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Data Report

Building STARS Project

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**METHODOLOGY**

**EVALUATION DESIGN**

Data collection for Baton Rouge Community College (BRCC), Building STARS Project (STARS), was supported by several staff members. The Project Director, faculty, Director of Institutional Research and Planning facilitated data collection and analysis. The evaluation plan is extensive and methodology is sound with the design outlined in a matrix (Appendix). The matrix describes types of data collected, instrument(s) utilized, frequency and duration of data collection, and a champion responsible for collection of data. The isolation of STARS data was accomplished through the construction of a standalone data base that housed all quantitative data. The data base was designed, updated, and monitored by the Director of Institutional Research and Planning and the research assistant. A longitudinal study of data from cohorts fall 2008, spring 2009, and all upcoming semesters will be housed in this database.

**RESEARCH METHODOLOGY**

An evaluation strategy was created and implemented to include formative and summative methods, thereby, encompassing qualitative and quantitative data. The evaluation also employed techniques using best practice of data methods and analysis with “triangulation” utilizing a “mixed-method approach”.

BRCC used indicators of program success to expand beyond student outcomes. There are many “contextual” or “process” indicators of a program’s success that cannot be found in an institution’s data base which contributes to program’s success. These “contextual/process” pieces are easy to overlook but should not be devalued. For example, participant satisfaction and attitudinal surveys, as well as program’s accessibility, capacity, usage, and uptake patterns are monitored.

An area of strength for the evaluation plan was the frequent collection of time sensitive student data and the use of experimental control through both pre –intervention testing to establish baseline measures and the use of a “matched–pair sample control group”. The control group was a baseline group that received neutral or no treatment. To assess treatment effects, the experimenter compared results from both treatment and control groups. There are often significant differences between characteristics of treatment and non-treatment groups. But these differences must be adjusted to reduce selection bias and determine treatment effects (Parsons, n.d.).

To make inferences, a STARS cohort (experimental group) was selected, and then a matched-pair control group was chosen from the general student population (Non-STARS participants) to compare for study. The intent was to use a matched-pair cohort for comparison analysis, by closely matching variables from the control and experimental groups. The goal was to reduce bias and focus on similarities of variables.

In this study, a matched-pair control group was created on the following blocking variables: Gender, Ethnicity, Age, Compass Score, Pell Recipient, Developmental or College-level Course taking, Full-time or Part-time Status. Controlling for competency in Math (Compass Score, Pre- Algebra Scores) was particularly important.

Matching members of a treatment group (cases) to members of a non-treatment group (controls) is often used in observational studies to reduce bias (and in some cases, to approximate a randomized trial), but it must be performed correctly. It is important that the process of matching the case to the control group be prescriptive in techniques to produce exact matching.

Within this study, matching of case (STARS participants) to control (Non-STARS Participants) was essential to validate the matched-pair cohorts through balanced case and control groups. The attempt was to match all participants of STARS with Non-STARS participants that have exact characteristics of all 7 blocking variables. More than 90% of cases had an exact match with all 7 blocking variables. The remaining 10% of cases had a near exact match (i.e. a participant who was 21 was matched to someone in the control on 6 of the 7 variables, except for age, but was closely matched at some aged 22 or 23, rather than 21). The research design supported the initiative through several comparisons. One example being the cohorts in each semester compared to their relative control groups, as well as, other groups and subgroups on campus. Progress of these cohorts was often compared to the general student population, minority population, and first-time student population. As with all cases, a prospective cohort was chosen, rather than a retrospective cohort.

**DEFINING SUCCESS: OPERATIONAL DEFINITIONS**

Student success is measured using a variety of methods. For purposes of this evaluation, retention and academic performance are used as key measures of student success.

Academic success is earning a grade of a “C” or better in a course. Additional measures, such as Academic Standing and Grade Point Average (GPA) at the end of the term may be considered. Students are determined to have “completed” a course when they have achieved a grade of “C” or better.

Retention is calculated for the student’s initial term (semester), when a student enters a cohort for the first time during their initial term. Thereafter, term 1 is counted as the second semester; term 2 occurs two semesters after initial term; term 3 follows three semesters after initial term, and so forth.

