Student Success Coach Summary Fall 2013

Norco College

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I.   INTRODUCTION TO CONCEPTUAL MODEL

In an effort to increase student success at Norco College, a pilot study was conducted on the effectiveness of intrusive interventions with basic skills students. Basic skills students tend to be more at-risk in completing their education as indicated by their low transfer-level English and math course completion rates. For students who begin at the lowest level of basic skills English, 19% successfully complete English 1A. For students who begin at the lowest level of basic skills math, 5% successfully complete a transferable math course. Very often, these at-risk students may have benefitted from assistance provided by student support services. However, as research indicates, these students are least likely to avail themselves of the services that could help them be successful (Heisserer & Parette, 2002; Maxwell, 1997). Due to this disconnect, a temporary position was created to bridge these lowest-level basic skills students with student support resources. This position was called a Success Coach. The success coach (SC) was assigned entire classes as their target for intrusive interventions. The point of "intrusion" by the SC was not mainly inside the classroom, although that certainly occurred. The SC would usually first connect with the instructor on a regular basis to find out who they identified as struggling or at-risk. This took the form of individual meetings by the SC with the instructor and also by intensive follow up on the Early Alert program. Early Alert is an instructor-initiated computerized process that identifies in what areas a student is struggling and which services might be best for them to utilize. This is conducted between the 4th and 8th weeks of the semester. The SC used instructor meetings and the Early Alert system to identify students who needed follow up with the SC or to utilize various support services. In addition, data were gathered through a survey given to all students involved in the study within the first two weeks of the semester to identify the following risk factors: first generation status, number of hours worked, family income, marital status, number of children, and whether they live independently. This survey was converted to a database used to identify potential at-risk students so the SC could monitor progress from the beginning. Finally, the SC offered a variety of workshops focusing on issues related to success in college for at-risk students. Workshops ranged from topics such as first-generation issues to college resources. The SC project began in mid-August and Ended in mid-December for the Fall 2013 semester.

The purpose of the Student Success Coach Project was to two-fold: explore the effectiveness of intrusive approaches with basic skills students, and use rigorous research methods to control for confounding variables. What is meant by the latter can be summed up in the term,

volunteer bias. This type of bias occurs when research allows subjects (students) to volunteer for a study (service) and then compares results of the volunteers against those who did not volunteer. In education, this bias is difficult to avoid. For instance, if students who voluntarily participate in a student support service (counseling, tutoring, financial aid, etc.) are compared against those who did not, the two groups are likely very different types of students.   In this situation, the group of students who participate probably have more focus, motivation, drive, and initiative than those who didn't participate. When comparing outcomes between these groups, any differences that occur cannot necessarily be attributed only to the impact of the service. It could simply be a byproduct of systematic differences between the groups; in essence, the "comparing apples and oranges" problem.

To avoid this bias, the SC Project attempted to control for three areas that tend to be unaddressed in educational research. First, to control for volunteer bias, basic skills English and math *classes* were selected as the study and comparison groups. Note that the unit of measure for this study is the entire class. If a basic skills English course had an SC assigned to it, outcomes (e.g. success rate, GPA, retention rate, etc.) were calculated for the entire class as the indication of impact for SC services. The assumption is that the entire basic skills class is a representative sample of the basic skills population, and therefore, examining the impact of the SC for the entire class will mirror the impact for the entire population (and not single out outcomes for only the motivated students). Second, to control for differences in the classroom experience, the same basic skills courses WITH same instructors were selected for both the study and comparison groups. In this way not only would both groups be experiencing the same course, they would also be experiencing the same instructor for the course. This would minimize the chance that differences in outcomes would be due to differences in course (instructor expectations, skill level at which course is taught) or instructor (quality, expertise, etc.) Each instructor involved in the study was made aware that they should make sure both classes they taught (study and comparison groups) should receive similar instructional experiences. The last area the SC Project attempted to control for was motivation and/or confidence level of the students. To assess this area (and to gather many of the data for at-risk factors) the beginning of semester survey was used to assess student motivation, confidence, and comfort levels in the study and comparison classes. Although students couldn't be assigned to classes (as experimental research design would require), by gathering data in the above areas, researchers could identify significant differences and statistically control for them should they occur. Although selection bias, course differences, and motivational differences don't exhaust all the variables that could confound a research study, they do represent a significant effort to control for some of the most powerful selection biases in educational research.

