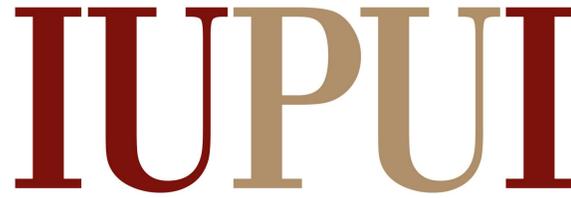


# Assessing the Effectiveness of a Summer Success Academy: A Theory-Based, Mixed-Methods Approach

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## Abstract

Conducting rigorous evaluations of programs designed to enhance the academic success and learning outcomes of students has become a necessity in higher education. The present study examined the effectiveness of an academic support initiative designed for at-risk first-year students attending Indiana University Purdue University Indianapolis: a Summer Success Academy. The program was designed to help students perform better in their math and writing courses; feel an enhanced sense of belongingness; improve readiness to begin college; improve academic self-efficacy; clarify expectations; and introduce students to general education outcomes and high impact practices. A theory-based evaluation methodology was utilized. This approach included linking program goals with theory and evaluating the program based on those theories using a mixed-method approach.

## Introduction

Assessment scholars recommend that a variety of qualitative and quantitative methodologies should be employed to facilitate understanding regarding “why” programs and interventions produce specific outcomes (e.g., Simpson 2002; Banta 2002; Siegel, 2003; Swing, 2001). In order to understand the impacts of the summer bridge program, we implemented quantitative and qualitative approaches. Several analyses were conducted in an effort to understand if students were benefiting from the intervention. We employed a theory-based evaluation approach which allows evaluators to know not simply that a program did not work, but why it did not work, and at what stages in the evaluation process the failure occurred (Bickman, 1987; Birckmayer and Weiss; 2000, D’Agostino 2001; Tyler, 1949). As such, we began our program evaluation planning approach by clearly articulating the program theory to help guide the selection of measures and to increase understanding among researchers and practitioners regarding what internal program operations need to be improved when selected outcome measures suggested that desired program “outputs” were not achieved.

Summer bridge programs have been designed to address the transitional educational needs of a wide range of first-year students. According to the early intervention literature, academic support programs should be viewed as processes or intentional sets of programs designed to assist incoming students with their transitions to the institution. Additionally, content should be designed to meet the diverse needs of incoming students (e.g., Jacobs, 1993; Smith and Bracklin, 1993). Fox, Zakely, Morris, and Jundt (1993) contend that effective early intervention programs should assist students in becoming academically and socially integrated into a new and unfamiliar university environment.

Maples (2003) found that students who participated in a summer bridge program had higher academic achievement during the first semester than students who did not participate, even while controlling for background characteristics and academic preparation variables. Additionally, he found that students who participated in the summer program had higher one-year retention rates and graduation rates compared to students who did not participate. Taken together, the literature suggests that investing resources into programs that help aid students’ transitions to college by exposing them to collegiate-level expectations during the summer may help promote academic success.

## Program History and Content

The Summer Success Academy began as a pilot developmental math program in Fall 2007. We are entering our 5th year of the program. It is a 5-6 week program beginning in early July. Beginning in 2009, the program integrated writing and college success programming. There are no tuition costs to students and books are either free or low-cost. Students have to pay for housing, if required. The program has been phased in over time to replace conditional admits. Students are required to attend and must successfully complete the program to enter fall classes (unsuccessful candidates are referred to a Community College). Students who decline the SSA are referred to a Community College. The program is targeted to first-time students and is promoted as a “get started on the right foot program” and not as a “remediation program”. Other students are invited to participate, but their admission to the university is not contingent upon success in the program (adds an additional 5-25 students per year).

## Methods

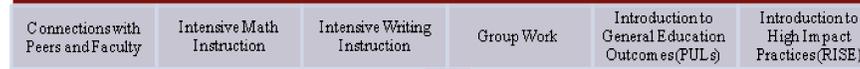
A mixed-method design allowed for the measurement of students’ educational outcomes as well as students’ attitudes, perceptions, and intended behaviors. Methods included the following:

- 1) Post Program Academic Success,
- 2) Students’ Sense of Belongingness, Self-Efficacy, and Organizational Commitment Questionnaire (Pre and Post Design),
- 3) Student Satisfaction Questionnaire (containing qualitative open-ended items)

In order to understand the SSA program effects on the participants’ educational outcomes, we examined predicted compared to actual performance levels. We also compared the SSA participants to previous cohorts who were not offered the program. Predicted GPAs were originally developed to assist in the admission decision process. The prediction formula was obtained by regressing actual grade point averages from previous cohorts of students on their combined SAT scores and high school grade point averages. The result was a single measure representing the best linear combination of students’ academic qualifications for predicting first-year grades (Pike, 2008). The formula used to calculate predicted grade point average was: (Predicted GPA =  $-1.244 + 0.001 \times \text{SAT} + 0.944 \times \text{High School GPA}$ ).

