A study of early college high school students' persistence towards attaining a bachelor's degree

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ABSTRACT

This mixed methods study involved a two phase analysis of how Early College High Schools influence students who graduate with <19 college credit hours, 20-39 college credit hours, or >40 college credit hours in obtaining a Bachelor's Degree. The research incorporated an explanatory sequential mixed methods design that involved collecting quantitative data, then explaining the results with in-depth qualitative data. In the quantitative phase of the study, data from the National Student Clearinghouse (NSC) was examined to determine whether or not Early College High School students graduating with <19 college credit hours, 20-39 college credit hours, or >40 college credit hours are persisting in college or the university. This data was collected on ECHS graduates from an ECHS District in the Lower Rio Grade Valley (LRGV).

Results indicated that students completing less than (19) hours of ECHS were less likely to complete college. Conversely, those completing more than (19) hours of ECHS coursework were more likely to complete college. Qualitative analysis involving in-depth interviews with (6) students identified six themes related to college completion for ECHS students. Those six themes were: relationships, family, service to others, college ready, persistence and support.

This research will assist educational leaders by providing them with planning data that will assist them in scaling up college opportunities for all students, especially those who might not be provided the opportunity to enroll in a college class due to being a student of color, an English Language Learner, At-Risk, Economically Disadvantaged and a First Generation College student.

Keywords: Graduation Rates, Dropout Rates, At-Risk Students, Intervention and Prevention Programs, Early College High School, NCLB, TEA

INTRODUCTION

Recently within the last decade, Early College High Schools (ECHS) have taken center stage in the LRGV. Before 2012 there were only twelve ECHS campuses located in the LRGV (The Monitor, 2012). Three years later, there are twenty-five ECHS campuses located in the LRGV (TEA, 2015), and others are currently awaiting designation for the 2015-2016 school year. Although the ECHS concept has grown tremendously in the LRGV, where ninety-three percent of the population is Hispanic (U.S. Census Bureau, 2015), the concept still has not caught on in other parts of the state of Texas where Hispanics are now becoming the majority and will soon surpass the White ethnicity. As the Hispanic population in Texas continues to grow and surpass that of the White population the state must have an answer to address the needs of the Hispanic population as well as other minorities if Texas is to not only compete nationwide, but also worldwide.

The ECHS concept affords opportunities to students of color and the economically disadvantaged, as well as first generation college students (Aviles-Reyes, 2007). The LRGV is taking the lead with this concept statewide and nationwide. Educators from around the state and nation have visited one school district in particular that has grown the ECHS model to include all of their comprehensive high schools, affording the college experience to every child, and also most recently has included their special purpose campuses as well. The rationale behind implementing the ECHS model within their alternative schools is to ensure if a student does not make it at a comprehensive high school they will still benefit from the same supports found at an Early College comprehensive high school (King, 2014). Leonard-Foots (2013) states students graduating from high school with college hours will move forward to college and persist.

PURPOSE OF THE STUDY

The purpose of this mixed methods study was to analyze the impact Early College High Schools have on college persistence and attainment of a Bachelor's Degree after graduating with <19, 20-39, and >40 college credit hours.

RESEARCH QUESTIONS

Hypotheses

H_1 There will be a significant relationship among number of credit hours and persistence at a four year college or university from ECHS graduates with <19, 20-39, and >40 hours.

H_2 There will be a significant association between number of credit hours from ECHS students graduating with <19, 20-39, and >40 hours on degree attainment.

Null Hypotheses

H_1 There is no significant relationship among number of credit hours and persistence at a four year college or university from ECHS graduates with <19, 20-39, and >40 hours.

H_2 There is no significant association between number of credit hours from ECHS students graduating with <19, 20-39, and >40 hours on degree attainment.

