SUPPORTING DIFFERENTLY-ABLED STUDENTS IN TWO

NEW JERSEY COMMUNITY COLLEGES

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Abstract

Federal disabilities legislation (the *Individuals with Disabilities Education Improvement Act*, or IDEIA of 2004) continued the movement of disabled ("differently-abled") persons from segregated public educational institutions to fully integrated general education classrooms, with appropriate accommodations for the individual's disabilities. Public schools' implementation of this legislation has resulted in differently-abled high school students having increased skills and options as they enter the postsecondary world of work and/or education. Currently, there is a wide gap between the levels of support these students experience in public school versus the levels of supports they can expect in post-secondary education and/or in employment. For many of these students, postsecondary education on the campuses of community colleges may bridge that gap.

The purpose of this study was to compare the levels of and different types of support for differently-abled students at two New Jersey community colleges. The following research questions were investigated: (1) What support services are provided to and accessed by differently-abled students in two New Jersey community college settings? (2) What difficulties do administrators and students encounter in providing and accessing support services in the community college setting? and (3) How helpful are these services in supporting students' progress towards their individual educational and career goals? Twenty differently-abled students and four community college administrators participated in this mixed methods study.

Findings indicated broad use of extended time for testing, testing in quiet testing centers; assistive technology; and pre-enrollment, academic, and transfer counseling services. Major challenges identified by administrators included difficulties in planning for and funding needed services due to open enrollment policies. Challenges identified by students included financial

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challenges, self-advocacy for required services, balancing the competing demands for time spent at work versus time spent studying, and needing to complete remedial courses prior to earning college credits. Findings also indicated comparative differences in CC1 and CC2 students' perceptions of the helpfulness and quality of services for the following service categories: pre-enrollment services, academic counseling, assistive technology, and financial services counseling. Additional research is called for to obtain statistical data regarding graduation and attrition rates for differently-abled students, associated with the levels of accommodations and support services they require for academic success. Also, further research is required on cost and requisite funding needed to provide these supports. Possible implications for Disability Services Office (DSO) administrators are: increased use of *Association on Higher Education and Disability* (AHEAD) standards to self-audit service provisioning; increased scaffolding of differently-abled students throughout their progression in college and their transition to post-college academic/employment pursuits; and direct, mandated instruction in available services and supportive technologies to assist students in accessing appropriate and effective supports.

Key words: community colleges, postsecondary disability services and accommodations, and community college disability services, *Association on Higher Education and Disability* (AHEAD) standards.

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The US Supreme Court rulings and civil rights legislation of the 1950's and 1960's paved

the way for the needs of differently-abled[1] persons to be addressed (Patterson, 2002; Rowe,

2004). Differently-abled students' educational needs were first comprehensively addressed

through federal legislation on November 29, 1975, with the adoption of Federal Public Law

("PL") 94-142: Education for all Handicapped Children Act (EAHCA) (Rowe, 2004). With every

successive amendment to this legislation and with each additional special education Federal

legislative act signed into law, more and more of these students' educational needs have been

addressed.[2] As a result of the Individuals with Disabilities Education Improvement Act ("IDEIA")

legislation of 1997 as amended in 2004, the previous approaches to educating special needs

students have moved from the segregated basements or trailer annexes of public and private

schools into integrated mainstream public school classrooms, with the individual needs of these

students now being met through the accommodations documented in their Individual Educational

Program ("IEP") plans.

Although PL 94-142 and IDEIA provided the foundation for educators to address the

educational needs of differently-abled preschool, elementary, middle school, and high school

students over the past thirty-five years, students first covered by this legislation have now "aged

out" of these legal protections.[3] Now, as all differently-abled students come of age and/or

graduate from high school, their postsecondary educational special needs support services fall

under the protection of two different legal mandates: *Section 504* of the *Rehabilitation Act of*

1973 ("504") and the 1990 *Americans with Disabilities Act* ("ADA"), as amended in 2008.

Although there have been progressive changes to this legislation over the past three decades to

increase protections for differently-abled persons, this population still faces significant challenges

– both in postsecondary educational institutions and in the workplace. These challenges are

evident in their high postsecondary education attrition and unemployment rates (Barber, 2012).