II.   RESULTS OF PROJECT

There were 253 students in 6 classes (3 English, 3 math) comprising the study group, and there were 246 students in the comparison group for the SC Project. The following (Table 1) is a comparison of various background characteristics between the study and comparison groups. On most variables the study and comparison groups looked quite similar. The only areas where a noticeable difference existed was in age. There was approximately a 10-percentile difference in the "19 or less" and "20 to 24" age categories. However, when these two categories were collapsed (i.e. traditional-age students) the difference virtually disappeared. Also, a large difference occurred between groups in missing data. This remained a consistent pattern of omissions and didn't appear to create discrepancies between group comparisons, however.

Table 1. Comparison of Background Characteristics between Groups

	Comp Count	Comp Percent	Study Count	Study Percent
AGE				
19 or less	138	56.3%	107	45.5%
20 to 24	61	24.9%	82	34.9%
25 to 29	18	7.3%	16	6.8%
30 to 34	9	3.7%	12	5.1%
35 to 39	7	2.9%	5	2.1%
40 to 49	10	4.1%	9	3.8%
50+	2	0.8%	4	1.7%
Missing	1		18	
Total	246	100.0%	253	100.0%
GENDER				
Female	142	58.0%	132	56.2%
Male	103	42.0%	104	44.3%
Missing	1		17	
Total	246	100.0%	253	100.0%
ETHNICITY				
American Indian	0	0.0%	3	1.3%
Arab	0	0.0%	1	0.4%
Asian	6	2.5%	11	4.7%
Black	14	5.8%	14	5.9%
Hispanic	144	59.5%	133	56.4%
Indian	0	0.0%	1	0.4%
Native Hawaiian	2	0.8%	1	0.4%
Other	1	0.4%	0	0.0%
Two or more	32	13.2%	27	11.4%
White	43	17.8%	45	19.1%
Missing	4		17	
Total	246	100.0%	253	100.0%

	FIRST-GENERATION STUDENT			
1st Gen	101	41.1%	103	40.7%
Not 1st Gen	145	58.9%	150	59.3%
Total	246	100.0%	253	100.0%

Employment and units attempted represent important factors that can potentially impact student performance in higher education. Tables 2 and 3 below compare the number of hours per week in employment and number of units attempted between the study and comparison groups during the Fall 2013 semester. Upon review it is evident that the two groups closely resemble each other in most categories within each of the tables.

Table 2. Comparison of Employment Hours

Hours/Week	Comparison Group		Study Group	
	Count	Percent	Count	Percent
0	93	44.3%	84	42.2%
1-10	8	3.8%	10	5.0%
11-20	33	15.7%	30	15.1%
21-30	39	18.6%	36	18.1%
31-39	10	4.8%	13	6.5%
40+	27	12.9%	26	13.1%
Unknown/Missing	36		54	
Total	246	100.0%	253	100.0%

Table 3. Comparison of Units Attempted in Fall 2013

Units Attempted	Comparison Group		Study Group	
	Count	Percent	Count	Percent
Less than 6	18	7.4%	33	13.4%
6-11.5	103	42.2%	105	42.7%
12-15.5	114	46.7%	99	40.2%
16+	9	3.7%	9	3.7%
Total	244	100.0%	246	100.0%