Consecutive enrollment is calculated by counting the number of students from the initial cohort who are enrolled 1 term consecutively, 2 terms consecutively, 3 terms consecutively, and so forth.

***Note: Consecutive enrollment excludes summer terms in its calculations.***

**OVERALL FINDINGS**

The STARS participants outperformed the regular BRCC students in every indicator proving that the interventions were worthy of further study or college-wide implementation. When retaining high – risk students is a goal, having a tutor in the classroom with the teacher seems to be most beneficial. College students who need developmental education courses are typically not secure enough to ask questions in class. The tutor provided that peer relationship which put them at ease to ask for help after class. The student Ambassadors also provided accurate information during the enrollment process which allowed students to ask those questions they would not otherwise ask of a staff person, thus assisting them in successfully completing the enrollment process. Many students continued to seek out the Ambassadors during the first weeks of class. This intervention was so successful that the Student Government Association accepted the STARS Director’s proposal to fund it as a service for students. The learning community model was the basis for the linked courses intervention. This is the third major intervention used that the STARS Team feel had the greatest impact on the success rates of the STARS participants.

* The STARS participants clearly demonstrated the HIGHEST semesterly and yearly retention rates when compared to other groups of campus (see Tables 2-4)
* The STARS participants clearly demonstrated the HIGHEST PERSISTENT ENROLLMENT RATES when compared to other groups of campus (see Table 5)
* The STARS participants clearly demonstrated the HIGHEST “successful completion” rates of developmental courses when compared to their control group (see Table 6)
* The STARS participants clearly demonstrated the HIGHEST course retention rate in the MATH 092 developmental course and college level math (MATH 1010) when compared to all other groups (see Table 7-10)
* The STARS participants clearly demonstrated the HIGHEST “successful complete” rates in both MATH 092 developmental courses and the college level math (MATH 101) when compared to all other groups (see Table 7 -10)
* The STARS participants consistently have HIGHER “end of term” GPAs then their respective control groups.

**TABLE 1: DEMOGRAPHICS**

Table 1 (below) displays demographics of STARS participants. By definition of the program, “at-risk or distress” students are those who self identified their ethnicity as Non-white or Caucasian, or those who were Pell recipients.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table #1** |  |  |  |  |
| **Data elements of Demographics** | **Fall 2008 Cohort** | **Spring 2009 Cohort** | **Fall 2009 Cohort** | **Spring****2010** **Cohort** |
| Cohort Headcount | 36 | 36 | 92 | 128 |
| Average Compass (Pre-Algebra Score) | 42.3 | 45.0 |  |  |
| % Full-time | 78% | 86% | 89% | 79% |
| % Part-time | 22% | 14% | 11% | 21% |
| % Minority | 50% | 67% | 58% | 73% |
| % Pell Recipients | 42% | 50% | 55% | 66% |
| % Cohort WHO ARE Minority and A Pell Recipient | 36% | 42% | 44% | 55% |
| % Male | 33% | 47% | 25% | 39% |
| % Female | 67% | 53% | 75% | 61% |
| % Pell Recipients IN COHORT WHO ARE MINORITIES | 72% | 62% | 78% | 82% |
| Average Age | 21 | 22 | 20 | 23 |
| % Traditional  | 92% | 83% | 89% | 75% |
| % Non-traditional (>24 yrs of age) | 8% | 17% | 11% | 25% |

**RETENTION**

Retention is calculated as the number of students from the initial term who remained 1 term beyond the initial term, then 2 terms beyond the initial term, and 3 terms beyond the initial term, and so forth. In many cases, these measures are identical to what most institutions label as “Semester” or in longer studies “Yearly” retention rates.

**Initial Term Retention**

Upon completion of the initial term, Fall 2008 cohort retained 100% of its students, while Fall 2008 control group retained 95% of its students.