Problem Statement

Despite the legislative progress; despite the intensity and prevalence of educational

interventions throughout disabled students' early intervention,[4] pre-school,[5] and Kindergarten

through high school[6] years; and despite the billions of dollars spent on special education pre-

Kindergarten through high school-graduated students, post-high school outcomes in both college

graduation rates and employment statistics for this population lag far behind those of their

typically-abled/-aged peers (Barber, 2012). The National Center for Education Statistics'

(NCES') most recent measures of community college[7] attrition rates are 80.0% for all students.

Although the data are not broken out for disabled students, several studies indicate that students

facing socioeconomic and/or inadequate preparation for college level skills during their high

school education will not persist to achieve postsecondary program completion status (Cabrera, et

al., 2012; Crisp & Mina, 2012; NCES, http://nces.ed.gov/programs/digest/; Seidman, 2012;).

Depending on the severity level of their disability, differently-abled students frequently do not

have college level skills at the time of their high school graduation. They are then faced with the

need to "catch up" through the developmental courses offered by community colleges. This

positions community colleges with what Crisp & Mina (2012) call an "interesting dilemma."

They state:

Community colleges today face an interesting dilemma, namely, how to maintain

the rigors of postsecondary education while providing access for those who want it

and yet are academically unprepared to succeed, and having all of this occur in an

era of decreased funding and increased governmental accountability. (p. 150)

With regard to unemployment statistics, the Federal Government's Department of Labor

issues monthly employment statistics that include data for the disabled. The employment data are

not broken out for disabled people with or without college degrees; however, the statistics

indicate a roughly 7.6% difference between unemployment rates for the "abled" versus "disabled"

US population, favoring the non-disabled. When workforce labor *participation* rates (people still

looking for work) are also added to the picture, there is an even larger gap between the "abled"

and the "disabled." According to Bureau of Labor Statistics, 71.1% of non-disabled unemployed

people, aged 16 to 64 years are actively looking for work, versus 32.2% of disabled persons in the

same age group (Bureau of Labor Statistics, 2016, retrieved from www.bls.gov/news.release/

empsit.t06.htm, viewed July 30, 2016). This last statistic – labor force participation rate – is

representative of an even deeper disparity between the "abled" and the "disabled." Many more of

the "disabled" have simply given up.

As part of an effort to address the disparities, postsecondary educators have begun to

develop educational interventions for our differently-abled population, but we are still in the

infancy of determining the appropriate types and levels of supports this population needs to

succeed in postsecondary educational settings. The legislation that undergirds the current

postsecondary educational interventions, the *Americans with Disabilities Act* ("ADA"), was not

enacted (with its current amendments) until 2008. Moreover, the standards for developing

postsecondary disability service programs were not accepted by the Board of Directors of the

Association on Higher Education and Disability ("AHEAD") until 2006 (Shaw & Dukes, III,

2006). These standards are as yet voluntary. Different colleges/universities currently provide

vastly different levels of supports for their differently-abled students. Sustainable measures for

funding postsecondary disability services are still not in place. In short, we know something about

what services and classroom accommodations are needed to effectively support these students;

however, we still have a long way to go before we can say that we have the knowledge, tools, and

sustainable funding resources to launch our differently-abled young adults onto paths towards

self-sufficiency.

Purpose Statement

The purpose of this study was to compare the experiences of differently-abled students

enrolled in two New Jersey community colleges ("CC1" and "CC2") with regard to their

interactions with disabilities services on their campuses. I sought to examine the different kinds of

supports provided to this segment of CC1's and CC2's student population. By studying the

accommodations and services that Disability Services Office ("DSO") administrators provided

and that students accessed, I hoped to provide information that county college administrators can

use to fine-tune the services that will help differently-abled students succeed in their

postsecondary educational pursuits. The research questions driving this study were:

1. What support services are provided to and accessed by differently-abled students in
    two New Jersey community college settings?

2. What difficulties do CC1 and CC2 administrators and students encounter in providing
    and accessing support services in the community college setting?

3. How helpful are these services in supporting students' progress towards their
    educational and career goals?

Personal Connection to this Research

My interest in conducting this research stems from my extensive experience working with differently-abled high school students as a Learning Disabilities Teacher-Consultant ("LDT-C") and Case Manager for over twelve years on a New Jersey public high school child study team. As such, over the years, I have witnessed increasing levels of interest in these students' desire to continue their education at postsecondary educational institutions; however, they were not sure if they would be successful at colleges or adult schools without the same level of academic supports they needed to succeed in their high school courses. Several times I received phone calls from parents of graduated students whom I had previously case managed and who had gone on to attend college, describing the difficulties their sons or daughters were having. As a result of these conversations, my research interests became more focused on studying "what works" at local colleges for this population, and I embarked on the pragmatic and transformative quest to provide useful information to community college administrators, and to call their attention to what differently-abled students say they need to succeed at the postsecondary level. I choose community colleges as the place to start, given that my students frequently did not achieve competitive level scores on college admissions tests (e.g., SATs and ACTs), and needed the open admissions policies of community colleges to begin their postsecondary educational pursuits.