A final area of comparison was in the affective domain. A pre- and post-survey were administered to all of the classes in the comparison and study groups. The pre-survey (the same as the first two week survey mentioned previously) assessed areas related to feelings about higher education that could potentially impact academic outcomes such as motivation and confidence toward college, comfort in using student resources, connection to the institution, and whether they met with a counselor. Table 4 below displaying mean ratings for

most affective areas were very similar both before and after the intervention of the SC. Mean scores were on a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5). The results indicated two things: the groups were quite similar in feelings about higher education, and the SC had little impact on the feelings of the students toward the institution, which was surprising. The last category under the affective area, Meeting with Counselor, may not be a feeling but it could have an influence on students' feelings toward the institution. From beginning to end of the semester students in the comparison group indicated a 12-percentile increase in meeting with a counselor, whereas the study group indicated a 32-percentile increase in the same time period. Clearly, the presence of the SC was a strong influence toward getting students to come into the department and meet with a counselor. This large student influx to counseling was also probably due to the fact that the SC was located in the counseling department. The SC's location facilitated easy access to counseling appointments and certainly influenced this difference. The puzzling aspect of this is that although the study group reported seeing counselors in much greater number and percentage than the comparison group, this did not influence students' feelings toward the institution. Keep in mind this measure is the mean rating for the entire class regarding feelings toward the institution. So, one inference from these data is that although study group students interacted with the SC or counselor in greater proportion than the comparison group, the overall impact on feelings toward the institution was not significant. An overall inference from all of the data in Tables 1-4 is that the study and comparison groups were similar enough in background characteristics, employment hours, unit load for term, and affective areas to ensure that comparison of outcomes were more likely to be a result of the impact of the SC and not systematic group differences.

Table 4. Comparison of Affective Measures between Groups

Affective Area	Comparison Grp		Study Grp	
	Pre Survey	Post Survey	Pre Survey	Post Survey
How motivated are you to be in college	4.5	4.2	4.5	4.3
Are you confident that you will be successful in college	4.5	4.2	4.4	4.2
How comfortable are you with using student services such as Financial Aid, Career and Job Placement, Tutorial Services, and Student Employment	3.9	3.9	4.0	3.9
I feel more connected to Norco College than I did at the beginning of the semester	-	4.0	-	4.1
Have you met with a counselor	56.9%	69.2%	49.4%	81.9%*

* Indicates significant difference ($p < .05$).

The following is a summary of the student contacts related to the SC in the study group during Fall 2013.

Out of 253 students in the study group:

- 146 students (58%) had some sort of contact with SC
- 83 students (33%) met with SC face-to-face at least once
- 72 students (28%) created a student educational plan during Fall 2013
- 50 students (20%) attended one or more of the 10 workshops
- 75 students (30%) contacted SC for help with counseling
- 62 students (25%) called or emailed SC at least once

Since the majority of the students in the study group had some sort of contact with the SC, it can be assumed that students had sufficient exposure to intrusive interventions for there to be a measurable effect on outcomes. However, in addition to exposure, the quality of the application of the SC contact needed to be assessed. To assess the quality of SC contact, the post-survey for study group participants included items which assessed their perceptions of the SC services. These items presented a series of statements and students were asked to rate their level of agreement from 1 (Strongly Disagree) to 5 (Strongly Agree). A rating of 3 indicated a "Neutral" response. As indicated in Table 4, the first statement shows that only a little over half of the post-survey respondents were aware of the SC's services. This may indicate a potential problem with the implementation of the intrusive model. In training the SC and faculty on the model, they were informed that the SC would not be taking up an inordinate amount of class time. However, it was recommended that the SC come to the first day of each class to introduce SC services and periodically make in-class announcements (workshops, appointments, etc.). At a meeting with faculty and the SC, faculty indicated that they were not seeing enough of the SC in the classroom and encouraged more in-class visits. In addition to in-class activities, it was stressed that the SC should make prompt contact outside of class with all students who had at-risk factors as indicated on the pre-survey. The lack of awareness of the SC services in Table 4 indicates that either the intrusive approach with students wasn't implemented rigorously or the students did not remember the interventions of the SC. In either case, this raises some concerns regarding full implementation of the intrusive model, especially early on in the semester.

