Cooperative and Concurrent Enrollment and College Retention

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ABSTRACT

Oklahoma has a unique system of high schools, technology centers and community colleges that work together to enable students to receive education in technical areas. Given Oklahoma's shortage of technical degree recipients, the Cooperative Alliance Program (CAP) was developed to encourage additional students to begin technical programs during high school (or as adults) at regional technology centers and then continue the programs at community colleges. The CAP program was expected to increase the number of technical graduates in the state. This study reviewed first-year data on the CAP program and found CAP students had earned more credit hours, were more likely to be retained in their degree programs and had higher GPA's than students who did not participate in CAP.

Problem

Oklahoma currently has a shortage of Associate Degreed graduates moving into the workforce. According to the *Oklahoma Employment Outlook 2014,* published by the Oklahoma Employment Security Commission, Oklahoma will need over 12,000 Associate Degreed job candidates in the next 6 years (Brock, 2006). The technology center system in Oklahoma is uniquely positioned to assist Oklahoma community colleges in educating students and creating opportunities for them to enter the workforce. The Cooperative Alliance Program (CAP) was implemented in an effort to smooth the pathway of students, both adult and high school, from their technology center program area into an Associate Degree program in that same area. Oklahoma State University Institute of Technology (OSUIT) is a participant in this program with partnerships with 23 Technology center systems. This study was designed to determine how well the program is increasing high school student retention and the number of graduates in Associate Degree programs in Oklahoma.

Purpose of Research

The purpose of this study was to examine the retention and completion rates of students who were enrolled in the CAP for high school or adult students attending Oklahoma Technology centers and entered Associate in Applied Science Degree programs on community college campuses following their participation. These results were compared to the data on the retention and graduation of students who entered similar community college degree plans at the same time but had not participated in the CAP.

Research Questions

On the completion of this study, the researcher hopes to answer the following questions:

1. Are students who participated in CAP retained on the college campus at the same rate as students who did not participate in CAP?

2. Are students who participated in CAP as likely to finish degree programs as students who did not participate in CAP?

Literature Review

Previous studies have suggested varying factors that influence completion rates of incoming college freshmen. These factors include such things as academic ability, gender, smoking vs. non-smoking, being a first generation college student, holding down a job while attending and even self measured popularity or artistic ability (Astin, 2005). Analysis of things like incoming academic ability and emotional health would instinctively seem to correlate positively with completion rates and this held true in the research (Astin, 2005; Hawley & Harris, 2005).

Research has suggested those factors that negatively affected retention included being a first generation college student, holding down a job, low entrance assessment scores or incoming academic ability and English proficiency (Astin, 2005; Hawley & Harris, 2005). Another factor found to be prevalent in non-retained students was a lack of a sense of community or belonging on the college campus (Harris, 2006). Harris' study particularly dealt with adult students in a short term degree program rather than a general population of college freshmen, but the data indicated significance, at least among these students, of the importance of a "sense of community" on their retention and completion of this program.

In many ways those college students who first attend a two year, community college are different from students who matriculate directly into a four year college. Though some earlier research indicated that students who first attend a two year college are less likely to finish a four year degree (Light, 2000) there is some question about the reasons for this finding. Some researchers have indicated this could be due to the open admission policy of most community colleges. These policies engender a more diverse incoming student body both socioeconomically and academically; therefore, a smaller percentage of these students may complete a four year degree because of varying levels of preparation before they enter college. The community college experience is also thought to encourage students who otherwise might not have a chance to attend college at all an opportunity to enter and be successful in college (Sandy, Gonzalez, & Hilmer, 2006).

Researchers agreed it was not the quality of the community or two year school that caused the decrease in completion of the bachelor's degree, but instead the quality of the student. Initial differences in student preparation for college admission seemed to be the primary reason for the differences. This is not necessarily a negative, as the community college pathway opens up four year schools to students who might not otherwise qualify for a four year education and some of those students do finish. So, though it may be indicated that fewer students graduate with bachelor's degrees if they transfer in from a two year school, it could also be argued that the four year institutions as a whole have more graduates due to the existence of two year schools'