Upon completion of the initial term, Spring 2009 cohort and the Spring 2010 cohort retained 100% of its students, while Spring 2009 and 2010 control group retained 97% and 94% of its students

**Table 2: Initial Term Retention**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Started in Fall 2008** | **Started in Spring 2009** | **Started in Fall 2009** | **Started in Spring 2010** |
| **STARS Cohort** | **100%** | **100%** | **100%** | **100%** |
| **STARS Control** | **97%** | **95%** | **97%** | **94%** |

**Retention- 1 Term Later (Semester Retention)**

The college’s retention rates for all groups of students have continued to increase each year. Historically, it retained nearly 40% of its general population each year (fall to fall semester) and retained 64% of its students from each semester (fall semester to spring semester). First-time students are retained at about 49% each year (fall semester to fall semester) and 68% each semester (fall semester to spring semester).

**STARS Findings (Semester Retention)**

Retention data clearly provides evidence that STARS cohorts are being retained at a much higher rate each semester than all of BRCC’s subpopulations and the general population; first -time and all full-time students.

**Data from STARS Project demonstrates STARS participants have higher semester retention rates than other comparative (Non-STARS) groups.**

Fall to spring retention was higher than Spring to Fall retention for STARS participants. This usually holds true among other higher education institutions.

**Table/Figure 3: Retention- 1 Term after initial term (Semester Retention)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Started in Fall 2008** | **Started in Spring 2009** | **Started in Fall 2009** | **Started in Spring 2010** |
| **STARS Cohort** | **81%** | **69%** | **83%** | **51%** |
| **STARS Control Group** | **77%** | **63%** | **72%** | **42%** |
| **BRCC - general population** | **64%** | **52%** | **67%** | **53%** |
| **BRCC - first-time student** | **68%** | **46%** | **70%** | **47%** |
| **BRCC - minority and first-time student** | **69%** | **45%** | **57%** | **39%** |

\*

**Fall 2008 Cohort-** (1) term after the initial semester, STARS Fall 2008 cohort **retained 81%**

**Spring 2009 Cohort-** (1) term after the initial semester, STARS Spring 2009 cohort **retained 69%**

**Fall 2009 Cohort** - (1) term after the initial semester, STARS Fall 2009 cohort **retained 83%**

**\*Spring 2010**- (1) term after the initial semester, STARS Spring 2010 cohort **retained 51%**

**Retention- 2 Terms Later (Annual Retention)*.***

**STARS Findings (Yearly Retention)**

One year later (two terms after the initial cohort term), 44% to 61% of STARS cohorts were retained and found to be enrolled, while the general BRCC population rates lagged behind at 41% to 43%. The greatest annual retention rate yet was found to be among the FALL 2008 cohort with 61% of the original cohorts continuing their enrollment one year later. **Clearly, STARS cohorts are demonstrating HIGHER Annual (fall to fall) retention rates THAN any other group on campus.**

**Table/Figure 4:** **Retention- 2 Terms Later (Annual Retention)**

**Table/Figure 4:** **Retention- 2 Terms Later (Annual Retention)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Started in Fall 2008** | **Started in Spring 2009** | **Started in Fall 2009** | **Started in Spring 2010\*\*** |
| **STARS Cohort** | **61%** | **44%** | **59%** | **N/A\*\*** |
| **STARS Control** | **43%** | **40%** | **48%** | **N/A\*\*** |
| **BRCC - general population** | **42%** | **41%** | **43%** | **N/A\*\*** |
| **BRCC - first-time student** | **45%** | **36%** | **45%** | **N/A\*\*** |
| **BRCC – minority and first-time student** | **44%** | **37%** | **42%** | **N/A\*\*** |

**\* \*\*N/A yearly retention rate (2 Terms later) cannot be calculated for the Spring 2010 or control groups, as one year has not expired.**

**Fall 2008 Cohort-** (2) terms after the initial semester, STARS Fall 2008 cohort **retained 61%**

**Spring 2009 Cohort-** (2) terms after the initial semester, STARS Sp 2009 cohort **retained 44%**

**Fall 2009 Cohort** - (2) terms after the initial semester, STARS Fall 2009 cohort **retained 59%**

 **Table 5: Persistence**

This table illustrates the % of original cohort **to be found enrolled each semester.** This is NOT CONTINUOUS enrollment but rather the “***% of the original cohort found to be enrolled in each subsequent semester PAST originating term”.***

**DEVELOPMENTAL EDUCATION SUCCESS**

While BRCC is an open admission college, all students are tested for basic competencies in Mathematics, English and Reading using the COMPASS test. In combination with ACT results, the Compass should produce accurate results for proper student placement.