Table 4. Student Perceptions of Success Coach

	Average Agreement	Agree or Strongly Agree Ratings	
	Mean	Number	Percent
I was aware of the SS Coach's services	3.6	79/140	56.4%
I was aware of the workshops offered by the SS Coach	4.1	101/140	72.1%
I felt the SS Coach made a difference in my performance in this course	3.2	49/133	36.8%
I felt the SS Coach made a difference in my performance overall at Norco College	3.2	47/133	35.3%
The SS Coach was available to me	3.7	76/140	54.3%

Given the lack of awareness of SC services indicated in the first statement on Table 4, the remaining survey statements were artificially lowered by including results of students who did not have awareness of the SC. To give a more accurate indication of student perceptions of SC services, Table 5 shows the results of the last four statements, but limited to students who indicated awareness of SC services. The pattern of responses in Table 5 mirrors those of Table 4, only the percentages are uniformly higher. Clearly, those who were aware of the SC services were also aware of the workshops and felt the SC was available. However, with only slightly over half of the "SC aware" students indicating any agreement that the SC made a difference in their performance, it is still not clear that the intrusive model was executed effectively or proactively.

Table 5. Student Perceptions of Success Coach Limited to Students Indicating Awareness of SC

	Average Agreement	Agree or Strongly Agree Ratings	
	Mean	Number	Percent
I was aware of the workshops offered by the SS Coach	4.7	72/79	91.1%

I felt the SS Coach made a difference in my performance in this course	3.7	40/74	54.1%
I felt the SS Coach made a difference in my performance overall at Norco College	3.8	42/73	57.5%
The SS Coach was available to me	3.7	66/78	84.6%

One of the primary objectives of the SC Project was to improve success of students in both basic skills and all courses taken during the term. As indicated in Table 6, comparison and study group students did equally well. Although study group students had a higher success rate in their basic skills English courses, the difference between groups was not significant. When expanding analysis to success rate for all courses taken in Fall 2013 the difference between groups becomes even flatter. As Table 7 shows, success rate and semester GPA were virtually identical between groups. To identify whether the SC impacted student persistence to the next full term (Spring 2014), students were tracked to see if they enrolled within the first two weeks of the semester. Table 8 shows that there was again little difference between groups in persistence rates. Finally, students were tracked during the semester to determine the rate at which they completed a student educational plan (SEP) with a counselor. The difference on this measure (Table 9) was significant between groups with the study group completing SEPs in greater number and percent.

Table 6. Comparison of Success Rate in Basic Skills Course

	Comparison Group		Study Group	
Targeted course	**Successful**	**Percent**	**Successful**	**Percent**
English	55/90	61.1%	65/95	68.4%
Math	77/140	55.0%	76/134	56.7%

Table 7. Comparison of Semester Success Rate and GPA

	Comparison Group	Study Group
Overall Course Success	60.1%	60.1%
Semester GPA	2.10	2.11

Table 8. Comparison of Persistence Rates

	Comparison Group		Study Group	
	Number	Percent	Number	Percent
Persist	180	73.8%	188	75.8%
Didn't Persist	64	26.2%	60	24.2%
Total	244	100.0%	248	100.0%

Table 9. Comparison of SEP Completion Rate

	Comparison Group		Study Group	
	Number	Percent	Number	Percent
SEP	51	20.9%	98	39.5%*
No SEP	193	79.1%	150	60.5%
Total	244	100.0%	248	100.0%

*Significant difference t= -4.585, p<.001

In course success, semester GPA, and persistence there was very little difference in outcomes between groups. However, in SEP completion the study group rate was almost double that of the comparison group, 39.5% and 20.9%, respectively. As mentioned previously, in addition to the influence of the SC directing students to counseling appointments, this was also probably due in in some measure to the SC being located in the counseling department. This is a positive outcome insomuch as it indicates more students were receiving direction from counselors

regarding the correct pathway to their academic goals. Yet, this is also troubling since there was no difference between groups in course success, semester GPA, or persistence to the next semester. These results contradict much of the research, which resulted in recent legislation that indicated student success is correlated with completion of the SEP. Results such as these are not unprecedented at this institution, however. In previous research on SEP completion with basic skills students, SEP completion was found to have no positive influence on student success when biases were controlled for in a similar manner to the present SC study.