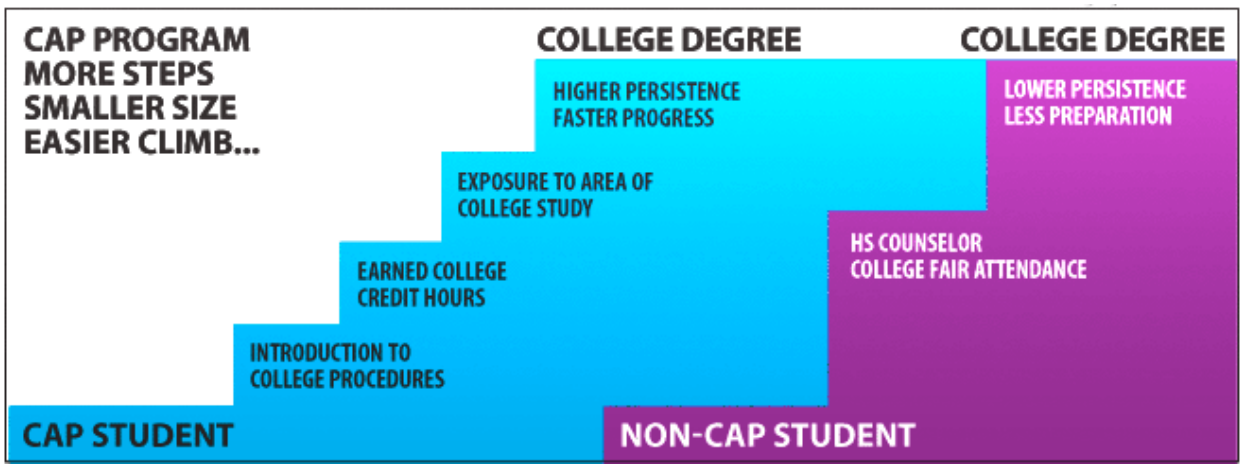
programs for those students who are initially more academically challenged or come from different backgrounds and levels of preparedness for college (Sandy et al., 2006).

One theme that occurs repeatedly throughout the research on retention is student involvement on campus (Astin, 2005; Harris, 2006; Light, 2000; Vincent, 2006). Colleges are challenged to determine how on-campus involvement takes place, particularly with non-traditional students who may not live on campus or are only on campus for limited periods of time.

Focus of the Study

The CAP, which will be the focus of this research, connects high school juniors and seniors and adult students to community colleges while they are attending classes in the Technology Centers of Oklahoma. This program is unique in the way it connects students with different high school and home town backgrounds as they attend on Technology Center Campuses. The Technology Center system in Oklahoma consists of a number of campuses geographically scattered across the state. Students from surrounding high schools are bused to the technology center for portions of their school day to take part in technical education programs in many areas including Information Technology, Culinary Arts, Automotive Service Technology and many other technical programs. Adult students who may be recent high school graduates or older adults retraining for another career may also attend the Technology Centers located near their homes. The CAP also connects students to the participating community colleges and arrange for college representatives visit the Technology Center campuses during the school year to advise and enroll these CAP students in a degree program.

Upon completion of a Technology Center program, students can choose to matriculate onto the community college campus and complete the degree they have already begun while attending the center. It is hoped this program creates a sense of community, belonging and connection to the college while the students are still attending at the technology center.



Programs such as the CAP will not have maximum benefit to the participants if it is implemented ineffectively.

Vincent's (2006) second concern with student retention was income equity. The cost benefit of college credits earned during high school can greatly affect the ability of students to be retained in degree program areas and ultimately complete degrees. Due to the college credit students receive who participate in the CAP, there are very real savings in the total cost of an education. This factor should help to level the field but more work will need to be done at the collegiate level to enable students of varied socioeconomic backgrounds to perform successfully in degree programs. Data gathered in this research project will examine the CAP and determine what can be done to implement it to its most effective level.

Methodology

Participants for this study were chosen from an existing population rather than randomly selected due to the relatively small number of participating students in the first years of the CAP program. The experimental group consisted of fifty students who had participated in the CAP during their junior or senior year in high school or as an adult student attending a technology center in Oklahoma during the 2005-2006 or the 2006-2007 academic years and subsequently enrolled as full time students with OSUIT during the fall of 2007. Academic records were obtained by the Institutional Research Office (IRO) for the entire population of former CAP participants admitted as full time students during fall of 2007 which numbered 50 students.

For the control group, the researcher made every effort to fairly and randomly select a comparison population from the existing population of first time freshmen enrolled at OSUIT for the fall semester of 2007. The comparison group of fifty students was randomly chosen from the remaining first-time freshmen admitted to OSUIT for fall of 2007. The total number of students in this population was 548. Again, the IRO randomly selected students and provided academic records for each chosen student. The identity of each selected student was maintained by the IRO for the purposes of follow-up research.