## Summer Success Academy Program Theory

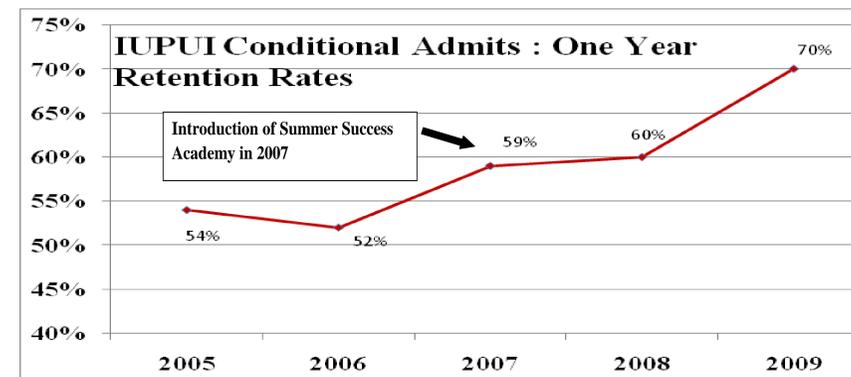
### Summer Success Academy



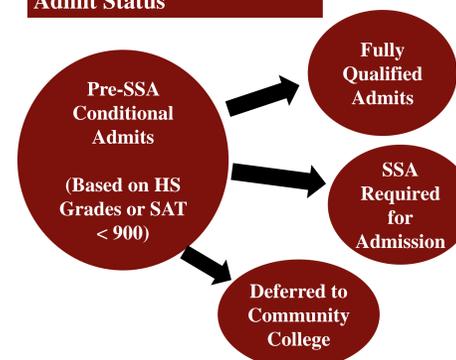
Create Sense of Belonging, Improve Math & Writing Skills, Build Readiness, Clarify Expectations



## Improved Retention and Academic Performance



## Redefining Conditional Admit Status



Written Communication Self-Efficacy	N	Average English Course Grade	SD
Low	33	2.00	1.19
Medium	27	2.27	1.12
High <sup>1</sup>	34	2.59	1.05
Total	94	2.29	1.13

Note<sup>1</sup>: Analysis is of full time conditional admits. Significantly different from the low Written Communication Self-Efficacy group in terms of average English course grade ( $p < .10$ ).

## Results Highlights

A total of 179 First-Time, Full-Time conditionally admitted students completed the 2010 Summer Success Academy (SSA), compared to 169 in 2009.

SSA participants have had notably higher one-year retention rates (not available yet for 2010) compared to non-participating conditionally admitted cohorts.

The 2010 participants showed significant improvements in their levels of Sense of Belongingness, Academic Self-Efficacy, Math Self-Efficacy, and Written Communication Self-Efficacy.

Students with High levels of Post-Program Written Communication Self-Efficacy performed better in their English courses compared to students with Moderate or Low Levels of Written Communication Self-Efficacy.

The 2010 participants had very positive reactions to the program and the learning environment. A total of 84% would recommend the program to other students and 78% had high levels of overall satisfaction.

The 2010 SSA participants performed as well as predicted [based on High School GPAs, SAT Total scores, SAT Math scores (used to predict math grades) and SAT Verbal scores (used to predict English grades)] in their first semester overall and in their Math and English courses.

Results are being used to make substantial improvements in the program to ensure that students are academically integrated. The faculty members plan to provide more rigorous math and writing instruction as well as more time-on-task in these areas.

## Most Valued Aspects of the SSA 2010

### Mathematics Components:

- “I valued the math class the most.”
- “The pre Algebra helped me remember a lot of stuff.”
- “The math portion was most valuable, as that’s my weakest subject.”

### English Writing Components:

- “The writing portion because that is where I struggle.”
- “I learned new ways to write an essay.”
- “The helpful small hints about English.”

### Meeting New People and Developing Friendships:

- “Meeting new people.”
- “I found that meeting new friends was the most valuable thing.”
- “Meeting other students in the same situations academically as ourselves.”

Factors	# of Items	Reliability (Alpha)	Valid N	*Mean (Pre)	*Mean (Post)	Mean Diff.	P-Value	Effect Size
Sense of Belongingness	7	0.802	173	4.37	4.80	0.43	0.000	0.50
Group Work Self-Efficacy	5	0.843	171	5.04	5.05	0.01	0.823	N/A
Individual Academic Self-Efficacy	5	0.864	179	5.02	5.23	0.21	0.000	0.26
Institutional Commitment	8	0.877	174	4.67	4.74	0.07	0.244	N/A
Math Self-Efficacy	5	0.832	177	4.24	4.77	0.53	0.000	0.57
Written Communication Self-Efficacy	5	0.893	178	4.56	4.95	0.39	0.000	0.42

Note: \*Responses were provided on a five (5) point Likert Scale ranging from (1) Strongly Disagree to (5) Strongly Agree

For questions, comments, or to request a copy of the completed study’s findings, please contact: Michele J. Hansen, [mjhansen@iupui.edu](mailto:mjhansen@iupui.edu)  
Please see handout for more detailed information.