Research Design

In designing this mixed methods exploratory study, I chose to examine the disability services provided by community colleges because they have the highest concentration of postsecondary disabled students. This is due, in part, to their "open enrollment" mandate whereby enrollment is based on residency and students are not required to meet competitive entrance requirements, nor to have a specified SAT/ACT[8] score to enroll. In addition, community colleges

provide both academic and vocational programs (degree- and certificate-bearing programs) that

may be better suited to the interests and abilities of differently-abled students. Community

colleges also have a history of providing "developmental" or "remedial" courses for students who

do not start college with the requisite college-level academic skills, due to insufficient academic

preparation during their secondary education or the severity level of their disability(ies) (Crisp &

Mina, 2012; Kozeracki & Brooks, 2006; Mortenson, 2012). Consequently, the focus of this study

is on the services and accommodations provided by community college DSOs and accessed by

differently-abled community college students.

The two community colleges participating in this study, CC1 and CC2, both have

reputations[9] for successfully supporting differently-abled students. In addition to its informal solid

reputation for supporting differently-abled students, CC2 has had separately-administrated, grant-

funded disability support services for many years, which I call "CC2-Intensive" or "CC2-I."

Student participants from CC2 who participated in this research were all from this CC2-I

program. Students in the CC2-I program met CC2 disability eligibility requirements and passed a

competitive entrance process to be enrolled in the CC2-I program, in accordance with the CC2-I

grant requirements[10] for CC2-I program participation.

The purposefully-selected study participants included four administrators and twenty

students. The administrators from each college who participated in the study consisted of the

Dean of Student Services/Director of Disability Services and the Assistant Director of Disability

Services from CC1, the Associate Professor/Counselor for Students with Disabilities (who wrote

the Federal grant applications for the CC2-I program) and Director of the CC2-I program from

CC2. Twelve volunteer CC1 students who met CC1's Disability Services eligibility requirements

participated in the study. Eight CC2 students who were enrolled in the CC2-I program, comprised

the remaining student participants.

The qualitative data collected from both CC1 and CC2 included structured interviews,

with probing follow-up, open-ended questions to provide both reliable data across participants

and to delve deep into each participant's perspective, thereby minimizing the adverse

characteristics of structured interviews (Creswell, 2014). Qualitative data also included

documentation from the colleges' websites, program descriptions, and a student handbook. The

quantitative data collected for this study consisted of student responses to a survey about the

helpfulness and quality of the college services they access, using a Likert Scale-design (Likert,

1932). Together, the qualitative and quantitative approaches to data collection enabled me to

collect rich data about the particular experiences of differently-abled community college students

and the services they required to successfully progress in their programs of study.

The participants represent a wide variety of disabilities, postsecondary educational goals,

ages, genders, and educational backgrounds. Yet, they are united in their need to use several

common services offered by the colleges in order to succeed. My goal in documenting each of

their unique stories was to find out "what works" and to provide information that county college

administrators can use as they seek to effectively provide services that will enable differently-

abled students to succeed in their postsecondary educational pursuits. By using both qualitative

and quantitative methods to collect the data for this research, I was able to "provide a more

complete understanding" of the results of this research and apply the analysis of the results to

voice the academic needs of this marginalized segment of our population (Creswell, 2014).

Chapter 2: Literature Review

This literature review will be presented in three sections. First I discuss the legal

foundations that culminated in the 1975 *Education for all Handicapped Children Act* [Public Law

("PL") 94-192, affecting differently-abled students, aged 0 to 21 years] and in Section 504 of the

Rehabilitation Act of 1973, that applies to post-secondary differently-abled students. Second, I

describe community college attrition rates and disabled unemployment rates that underscore the

need for further progress in supporting this population in post-secondary education. Third, I

provide a description of postsecondary educational disability services that includes: (a) a brief

history of postsecondary educational disability supports; (b) postsecondary disability services

standards accepted by the Board of Directors of the *Association on Higher Education and*

Disability (AHEAD) (Shaw & Dukes, III, 2006); (c) the community college context and

definitions of "academic success;" (d) examination of postsecondary disability services, as seen

through four different lenses (commonly used services, psychological/emotional supports needed

to achieve success, specific supports for specific disabilities, and assistive technology supports);

(e) identified barriers to success for differently abled students enrolled in postsecondary

education; and (f) administrative approaches to overcoming barriers and increasing success

(Schuh & Gansemer-Topf, 2012).