**BRCC Populations**

Nearly 25% of the BRCC Fall 2008 student population, 28% of the BRCC Fall 2009 student population, and 34% of the BRCC Fall 2010 were enrolled in at least 1 developmental course.

Nearly 54% of Fall 2008 First time Students, 61% of Fall 2009 First time Students and 62% of Fall 2010 First time Students were enrolled in at least 1 developmental course. At BRCC, the percentage of developmental courses being passed by First Time Students is increasing, while the percentage of developmental courses being failed or withdrawn by First Time Students is decreasing. This is excellent news.

**The chart below illustrates FIRST TIME STUDENT Developmental Course Taking Patterns.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Term | **First Time Student Count** | **% of First Time Student taking at least 1 Dev** | Of those FTF in Dev, % taking **only 1 Dev** | Of those FTF in Dev, % taking **2 Dev** | Of those FTF in Dev, % taking **3 Dev** | Total **NUMBER of DEV COURSES** TAKEN BY FIRST TIME STUDENT | % COURSES **Passed** | % COURSES**Failed** | % COURSES**Withdrew** |
| Fall 2008 | 1691 | 54% (n=910) | 52% (n=471) | 32%( n=292) | 16% (n=147) | 1496 | 60% | 32% | 8% |
| Fall 2009 | 1770 | 61% (n=1085) | 47% (n=510) | 36% (n=386) | 17% (n=189) | 1849 | 65% | 29% | 6% |
| **Fall 2010\*** | **1685** | **62% (n=1045)** | **48% (n=498)** | **34% (n=360)** | **18% (n=187)** | **1776** | **NA** | **NA** | **NA** |

**STARS Population and Developmental Education**

* Fall 2008 cohort had 21 of its 36 members (58%) taking at least one developmental course
* Spring 2009 cohort had 27 of its 36 members (75%) taking at least one developmental course.
* Fall 2009 cohort had 71 of its 92 members (77%) taking at least one developmental course
* Spring 2010 cohort had 111 of its 128 members (87%) taking at least one developmental course.

**STARS Population and Developmental Math**

In Mathematics, a student receiving a score less than 56 in pre-college algebra is recommended to enroll in a developmental math. All developmental courses must be completed with a grade of “C” or better before enrolling in college-level courses. There are 3 levels of developmental Math. **STARS Project focused only on the first developmental math sequence, MATH 092.**

The number of students enrolled in developmental math (Math 092) of Fall 2008 cohort was 18 or 50%, while those of Spring 2009 cohort was 21 or 58%, Fall 2009 was 57 or (62%) and Spring 2010 was 96 or 74%. The control groups for cohorts were matched with the exact number or percent of students enrolled in developmental math. The remaining members of both cohorts (and control groups) were taking college-level math (Math 101).

***How are they doing in Developmental Courses?***

***Successful Completion of ALL Developmental Education Courses-End of first term***

* 38% of the Fall 2008 cohort (N=8) successfully completed all developmental courses enrolled ***by end of the initial term***.
* 41% of Spring 2009 cohort (N=11) successfully completed all developmental courses enrolled ***by end of the initial term***.
* 39% of Fall 2009 cohort, (N=27) successfully completed all developmental courses enrolled ***by end of the initial term***.
* 33% of Spring 2010 cohort (N=37) successfully completed all developmental courses enrolled ***by end of the initial term***.