The academic records for each student provided the researcher with the following information which was used in this comparison research: total courses attempted and earned through summer of 2008 and enrollment for fall 2008, Cumulative Grade Point Average (GPA), ACT Scores (where available), information regarding if/when students had stopped out of the degree program and graduation information. Additional information available from these academic records which can be used for further research and follow up include: CAP student's Technology Center attended, alternative assessment data (eg. ACT Compass), remedial coursework completed and information on selected majors.

Results

While results of this research must be considered preliminary due to the small sample size and the beginning stages of the implementation of this program, data collected seemed to indicate program value for CAP participants. Results indicated retention and academic progress in CAP students tended to be more likely than in the non-CAP group. Collected data is summarized in Table 1.

To reiterate, the intent of this research was to answer the following questions: Are students who participated in CAP retained on the college campus at the same rate as students who did not participate in CAP? Are students who participated in CAP as likely to finish degree programs as students who did not participate in CAP?

Table 1
Descriptive Statistics

Characteristic	CAP Students	Non-CAP Students
Remain FT Students Fall 2008	35	21
Average GPA	2.899	1.944
Hours earned – Persisters	53.97	43.67
Hours earned – All	49.50	25.14
Entering ACT Scores	17.14	18.03
$r_{GPA\text{-}Hrs}$	.58	.73

Note. $r_{GPA\text{-}Hrs}$ = correlation coefficient for GPA and hours earned for each group.

CAP students are as likely (and possibly more likely) to be retained on campus as non-CAP students. Of the 50 CAP students examined, 35 remain full time students on the OSUIT campus during the fall of 2008. Of the non-CAP students, 21 remain full time students on the OSUIT campus for fall of 2008. The research sample was small and cannot be considered to prove the students will be retained at a higher rate, but is indicative of positive progress toward a degree program.

The sample data did not allow enough information to determine whether CAP students are more likely to complete degree programs. Since the students began degree programs on campus during fall 2007, most had not had enough time to complete degrees. To answer this question fully, it will be necessary to follow up with these students during fall of 2009 and again during fall of 2010.

Further examination of the research data shows CAP students have an average GPA of 2.899 while non-CAP students have an average GPA of 1.944 in on campus coursework. CAP students who persisted in their degree programs had earned an average of 53.97 credit hours through the end of the summer 2008 term while non-CAP students who persisted in their degree programs had earned an average of 43.67 credit hours. This comparative difference of just over 10 credit hours was completed only the students who had remained in their degree programs. Averaging hours earned for the entire control and experimental groups showed CAP students earned an average of 49.5 credit hours and non-CAP students earned 25.14 credit hours. This information could be considered misleading since there were so many more CAP students still enrolled in the degree program. Thus the comparative credit hour accumulation based on continuous enrollment may be more realistic.

The only instance where CAP students seemed to be slightly behind non-CAP students was in the area of entering ACT scores. CAP students had an average entering ACT score of 17.14 while non-CAP students averaged 18.03. Since OSUIT is an open admission Community College, ACT does not affect a student's ability to be admitted to the university, but can affect course enrollment. Only students who scored at least 19 on the ACT in each academic area are allowed to enroll in general education coursework. The lower GPA could indicate that CAP students will need to take more remedial or leveling coursework which could add to their degree completion time. This will need to be examined in a future study.

Figures 2 and 3 show scatter plot correlations of Grade Point Average (GPA) and credit hours earned for each group of participants. Both groups showed correlation between GPA and the number of credit hours each student had completed. With the exception of a few outliers, students who had earned more credit hours had higher GPAs.