Legislative and Judicial Foundations for Special Needs Supports

Looking broadly across the legislative and judicial chronological march towards greater

equity in educational programs for differently-abled students, several milestones are immediately

apparent. The first major milestone in special education law built on the 1954 US Supreme Court

Brown v. Board of Education decision. This decision established the judicial ruling that "separate

but equal" education is not equal, and in fact violates the 14th Amendment to the US Constitution

[347 U.S. 483 (1954)]. This judicial ruling established that the separate, racially segregated schools at that time were in fact not providing equal protection under the law for Blacks/African Americans, as they were not receiving equal educational services. At that same time in the 1950's, differently-abled students were either institutionalized or educated in separate settings. Parents of differently-abled students used the judicial precedent of the *Brown v. Board of Education* ruling to advocate for inclusive education for their children (Patterson, 2002; Rowe, 2004).

After a hiatus of approximately eleven years, the next significant legislation affecting differently-abled people occurred with the passage of the *1965 Elementary and Secondary Education Act* (ESEA) that, for the first time, put "teeth" into Federal education legislation. ESEA stipulated that if states did not comply with Federal legislation they would be required to return money to Federal/state funding sources. ESEA also provided federal funding to impoverished school districts for the first time. The 1965 ESEA legislation affected differently-abled students by providing the foundation for the later amendments to it, that were directed specifically at supporting differently-abled students and basing funding on compliance with ESEA law. From 1966 through 1970, a series of amendments to ESEA strengthened its support of learning opportunities for differently abled students by: (1) creating a Bureau of Education for the Handicapped and the National Council on Disability; (2) providing grants to local districts for in-District special educational programming; and (3) providing Federal funding for disabilities research and to train special education teachers. In 1973, *PL Rehabilitation Act, Section 504* ushered in additional rights for this population, requiring physically disabled individuals to have physical access to public buildings and preventing discrimination against disabled students in public education (Rowe, 2004).

By far the most comprehensive legislative act that followed in this chronological march

towards equity for the disabled was the enactment of PL 94-192: *Education for all Handicapped*

Children Act (EAHCA) on November 29, 1975. To this day, PL 94-192 provides the foundation

for the educational rights of special needs students and their parents/guardians. Now, almost forty

years later, every special needs student's Early Intervention Program (EIP) or Individual

Education Program (IEP) must include the basic provisions set forth in PL 94-192. These

provisions include: (1) early intervention services for qualified children age zero to three years;

(2) a Federal-level guarantee of "free and appropriate public education ("FAPE") for disabled

children aged 3 to 21 years; (2) the requirement that all states must submit policies and

procedures that comply with FAPE;[11] (3) the requirement that the FAPE is provided in the least

restrictive environment ("LRE"); (4) due process provisions; (5) student testing, evaluations, and

IEP requirements; (6) related services (speech, occupational therapy, physical therapy,

counseling, and transportation) requirements; and (7) Federal funding for special education

teacher training and program initiation (Rowe, 2004).

Nothing as broadly sweeping as PL 94-192 has been enacted since 1975; however, major

court rulings and legislation that built on its foundation have included the 1982 Board of

Education v. Rowley [458 U.S. 176, 188 n. 10 (1982)] decision, the renaming of EAHCA to the

1990 Individuals with Disabilities Education Act ("IDEA"), the 1997 reauthorization of IDEA,

and the *2004 Individuals with Disabilities Education Improvement Act* ("IDEIA"). Each of these

provided additional protections to differently-abled students and their families. Some of these

protections included: (1) requirements for parents/legal guardians to be included in IEP

meetings;(2) the requirement for parents/guardians to give written consent prior to their

daughter's/son's evaluation testing and IEP implementation; (3) student placements in local

neighborhood schools to the extent possible, with the necessary accommodations to make such

placements effective (LRE principle); (4) access to related services for all eligible students; (5)

the requirement that goals and objectives for special education students be tied to the general

education curriculum; (6) the requirement to include postsecondary transition plans for students at

age 16; and (7) due process procedures for parents to legally challenge placement decisions,

assessments, IEP provisions, or issues related to FAPE (Rowe, 2004). For a more detailed

summary of the provisions of these rulings and legislation, see Appendix A.