A final outcome measure for the SC project was faculty feedback through an end-of-the-semester survey. Of the 6 faculty involved in the study, 4 responded to the survey. Table 10 below summarizes their responses. The faculty survey used some of the same items as the student post-survey regarding perceptions of the SC services, as well as ratings of the motivation, engagement, and preparedness of the study and comparison group classes. As indicated by Table 10 below, faculty perceptions of the SC were quite positive. In Table 11, instructor ratings for the comparison and study classes are presented. The study classes were lower in all areas with Engagement and Preparedness ratings indicating the greatest difference. Significance testing was not possible due to the low number of respondents for the survey.

Table 10. Instructor Rating of SC Services

Item	Rating
I was aware of the Student Success Coach's services	5
The Student Success Coach was available to me	5
I felt the Student Success Coach made a difference in the performance of my students	4.75
I feel my students in the study class are more connected to Norco College than at the beginning of the semester.	5

Table 11. Instructor Rating of Comparison & Study Group Classes

	Comparison	Study
Motivation	4	3.75
Engagement	4.25	3.5

Preparedness	3.5	2.75

III.   SUMMARY AND RECOMMENDATIONS

The present study was unique in the implementation of a research design which took into account and controlled for some of the most common biases in educational research. By selecting students who were in the same basic skills course, differences in skill level were much more equivalent between groups. By selecting the same basic skills instructors for both comparison and study groups, the experience of students and quality of the faculty was addressed as a mitigating factor. By assessing various affective domains (motivation, confidence, comfort, and connection), differences in these areas could be accounted for in the analysis of outcomes. These research controls allowed for clearer insight into the effectiveness of the SC intervention isolated from many selection biases that could have existed between groups.

With these controls in place, outcomes between groups were not significantly different in any of the academic outcome areas (course success, semester GPA, persistence to next semester). There is some evidence that the intrusive model may not have been implemented effectively, especially early in the semester. Student ratings indicate that even for those students who were aware of SC services, only a little over half felt these services made a difference in their academic performance. One positive outcome was that students who were involved in the study (SC) group were significantly more apt to see a counselor and/or complete an SEP.

Conclusions based on these data are somewhat ambiguous. It is possible that intrusive interventions do not work on at-risk students at Norco College. However, there is ample research where this approach has been effective with this population at other colleges (Maxwell, 1997; Laden, 2004; Levin et al, 2008), so this may not be a valid conclusion. Another possibility is that the intrusive model was not implemented early or effectively enough to make an impact on these at-risk students. Another conclusion stemming from the significantly higher SEP rate is that SEP completion did not appear to impact academic outcomes for basic skills students when selection bias was controlled.

Recommendations for the future would be to consider another study on intrusive interventions. In this future intervention, it will be imperative that the SC begin immediately making contact with the study group students. Since much of the success of this model is dependent upon faculty collaboration and frequent interaction with instructors, it is recommended that future projects use counselors (who are fellow faculty members) rather than paraprofessionals for this position. It is also recommended that SEP completion be

reconsidered as an intervention for basic skills students' academic success. This is not to advocate that they don't complete SEPs for planning purposes. It is just not sufficient to ensure their success in higher education.   Finally, interventions which consistently have positive impact on basic skills students are not clearly understood. When taking rigorous research measures to isolate the influence of an intervention, sometimes it requires us to reexamine our assumptions about what works. To make an impact on basic skills student population, different strategies and more creative approaches than are presently being implemented will have to take place.

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