RESEARCH DESIGN AND APPROACH

For this study a mixed methods approach was selected to include quantitative and qualitative methods. Selecting this model enabled greater understanding of the problem or question than through the use of a single method (Creswell, 2014). Quantitative data was obtained from an ECHS district in the Lower Rio Grande Valley through a request that the data be in excel format for the ECHS students graduating in 2012. For collecting qualitative data, face-to-face interviews were conducted with six former graduates of an ECHS from a school district in the LRGV. The former students from the ECHS were selected based on graduating from the ECHS with <19 college credit hours, 20-39 college credit hours, or >40 college credit hours. The qualitative data built directly on the quantitative results, and these results served as predictors and outliers, relating to the variables (Creswell, 2014).

Setting, Population/Participants

For the purpose of this research, several ECHS from a school district in the LRGV were used. The rationale in using several ECHS from a school district was to ensure there were enough participants for the study.

For the qualitative portion of the research, six former students from an ECHS in a school district in the LRGV were interviewed. All former ECHS students were from the same school district the data was received from.

Data Collection, Coding, and Analysis

This study was submitted for approval to Texas A & M University-Kingsville's Institutional Review Board (IRB), through a full elucidation of all instruments and data collection procedures.

All semi-controlled, open-ended interviews were digitally voice-recorded using an auto-recording device, and transcribed immediately after by the researcher, verbatim, with attention to pauses and emphasis, to avoid misinterpretation of the subjects' intended viewpoints (Robson, 2002). Responses were initially grouped compiled using a critical charting method informed by study of Colin Robson's Real World Research, and his suggestions for development of coding schemes in naturalistic observational methods research (Robson, 1993).

The data examination utilized systematic theming strategies utilized by naturalistic, flexible researchers (Erlandson et al., 1993; Robson, 2002).

For the quantitative portion of this study data was collected from an ECHS school district in the LRGV. The ECHS had this data in existence from data they received from the NSC. After collecting the data, the primary researcher used SPSS and coded the independent and dependent variables on the data and variable views.

RESULTS (Quantitative)

The data collected from the ECHS district in the LRGV encompassed three independent variables and two dependent variables. The analysis examined <19, 20-39, and >40 college credit hours as the independent variables. Using pairwise comparisons, the research looked at how each

of the independent variables compared with college persistence and attainment of a bachelor's degree as the dependent variables.

Persistence

The study examined the degree to which high school students were persistent in college after taking <19 credit hours, 20-39 credit hours, or >40 credit hours. The variables were persistent with two levels (no) and (yes), and credits with three levels <19, 20-39, and >40. Persistence and credits were found to be significantly related, N= 3,822, Pearson Chi-Square 790.10, p=<.001, Cramer's V= .46. The proportion of students who were persistent with <19, 20-39, or >40 credits were .27, .77, and .76 respectively. Follow-up pairwise comparisons were conducted to evaluate the difference among their proportions. Table 1 shows the results of these analyses (See Table 1 – Appendix). The Holm's Sequential Method was used on all three comparisons. There were two pairwise significant differences, one between <19 and 20-39, and <19 and >40. The probability of a student who had obtained 20-39 credits was 2.81 times (.76/.27) more likely than students who had obtained less than 20 credits. The probability of a student who had obtained >40 or more credit hours persisting was 2.81 times (.76/.27) more likely than students who had obtained less than 20 credit hours.

Bachelor's Degree Attainment

The study also examined the degree to which high school students were persistent in attaining a bachelor's degree in taking <19 credits, 20-39 credits, or >40 credits. The two variables in attaining a bachelor's degree with two levels (no) and (yes), and credits with three levels <19, 20-39, and >40. Attaining a Bachelor's degree and credits were found to have significant association N=3,822, Pearson Chi-Square 175.17, P= <.001, Cramer's V= .21. Results indicated that the probability of a student who had obtained 20-39 credits was (3.2/.8) four times more likely than students who had obtained less than 19 credits to obtain a Bachelor's degree. The probability of a student who had obtained >40 credits attained a Bachelor's degree was (26.1/4.9) 5.3 times more likely than students who had obtained less than 19 credits (Table 2 – Appendix).

RESULTS (Qualitative)

The data gathered for the second phase of the study came from six respondents, and their personal and academic experiences at an ECHS school district in the LRGV. The research identified several themes that emerged as part of this study.