Overall, the legislation and court rulings of the 1990's aimed to place differently-abled

students in regular education settings, to the greatest extent possible and to provide the mix of

support services and accommodations that would enable these students to succeed in these

settings. Special education students would now be expected to pass state assessments (with the

appropriate accommodations); local Districts were to use the "discrepancy model"[12] to determine

eligibility for special education learning disabilities; and specific requirements for postsecondary

outcomes (transition planning) were introduced in the 1997 reauthorization of IDEA. The driver

for this emphasis was the 1990's statistic that only 40% of regular education classes contained

special education students (Rowe, 2004). To further drive the integration of special needs students

into general education classes, the 2004 IDEIA legislation required extensive documentation of a

student's "response to intervention," or "RTI," prior to their referral for Child Study Team

("CST") testing to determine initial special education eligibility. RTI is simply the

implementation and documentation of increasingly intensive supports provided to the student in

the general education setting, and an assessment of whether or not those interventions are

sufficient to enable the student to succeed, without classifying them as "special needs students."

Integration into and academic success in the mainstream classroom has been, and continues to be

the pre-high school graduation goal; while participation in the adult workforce, in a career of the

person's choice is the post-high school graduation goal of all these decades of legislative and

judicial action.

Just as IDEIA provides the legal foundation and mandates for interventions required for

United States disabled students, aged zero to twenty-one (or age at high school graduation),

postsecondary disabled students are also provided specific rights by U. S. laws. The 1990

Americans with Disabilities Act ("ADA"), as amended in 2008, and Section 504 of the

Rehabilitation Act of 1973 ("504") are the two laws that govern requirements for postsecondary

institutions and workplaces regarding accommodations for disabled adults. These laws are

enforced by the Office for Civil Rights. The laws are not disability-specific, and consequently,

postsecondary educational institutions are faced with the challenge of tailoring interventions to

the individual needs of disabled persons, to meet the legal requirements for "reasonable

accommodations," as described in the following quotation from the Office for Civil Rights

webpage:

> At the postsecondary level, the recipient [of Federal funds] is required to provide
>
> students with appropriate academic adjustments and auxiliary aids and services that
>
> are necessary to afford an individual with a disability an equal opportunity to
>
> participate in a school's program. Recipients are not required to make adjustments or
>
> provide aids or services that would result in a fundamental alteration of a recipient's
>
> program or impose an undue burden (Office for Civil Rights, http://www2.ed.gov/
>
> about/offices/list/ocr/504faq.html, viewed October 5, 2014).

The balance that this legislation seeks between meeting the needs of the disabled

individual and providing the educational institution enough leeway to meet those needs without

"fundamentally alter[ing their] . . . program or impos[ing] an undue burden" is evident. In short,

postsecondary institutions do not have to go bankrupt in order to provide a disabled student's

accommodations; nor do they have to make so many changes to their programs or curriculum that

the essence of the program or curriculum is lost. Once disabled students decide they want to

disclose their disability to the educational institution, it is finding this balance that means they

must negotiate with the college's Disability Services Center to establish exactly what

accommodations they will receive. Also because of this balance, different colleges will provide

different levels of services for their disabled students. Because responses to requests for

disabilities services can be so highly variable, the choice of which college to attend becomes

highly significant for students who elect to use the disability services of their college.

Impact of Disability Legislation: Community Colleges and Employment

Given all the legislative mandates and the consequent disability services now provided at

US colleges/universities, we might conclude that now, in 2017, differently-abled postsecondary

students have the support they need to achieve "academic success" and gainful employment.

Unfortunately, this is not the case. A look at current community college attrition rates and

disabled employment statistics tells a different story. Table 1 provides a partial snapshot of

community college attrition and employment rates for New Jersey and United States for disabled

and non-disabled persons. Although we will see later that "academic success" has different

definitions in the context of community college education, using the strict parameters of the

National Center for Education Statistics (certificate or degree attainment within 150% of program

completion time for full-time students), the picture is grim.