***Successful Completion of ALL Developmental Education - End of two terms***

* There were 11 students of **Fall 2008** cohort enrolled in developmental courses over two terms, 18% (N=2) successfully completed all developmental courses enrolled ***by end of two terms***
* There were 10 students of **Spring 2009** cohort enrolled in developmental courses over two terms, 10% (N=1) successfully completed all developmental courses enrolled ***by end of two terms***
* There were 44 students of **Fall 2009** cohort enrolled in developmental courses over two terms, 20% (N=9) successfully completed all developmental courses enrolled ***by end of two terms***
* ***This indicator cannot be calculated for the Spring 2010 cohort as two terms have not elapsed yet.***

**Table 6: Course enrollment and successful completion of Developmental**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Developmental Education Benchmarks** | **Fall 2008 Cohort** | **Spring** **2009 Cohort** | **Fall 2009 Cohort** | **Spring 2010 Cohort** |
| **% of Cohort enrolled in at least 1 developmental course (initial term)** | **58%** | **75%** | **77%** | **87%** |
| **STARS Cohort - % completing ALL developmental courses at end of initial term** | **38%** | **41%** | **39%** | **33%** |
| **STARS Control**  | **34%** | **35%** | **28%** | **31%** |
|  |  |  |  |  |
| **STARS Cohort - % completing ALL developmental courses at end of two terms**  | **18%** | **10%** | **20%** | **N/A** |
| **STARS Control** | **22%** | **8%** | **11%** | **N/A** |

***N/A- One year (two academic terms) has not expired***

***How are they doing in Developmental Math Courses?***

 ***Retention Rates in Developmental Math***

***Retention in Math 092***

Retention in the developmental math course is important. Historically more than 95% of all students within the cohorts stayed to complete MATH 092. The percentage “retained” include those students remaining throughout the semester and receive a grade of A, B, C, D, or F. Those who withdrew are not considered when calculating retention.

The Spring 2010 cohort was the first cohort to have a decreased retention rate of 79%.

However, an investigation into the BRCC general population’s withdraw and retention rates for SP 2010 indicate a withdraw rate of 16% and a retention rate of 84% for MATH 092.

**It appears that 3 of the 4 STARS cohorts are still retaining at a higher rate when compared to the general population.**

**Data from STARS cohorts demonstrate participants have HIGHER retention rates in developmental Mathematics 092 compared to general student population.**

***BRCC retention rates in Math 092***

**Table 7 and 7a: Retention Rates, MATH 092**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Fall 2008 Cohort** | **Spring 2009****Cohort** | **Fall 2009****Cohort** | **Spring 2010** **Cohort** |
| **STARS Cohort** | **95%** | **95%** | **98%** | **79%** |
| **STARS Control** | **93%** | **95%** | **90%** | **84%** |
| **BRCC - general student population** | **91%** | **92%** | **94%** | **84%** |
| **BRCC - first-time student** | **91%** | **96%** | **94%** | **85%** |
| **BRCC - minority first-time student** | **88%** | **92%** | **94%** | **86%** |

* **Fall 2008 Cohort**- Of the 18 students enrolled in Math 092 of Fall 2008 cohort, 95% were retained as opposed to 93% of Fall 2008 control group.
* **Spring 2009 Cohort**- Of the 21 students enrolled in Math 092 of Spring 2009 cohort, 95% were retained, same as Spring 2009 control group.
* **Fall 2009 Cohort**- Of the 57 students enrolled in Math 092 of Fall 2009 cohort, 98% were retained as opposed to 90% of Fall 2009 control group.
* **Spring 2010 Cohort**- Of the 96 students enrolled in Math 092 of Spring 2010 cohort, 79% were retained, as opposed to 84% as Spring 2010 control group.

