redesigning Academic Advising System to Support Student Success

Evaluation Questions	Expected Outcomes	Assessment Methods	Tasks	Personnel	Frequency	Data Sources
1. To what extent did the revised advisement process positively affect student outcomes?	• Increased successful course completion rates • Increased retention of students • Higher number of degrees and certificates awarded	• Benchmark and cohort trend analysis	• Collect and track data on course completions data • Collect and track data on student retention • Collect and track data on awards	• Data Team • IRE Staff	• Annually	• Student Database System
a. To what extent do faculty, staff, and advisors understand the advisement process?	• Increased knowledge of academic advising process and TSI requirements • Greater satisfaction with advisement process	• Survey and trend analysis	• Develop survey instrument • Administer survey to faculty and staff • Administer Noel Levitz's SSI and IPS	• Evaluation Committee • IRE Staff	• Survey—Fall 2008 • SSI & IPS Fall 2008, Fall 2010	• Survey instrument to be developed • Noel Levitz' SSI and IPS

a.	What elements of the revised process are perceived as strengths? What needs for improvement were identified?	• Areas in need of improvement will be addressed.	• Survey and focus groups	• Develop survey instrument • Administer survey to students • Develop protocol for focus groups • Train facilitators • Conduct focus groups with faculty, staff and students • Analyze qualitative data • Review results with faculty and staff and discuss areas in need of improvement	• IRE Staff • Data Team • Evaluation Committee	• Fall 2008	• Data gathered through survey and focus groups.
a.	Are students being correctly placed in the appropriate courses?	• 99% of students will be correctly placed in courses	• Analysis of placement, perquisite and enrollment data	• Collect data from student database system. • Analyze data	• Data Team • IRE Staff	• Annually	• Student Database System

Priority 2: Improving Student Success in Developmental Education

Evaluation Questions	Expected Outcomes	Assessment Methods	Tasks	Personnel	Frequency	Data Sources
1. To what extent did the first year experience student success course for students with a developmental education need improve student outcomes?	• Improved successful completion rates in DE • Improved successful completion rates in gatekeeper courses and core curriculum • Mastery of core competencies	Benchmark/Trend analysis Cohort tracking	• Collect and track data on course completions data • Administer assessment instrument for course completion	• IRE Staff • Data Team • General Education Assessment Committee • Testing Center	• Trend data—Annually • Mastery data—Fall 2007 and Fall 2009	• Student Database System • CAAP
a. What elements in the first year experience course were perceived by faculty, staff and students as strengths? What needs for improvement were identified?	• Areas in need of improvement will be addressed.	Focus groups	• Develop protocol for focus groups • Train facilitators • Conduct focus groups with faculty, staff and students • Analyze qualitative data • Review results with faculty and staff and discuss areas in need of improvement	• IRE Staff • Data Team • Evaluation Committee	• Spring 2008 • Spring 2009	Protocol and data collection instruments to be developed.

a.	To what extent do students who complete the first year experience course demonstrate improved emotional intelligence skills?	• Increased knowledge of emotional intelligence skills	• Pre/post test control group design **	• Create experimental groups through advisement process • Administer assessment instruments to treatment and control groups	• IRE Staff • Faculty • Evaluation Committee	• Spring 2008—Beginning and end of term	• EIQ
a.	Do students who complete in a first year experience course have a greater awareness of the college culture and expectations?	• Greater awareness of college culture and expectations	• Pre/post test control group design **	• Develop survey • Administer survey to treatment and control groups	• IRE Staff • Faculty • Evaluation Committee	• Spring 2008—Beginning and end of term	• Survey instrument to be developed
a.	Do students who complete a first year experience course demonstrate more behaviors of student engagement?	• Students are more engaged in college experience and course work	• Benchmark/ Trend analysis	• Administer CCSSE to over sample of dev ed and gatekeeper classes	• IRE Staff • Evaluation Committee	• Spring 2008 • Spring 2010	• CCSSE
3.	To what extent did faculty professional development impact teaching and learning?	• Improved successful course completion rates for males and minorities.	Benchmark/Trend analysis	• Collect and track data on course completions data	• IRE Staff • Evaluation Committee	• Annually	• Student Database System • Survey

a.	Do faculty who participate the professional development course have a greater understanding of student characteristics and their impact on learning? To what extent do faculty incorporate this knowledge into their instruction activities?	• Faculty will perceive training to be beneficial and applicable to their classroom instruction. • Greater awareness and understanding of different learning styles, student needs and culture influences on learning. • New skills and knowledge are incorporated into classroom instruction.	• Repeated measures design. • Review of syllabi and other relevant course materials.	• Administer survey/ assessment instruments to participants. • Collect syllabi, other relevant course materials and analyze.	IRE staff • Evaluation Committee	• Assessment of knowledge—pre, post training and 4-6 week follow-up. • Assessment of application in classroom.	• TBD

*** Student participation in this study will be solicited during the advising process, prior to registration. A treatment group will be created by assigning every other student to the "First Year Experience" Student Success course. Students in the control group will be enrolled in the same developmental education classes as the treatment group. Assessment instruments will be administered in the developmental classes, at the beginning and at the end of the semester.*

(Rincones, 2009)