As shown in Table 1, the community college attrition rate for both disabled and non-

disabled students (2010 starting cohort) is 80.0% for the United States as a whole (20.0%

graduation rate[13]). Current data breaking out "disabled" and "non-disabled" community college

attrition/graduation rates could not be found. For New Jersey, derived attrition/graduation rates

for the 2011 cohort (see footnote 1, Table 1) are 76% and 24%, respectively, for full-time

students, within 150% of degree/program completion times. Again, no direct attrition/graduation

rates for NJ, nor a breakout of NJ attrition/graduation rates data for disabled and non-disabled

students could be found (National Center for Education Statistics, *Digest of Education Statistics*,

retrieved from https://nces.ed.gov/programs/digest/d15/tables/dt15_326.20.asp?current=yes,

viewed July 30, 2016; New Jersey State Department of Education, Office of the Secretary of High

Education (2016), retrieved from http://www.nj.gov/highereducation/ statistics/index.shtml#CER,

viewed August 3, 2016).

Employment and work force participation rates for differently-abled individuals illustrate

the bleak outcomes for this population. 2016 United States employment data for disabled adults

indicates an unemployment rate of 12.5%, compared to that for non-disabled adults, which stood

at 4.9% in mid-2016. The gap in employment of differently-abled persons is even wider when the

workforce participation rate is taken into consideration. July 2016 participation rates (% of people

looking for work) indicate that the disabled population has a participation rate of 32.2%,

compared with 77.1% participation rate for non-disabled workforce populations (Bureau of Labor

Statistics, 2016, retrieved from www.bls.gov/news.release/disable.nr0.htm, viewed July 30,

2016). These statistics do not take into account underemployment, where differently-abled adults

are only able to achieve part-time work. The gap in employment participation rates and full- or

part-time employment can stem from many factors, such as the severity of the person's disability,

an increasing percent of disabled status with increasing age,[14] employers' lack of familiarity with

how to implement/the cost of accommodations for disabled employees to achieve levels of

productivity that meet business needs, disabled adults' difficulty in gaining

Table 1. *Comparative Community College Attrition/Graduation Rates and Employment Participation/Unemployment Rates*

	2014/2015 Community College Attrition/(Graduation) Rates			2016 Age 16 to 64 Years Participation/(Unemployment) Rates		
Location	*Total*	*Non-Disabled Students*	*Disabled Students*	*Total*	*Non-Disabled Individuals*	*Disabled Individuals*
United States	80.0%/ (20.0%)[1]	* *	* *	63.1%/ (5.1%)	77.1%/ (4.9%)	32.2%/ (12.5%)
New Jersey	76%/ (24%)[2]	*	*	64.4%/ (5.8%)[3]	*	*

Notes: Adapted from National Center for Education Statistics (NCES), *Digest of Education Statistics (2014)*, Release Date 4/28/2016, retrieved from http://nces.ed.gov/programs/digest/ (Table 326.20), viewed July 30, 2016; *Completions Rates*, retrieved from https://nces.ed.gov/programs/digest/d15/tables/dt15_326.20.asp?current=yes viewed August 2, 2016; *Data on the employment status of people with and without a disability (Table A-6)*, Bureau of Labor Statistics, retrieved from www.bls.gov/news.release/disable.nr0.htm, viewed July 30, 2016; June 16, 2016 Press Release, State of New Jersey Department of Labor & Workforce Development, http://lwd.dol.state.nj.us/labor/lwdhome/press/2016/20160616_Unemployment.html, viewed August 3, 2016.
* indicates data not available.
[1] = Derived % from 2014 CC Degrees/Certificates awarded within 150% completion time, divided by 2010 starting cohort, retrieved from http://nces.ed.gov/programs/digest/, viewed July 30, 2016.
[2] = Derived % from 2015 NJ CC Degrees/Certificates awarded within 150% completion time, divided by Fall 2011 NJ CC total full-time enrollments, retrieved from http://www.nj.gov/highereducation/statistics/index.shtml#CER, viewed August 3, 2016.
[3] = NJ participation/unemployment rates are for total population and are not broken out by age 16-64 years, nor by disabled/non-disabled (data unavailable).

access to postsecondary transition support services (National Governor's Association, 2013), and

insufficient transition support services prior to and after graduation from high school (Hoover,

2016).

Both the community college attrition/graduation rate and the employment/ unemployment

rates for the differently-abled represent hundreds of thousands[15] of individuals. The state of New

Jersey and local school districts have invested billions of dollars[16] in bringing these individuals to

the doorstep of independence and productive citizenry, only to find that they do not possess the

tools and skills needed to step over the threshold into self-sufficiency. Without data-driven

research on effective interventions for this population of differently-abled college students,

community college administrators may find it very difficult to plan and provide adequate,

sustainable funding of disability support services.