***Success Rates in Developmental Mathematics***

***BRCC success rates in Math 092***

Historically, 44% to 50% of the BRCC general student population enrolled in Math 092 completed course with a “C” or better. Of the general student population, First Time Students successfully complete Math092 at a slightly higher rate than Minority First time Students. **Data from STARS demonstrate participants have HIGHER completion rates in developmental Mathematics 092 compared to general student population.**

**Table 8: Successful Completion Rates for MATH 092**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Fall 2008 COHORT****% SUCCESSFUL**  | **Spring 2009 COHORT****% SUCCESSFUL** | **Fall 2009****COHORT****% SUCCESSFUL**  | **Spring 2010 COHORT****% SUCCESSFUL** |
| **STARS Cohort** | **56%** | **48%** | **47%** | **42%** |
| **STARS Control** | **46%** | **41%** | **39%** | **37%** |
| **BRCC - general student population** | **44%** | **45%** | **50%** | **44%** |
| **BRCC – first-time students** | **41%** | **34%** | **49%** | **46%** |
| **BRCC - minority first-time student** | **39%** | **34%** | **48%** | **38%** |

* **Fall 08 Cohort**- Of the 18 students enrolled in Math 092 of Fall 2008, 56% successfully completed course with a “C” or better, as opposed to 46% of Fall 2008 control group.
* **Spring 2009 Cohort**- Of the 21 students enrolled in Math 092 of Spring 2009, 48% successfully completed course with a “C” or better, as opposed to 41% of Spring 2009 control group.
* **Fall 2009 Cohort**- Of the 57 students enrolled in Math 092 of Fall 2009, 47% successfully completed course with a “C” or better, as opposed to 39% of Fall 2009 control group.
* **Spring 2010 Cohort**- Of the 96 students enrolled in Math 092 of Spring 2010, 42% successfully completed course with a “C” or better, as opposed to 37% of Spring 2009 control group.

***How are they doing in College-level Math (M101)?***

The number of students enrolled in college-level math (Math 101) of Fall 2008 cohort was 16 or 46%, Spring 2009 cohort was 14 or 39%, Fall 2009 cohort was 29 or 32% and 16 or 12% of Spring 2010 cohort. The control groups for semester cohorts were matched with the exact number or percentage enrolled in college-level math. The remaining members of both cohorts (and control groups) were enrolled in developmental math (Math 092).

***Retention Rates in College-level Math***

***Retention in Math 101 for BRCC***

The percentage “retained” included students who remained until end of semester term. Those who withdrew were not considered in retention calculations.

Historically, 76% -79% of the BRCC general student population enrolled in Math 101 were retained in the course. The College’s First-Time student cohorts are retained in the course with varied retention rates ranging from 77% to 83%. For BRCC’s minority first-time students, enrolled in MATH 101 course retention has varied from 74% to 90%.

The STARS Cohorts have been retained in MATH 101 at the highest rates, from 86% to 100%. For the first time, a STARS Cohort had 100% retention in MATH 101.

**Data from the STARS project demonstrates STARS participants have HIGHER retention rates in College-level Mathematics than general student body.**

**Table 10: Retention Rates, MATH 101**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Fall 2008** | **Spring 2009** | **Fall 2009** | **Spring 2010** |
| **Cohort** | **86%** | **87%** | **93%** | **100%** |
| **Control** | **87%** | **84%** | **85%** | **84%** |
| **BRCC - general student population** | **79%** | **77%** | **78%** | **76%** |
| **BRCC - first-time student** | **80%** | **77%** | **83%** | **80%** |
| **BRCC - minority first-time student** | **74%** | **74%** | **86%** | **90%** |

**STARS Findings**

* **Fall 2008 cohort**- Of the 16 students taking Math 101 in Fall 2008, 87% were retained as opposed to 87% of Fall 2008 control group.
* **Spring 2009 cohort**-Of the 14 students taking Math 101 in Spring 2009, 86% were retained the as opposed to 84% of the Spring 2009 control group.
* **Fall 2009 cohort**- Of the 29 students taking Math 101 in Fall 2009, 93% were retained as opposed to 85% of Fall 2008 control group.
* **Spring 2010 cohort**-Of the 16 students taking Math 101 in Spring 2010, 100% were retained the as opposed to 84% of the Spring 2009 control group.