In the qualitative follow-up, the interview process, the researcher explored whether graduating with <19, 20-39, or >40 college hours would positively influence the ECHS graduates to persist and attain their Bachelor's Degree on time. The interviews looked at the following participants: (1) ECHS graduates who graduated with <19 college hours from an ECHS in the LRGV, (2) ECHS graduates who graduated with 20-39 college hours from an ECHS in the LRGV, and (3) ECHS graduates who graduated with >40 college hours from an ECHS in the LRGV, to see which of these groups had a higher probability of persisting towards attaining their Bachelor's Degree on time.

Themes

Numerous themes emerged while the researcher analyzed the data being provided by the participants. "A theme is a salient recurrent feature" (Gall et al, 2005). A total of six themes were ascertained, and two of the themes were expected. For example, college readiness and persistence were two themes that seemed evident would appear. The other themes uncovered were relationships, family, service or giving back to the community, and support services. These six themes were communicated by all six of the participants. Identified themes are summarized as follows:

CONCLUSIONS AND RECOMMENDATIONS

Aviles-Reyes (2007) suggested ECHS virtually prevent students from failing due to wrap around support services that prepare them to be successful in college while still in high school. The qualitative phase of this study provided insight into some of those support services suggested by Aviles-Reyes. Aviles-Reyes (2007) stated three elements ECHS should focus on during the transformation of their campus as the following: (a) every student will graduate from high school ready for college or a career, (b) every student will be engaged in advanced subjects relevant to their lives and ambitions, and (c) create small learning communities (SLCs) thematic in design where students feel a sense of belonging, safety, connection and respect for each other. The six participants interviewed attended an ECHS school district in the LRGV that believed in placing students in a meaningful pathway or small learning community. ECHS's believe in the cohorting of students as per the TEA benchmarks for ECHS. From the six participants interviewed, only one is currently not in college and is a stop-out.

ECHS's predicate themselves on students and faculty building relationships, and that is why they started off as (SLCs) and today continue through the pathway model. This allows for students and faculty to form a closeness that will allow for students to always look for assistance and support that will never let them fail because they know their relationship with their teachers will help them get through the tough courses and the difficult times.

In the quantitative analysis the first null research hypothesis tested showed that there was a significant difference between the credit hours the ECHS graduates took and there persistence. There was a significant difference between <19 credit hours and 20-39 credit hours in that the study showed the p value was below the <.001. This study informs that as long as students reach >20 credit hours they will significantly persist after graduating from an ECHS. The second null hypothesis analyzed data provided from the ECHS school district if there was a significant association between the number of credit hours from ECHS students graduating with <19 credit hours, 20-39 credit hours, and >40 credit hours. In all three independent variables the null hypothesis was rejected because there was a significant association in degree attainment when the three independent variables <19 credit hours and 20-39, <19 credit hours and >40 credit hours, and 20-39 credit hours and >40 credit hours. The p value for all three variables was at <.001 or below indicating that all three independent variables have a significant association with degree attainment.

In summary, the quantitative and qualitative phases of this mixed methods study reaffirm and validate what the research says about ECHS and placing of these students via the cohort model or pathway model in a career or field that interests them.

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APPENDIX

Table 1 Persistence

Results for the Pairwise Comparisons Using the Holms Sequential Method

Comparison	Pearson Chi-Square	P Value	Cramer's V
Credits 1 vs. Credits 2 vs. Credits 3	790.10	<.001	.46
Credits 1 vs. Credits 2	531.39	<.001	.40
Credits 1 vs. Credits 3	448.58	<.001	.38
Credits 2 vs. Credits 3	.043	.888	-.006

Table 2 Bachelor's Degree Attainment

Results for the Pairwise Comparisons Using the Holm's Sequential Method

Comparison	Pearson's Chi-Square	P Value	Cramer's V
Credits 1 vs. Credits 2 vs. Credits 3	175.17	<.001	.21
Credits 1 vs. Credits 2	17.25	.001	.072
Credits 1 vs. Credits 3	164.99	<.001	.23
Credits 2 vs. Credits 3	27.74	<.001	.16