Postsecondary Disability Services

Postsecondary educational institutions are now required to provide disability services

under Section 504 of the *Rehabilitation Act of 1973* and under the *Americans with Disabilities*

Act, as amended in 2008. In this section, the historical context and current program standards that

have recently (2006) been accepted by the *Association on Higher Education and Disability*

(AHEAD) will be described. These both make clear that "academic success" in the context of

community college postsecondary education has many definitions, and that there are many

examples of effective disability services interventions at community colleges that have chipped

away at the dismal attrition rates cited above.

Brief history of postsecondary disability services.

Postsecondary disability services are rooted in President Lincoln's establishment of the

Columbia Institution for the Deaf and Dumb in 1864. Subsequently named Gallaudet College

(1894), this and Radcliff College's support of Helen Keller (1900-1905) were the two primary

examples of postsecondary support of disabled persons until after World War I, World War II,

and the Korean War. Legislation after the wars provided assistance to disabled veterans in large

numbers; however, the focus remained on physically disabled people. Accommodations centered

around three major areas: transportation (elevators, priority parking, railings, and ramps); housing

(e.g., rooms on the first floor); and classroom accommodations (readers, note-takers, priority

seating). Frequently, veterans received postsecondary education in facilities near veterans'

hospitals. In the 1960's services expanded to include "priority seating, texts on tape, the recording

of lectures, and examinations administered in a separate location" (Madeus, 2011, p. 8). Also in

the 1960's, the overall composition of postsecondary disabled students began to shift from being

primarily physically disabled to being primarily learning disabled. The 1973 passage of the

Vocational Rehabilitation Act, addressed this shift, as did the subsequent passage of the

Americans with Disabilities Act in 1990, and later, as amended in 2008. By 2008, the overall

population of self-declared disabled postsecondary students increased from 3% in 1978 to 11%

(Madeus, 2011).

Finally, in 2009, the *Americans with Disabilities Act Amendments Act* (ADAAA) more

clearly defined what constitutes a disability and what is needed to establish eligibility for services.

The result has been an expansion of the different types of disabilities that postsecondary

educational institutions must now serve. The disabilities are no longer confined to physical and

learning disabilities; instead, they now encompass psychological and psychiatric disabilities, such

as Attention Deficit Hyperactivity Disorder (ADHD)/Attention Deficit Disorder (ADD); Post-

Traumatic Stress Syndrome (PTSD) due to all the returning veterans of the Iraqi and Afghanistan

wars); Autism Spectrum Disorders (ASD), emotional disabilities; and other psychiatric and

intellectual disabilities (e.g., Bi-Polar, Anxiety, and Depression disorders). As retention and

persistence statistics emerge as increasingly important in determining postsecondary institutional

funding in the 21st century, it is clear that colleges and universities will need to pay increasing

levels of attention to disability services to increase the academic success of this growing portion

of their undergraduate population (Berger et al., 2012; Madeus, 2011).

Postsecondary disability service standards.

The Board of Directors of the *Association on Higher Education and Disability* (AHEAD)

recognized the growing need for disability services at the postsecondary education level and in

1999 published the first set of standards (see Appendix B) for college and university offices of

disability services. These standards were published not only with an eye toward providing

effective supports for disabled postsecondary students, but also with an eye toward establishing

guidelines that could be used by the Office of Civil Rights to enforce the Americans with

Disabilities Act Amendments Act (ADAAA).

The standards include provisions for: (1) student counseling and advocacy, (2) distribution

of information about the services to the college community (to faculty, administration, and

students); (3) training in providing services; (4) data collection and records maintenance

pertaining to services provided; (5) collaboration and liaison functions between faculty and

students to "ensure that reasonable academic accommodations do not fundamentally alter the

program of study;" (5) encouraging increasing levels of student independence as they progress

through their programs of study; (6) a process for ongoing review, evaluation, and revision of

disability services policies and procedures; (7) collection of student feedback; (8) assignment of

full-time staff to coordinate services; (9) effective fiscal management and ethical professional

conduct; and (10) ongoing professional development training and experience.