***Success Rates in College-level Mathematics***

***BRCC success rates in Math 101***

* To be successful, one would need to earn a “C” or better in the course.
* Historically, between 29% (Fall 2008) and 42% (Spring 2009) of all BRCC general student body enrolled in MATH 101 successfully completed course with a “C” or better.
* For BRCC’s first-time students, the success rate in MATH 101 has ranged from 26% (Spring 2010) to 39% (Fall 2008).
* BRCC’s minority first-time students demonstrate lower success rates in Math 101 ranging from 30% (Spring 2010) to 35% (Fall 2008)
* STARS Cohorts have continued to outperform ALL other groups of students on campus, with success rates in MATH 101 ranging from 44% (Fall 2008) to 69% (Fall 2009)

**Data from the STARS demonstrate STARS participants have HIGHER completion rates in developmental Mathematics 101 compared to general student population.**

**Table 11: Successful Completion Rates for MATH 101**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Fall 2008 COHORT****% SUCCESSFUL**  | **Spring 2009 COHORT****% SUCCESSFUL** | **Fall 2009****COHORT****% SUCCESSFUL**  | **Spring 2010 COHORT****% SUCCESSFUL** |
| **Cohort** | **44%** | **39%** | **69%** | **50%** |
| **Control** | **39%** | **38%** | **47%** | **35%** |
| **BRCC - general student population** | **39%** | **40%** | **42%** | **29%** |
| **BRCC - first-time student** | **39%** | **32%** | **38%** | **26%** |
| **BRCC - minority first-time student** | **35%** | **34%** | **33%** | **30%** |

**STARS Findings**

* **Fall 2008 cohort-** Of the 16 students enrolled in Math 101 in Fall 2008 cohort, 44% successfully completed the course with a “C” or better, as opposed to 39% of the Fall 2008 control group.
* **Spring 2009 cohort**- Of the 14 students enrolled in Math 101 Spring 2009 cohort, 39% successfully completed the course with a “C” or better, as opposed to 38% of the Spring 2009 control group.
* **Fall 2009 cohort**-Of the 29 students enrolled in Math 101 Fall 2009 cohort, 69% successfully completed the course with a “C” or better, as opposed to 47% of the Fall 2009 control group.
* **Spring 2010 cohort**- Of the 16 students enrolled in Math 101 Spring 2010 cohort, 50% successfully completed the course with a “C” or better, as opposed to 35% of the Spring 2009 control group.

***Successful Completion of College Level Courses (by the end of the initial term)***

* **Fall 2008 Cohort-** Of the Fall 2008 cohort, 33% of those enrolled in college-level courses successfully completed all college-level courses ***by end of the initial term,*** *as opposed to 27% in the control group*.
* **Spring 2009 Cohort-** Of the Spring 2009 cohort, 30% of those enrolled in college-level courses successfully completed all college- level courses ***by end of the initial term.*** But the Spring 2009 control group had a slightly higher rate of 35%.
* **Fall 2009 Cohort-** Of the Fall 2009 cohort, 46% of those enrolled in college-level courses successfully completed all college-level courses ***by end of the initial term,*** *as opposed to 31% in the control group*.
* **Spring 2010 Cohort-** Of the Spring 2010 cohort, 29 % of those enrolled in college-level courses successfully completed all college- level courses ***by end of the initial term.*** But the Spring 2009 control group had a slightly higher rate of 32%.

***Successful Completion of ALL College Level Courses (by the end of two terms)***

* **Fall 2008 Cohort**- Of the Fall 2008 cohort, 17% of those enrolled in college-level courses successfully completed all college level courses enrolled ***by end of first year,*** as*opposed to 14% in the control group*.
* **Spring 2009 Cohort**- Of the Spring 2009 cohort, 6% of those enrolled in college-level courses successfully completed all college level courses enrolled ***by end of first year,*** as*opposed to 4% in the control group*.
* **Fall 2009 Cohort**-Of the Spring 2009 cohort, 24% of those enrolled in college-level courses successfully completed all college level courses enrolled ***by end of first year,*** as*opposed to 14% in the control group*.