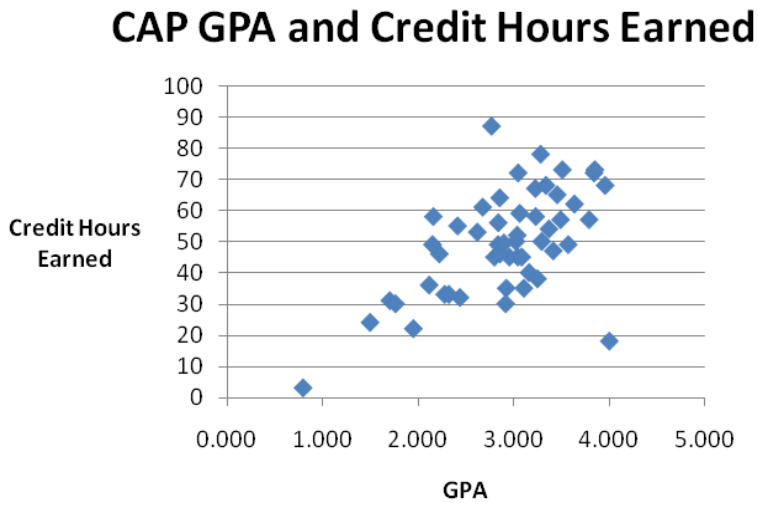


Figure 2. CAP student Grade Point Average (GPA) versus Credit Hours Earned

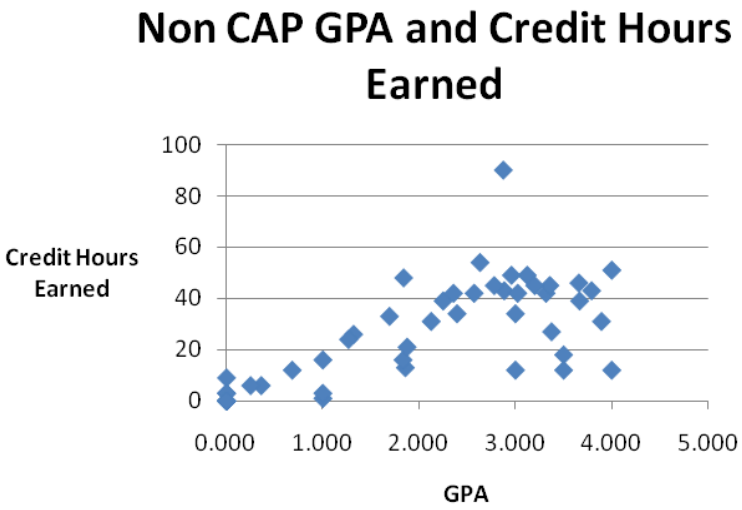


Figure 3. Non-CAP student GPA versus Credit Hours Earned

For CAP students, (-N=50), the correlation coefficient was calculated as .58 indicating a positive correlation. For non-CAP students, (-N=50), the correlation coefficient was calculated as .73 also indicating a positive correlation. These correlations do indicate that students who have earned more credit hours have higher GPA's. This correlation could point to the importance of the course hours CAP students complete prior to attendance on the college campus. These hours seemed to improve the CAP students overall GPA status and may have contributed to their tendency to be retained in their degree programs.

Planned Follow Up

The researcher plans to continue to follow the students selected for this study during the fall of 2009. Within a year, some graduation and completion data should also be available. Students who are known to have transferred to other institutions rather than dropping out of college altogether could be followed-up on to determine whether or not they have remained in a degree plan and successfully matriculated.

A final follow up study will be done during fall of 2010. This would allow the standard 150% time for students to complete so that completion rates for both groups might be compared.

Limitations/Implications and Conclusion

Although the data is preliminary, it clearly implicates the value of CAP for students who participated. These students had earned more credit hours, were more likely to be retained in their degree programs and had higher GPA's than students who had not participated in the CAP. Having this advantage should enable them to finish their degree programs at higher rates than non-CAP students.

The groups used in this study were preexisting and relatively small. Also, the study was completed using students and data from only one college in Oklahoma. There are twelve CAP participating colleges in Oklahoma. A study using groups of students from several campuses would have great value. The college used for this study is located in Northeastern Oklahoma in a rural area fairly close to the major metropolitan area of Tulsa, Oklahoma. Using representative colleges from major metropolitan areas such as Oklahoma City Community College in Oklahoma City and from more rural areas such as Northern Oklahoma College in Tonkawa for comparison purposes could have great value.

Also, different participating colleges offer different degree programs. Comparing the student data within one degree program area could help determine which degree programs are most benefitted from a program of this nature. The CAP agreements vary from program to program as far as number of credit hours students can earn and final degree. While all CAP agreements result in credit within an Associate of Applied Science (AAS) degree program, there are many different AAS programs participating from Information Technology to Auto Service Technology.

Technology centers vary across the state as well, with 29 technology center systems encompassing 55 individual campuses in Oklahoma located in rural and metropolitan areas.

Students come from different feeder high schools, some being primarily metropolitan and some rural. A comparison of rural students to metropolitan students could help to indicate if there is more value for this program for one group or the other.

The CAP has value for students and is improving their on campus experiences. While the group studied in this project was small, there is reason to believe these results are likely true for all CAP participants. More study is needed to verify this but the preliminary indication is this program should be continued because it is having a positive effect on its participants.

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