**Table 9: Course enrollment and successful completion of ALL college-level courses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Started Fall 2008** | **Started Spring 2009** | **Fall 2009 Cohort** | **Spring 2010 Cohort** |
| **% of Cohort taking at least 1 College Level Math** | **44%** | **39%** | **32%** | **14%** |
| **STARS Cohort - % successfully completing ALL college-level courses by end of initial term** | **33%** | **30%** | **46%** | **29%** |
| **STARS Control** | **27%** | **35%** | **31%** | **32%** |
| **STARS Cohort - % successfully completing ALL college-level courses by end of two terms (1 year)** | **17%** | **6%** | **24%** | **N/A** |
| **STARS Control** | **14%** | **4%** | **14%** | **N/A** |

***N/A- One year (or two terms) has not expired yet.***

***College Skills Success (CSSK 101) Rate***

CSSK 101 is a college-success skills course which STARS participants were dual enrolled with a mathematics course. Overall, there was fairly high retention in CSSK 101 (57% to 83%) and pass rates exceeding the cohort pass rates.

**Table 10: CSSK Academic Performance**

***\*Completed includes those with an “F”***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RESULTS** |  |  |  |  |
| **CSSK 101**  | **Started Fall 2008** | **Started Spring 2009** | **Started Fall 2009** | **Started Spring 2010** |
| % Of cohort enrolled in CSSK | 100% (N=36) | 95% (N=35) | 95% (N=87) | 41% (N=53) |
| % completed CSSK\*  (% retained in course) | 69% | 57% | 98% | 83% |
| % Successfully Completing (C or Better) | 68% | 52% | 75% | 50% |
| % failed “F” CSSK | 28% | 37% | 9% | 25% |
| % received “W”CSSK | 3% | 6% | 2% | 17% |

**Table 13: End of term - Grade Point Average (GPA)**

STARS cohorts for both semesters did better (collectively) than their respective control groups. Statistical analysis by end of term GPAs revealed there was not a significant difference between each cohort and its control group, but certainly a practical difference. When average “end of term” GPAs are considered, clearly the cohorts are out performing their respective control groups and every other group in most cases, with the exception of the general population (which contains continuing and 2nd year students)

**Math Boot Camp**

This course is intended to provide a review of math concepts to assist in increasing placement test scores of students that place in the first developmental math course (MATH 092). The intensive review will prepare the student to successfully test in the next level of math. After completing boot camp, the student will have the opportunity to take the exam one more time. The course will be offered for three weeks in the summer. The ultimate goal was to decrease the number of developmental math courses participants would have otherwise taken.

**Math Boot Camp Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **MBC****Enrolled** | **% MBC****Retained**  | **% Placed** **Math 092** | **% Placed** **Math 093 or higher** | **% Placed Math 101 or higher** | **% BRCC****Enrolled** |
| 20 | 95% | 42% | 58% | 42% | 90% |

All of the students who attended the Math Boot Camp pilot tested into math 092, lowest developmental math course, initially. The majority were successful in raising their math scores on the Compass after attending the camp with 58% scoring higher than their original scores. In addition, 90% of the attendees enrolled in BRCC and have been retained thus far this semester. BRCC hopes to expand the Math Boot Camp next summer.

**METHOD MATRIX**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DOMAIN** | **TIMING** | **METHOD** | **SOURCE/INSTRUMENT** | **CHAMPION** |
| Student Demographics | Pre | Data mining | Banner Information System | IR |
| Student Academic Measures | Pre/Post | Data mining | Banner Information (i.e. Compass, HS GPA, Term GPA, Grades, Academic Standing) Math pre-test, Attendance, Early Warnings (during) | IR |
| Pre/During | Instrument (Test) Documents | Faculty |
| Student Attitudinal Measures | Pre | Survey/Focus Group /Observational | Math Attitude Inventory College Student Inventory | IR, Faculty, Project Director |
| Student Retention (course/school) | Post/Long | Data mining | Banner Information System | IR |
| Satisfaction (participants, staff, faculty) | Post | Survey/Focus  | Focus Group Notes/Survey Results | Project Director |

**REFERENCE**

parsons, lori A. (n.d.).. Ovation Research group. Retrieved July 28, 2009, from <http://www.lexjansen.com/pharmasug/2001/proceed/posters/p11_parsons.pdf>