"Academic success" may mean one thing to the institution, and another to the State and

Federal governments compiling statistics, something else to a student's parents, and yet another

thing to the individual community college student. It is therefore not surprising that the literature

on successful interventions for disabled students includes a variety of approaches to achieve

different intended outcomes. In accord with AHEAD standard 7.2 (see Appendix B), virtually all

postsecondary educational institutions have established a Department (or "Office") of Disability

Services, employing professionals who provide disability services; establish institutional-level

policies and procedures for implementing services and programs; and monitor and measure the

effectiveness of these programs. The many different interventions or services can be categorized

into institutional interventions, classroom interventions, and student interventions.

Institutional interventions include physical plant accommodations (e.g., elevators, ramps

for wheel chair bound students); disability center supports (e.g., counseling, registration

assistance, separate testing sites, advocating for student accommodations); professional

development opportunities for faculty and staff in working with differently-abled students;

curriculum development (including coordination of remedial curriculum with credit-bearing

required courses); data collection and reporting on disability services use/needs; coordination with

local employers for program development; and budget allocations and monitoring for disability

services. At the classroom level, interventions might include differentiated instruction,

modifications to classroom lighting, use of Wi-Fi connections and electronic presentation of

information; electronic textbooks; developmental courses; and mandatory courses on study skills.

At the individual level, interventions might include interpreters (sign language/others) for the

hearing impaired; extended time for testing and/or testing in a separate location; having exams

read to the student; course requirement waivers/substitutions; tutoring; special orientations upon

college entrance; note-takers/scribes/readers and adaptive technology (e.g., for students with

cerebral palsy); and individually-tailored developmental programs (Barber, 2012; Culp, 2005;

Flannery et al., 2007; Herbert et al., 2014; Hodara & Jaggars, 2014; Kozeracki & Brooks, 2006;

McCleary-Jones, 2007, 2008; National Collaborative on Workforce & Disability for Youth and

the Workforce Strategy Center, 2009; Nevarez & Wood, 2010; Wyner, 2014).

The AHEAD standards provide a baseline for colleges and universities to provide services

and programs of support for their disabled students; however, their existence by no means

guarantees universal implementation. The increasingly wide variety of disabilities represented by

today's college and university students results in a need for flexibility and creativity on the part of

postsecondary educational institutions with regard to the disability services they offer. Because

differently-abled students now comprise an increasingly larger proportion of postsecondary

student populations, there is a greater need to provide a wide variety of services at a time of

decreasing levels of Federal- and state-level financial support (Crisp & Mina, 2012; Herbert et al.,

2014; Kozeracki & Brooks, 2006). Currently, the AHEAD standards are voluntary for United

States' postsecondary educational institutions. As such, although they provide a comprehensive

roadmap for colleges and universities to follow in developing effective disability service

programs, they do not have the strength of legal mandates. Also, even when standards are

implemented, it does not guarantee effective use of available supports by the postsecondary

students themselves. Consequently, although colleges/universities and differently-abled

postsecondary students are much better served *with* the AHEAD standards than without them, the

standards alone are not the "silver bullet" that will increase college graduation rates, nor

guarantee "academic success" for these students. To evaluate the effectiveness of postsecondary

disability programs that emerge from these standards, it is important to first understand how the

definition of "academic success" is evolving, especially in the context of community colleges.

The community college context and definitions of "academic success."

Some of the different definitions of "academic success" at community colleges include:

completion of a two-year associate's degree, completion of a program that provides a specific

certificate for use in certifying that the recipient has successfully demonstrated the skills

necessary to work in a certain field of work, or completion of a course that satisfies an adult's

interest in learning about a particular topic (e.g., learn a world language, yoga, or some other

leisure skill) (Wyner, 2014). The traditional definition of "academic success" is the Federal

government's definition, which defines it as completing a degree or certificate program within

150% of the expected time to completion (NCES, retrieved from

http://nces.ed.gov/programs/digest/ d12/tables/dt12_377.asp).

Historically, community colleges were established to provide greater access to college for

all US residents, and to increase local vocational training opportunities. Establishment of

community colleges accelerated particularly after World War II with the enactment of the G. I.

Bill. This legislation enabled many people to attend college who could not attend previously.

Included in this mix were returning G.I.s, women, minorities, and the poor. The open enrollment

policies of the colleges, their proximity to local communities (enabling commuting students

versus residential students), and the subsidization of tuition costs by local, State, and Federal

government programs provided the opportunity for entire new segments of the US population to

gain access to postsecondary education (Wyner, 2014). As community colleges matured during

the twentieth century; however, both positive and negative aspects of this "open access" emerged.

On the positive side, large segments of US population could now continue their education

beyond high school – either in preparation for a four-year college degree, or to obtain requisite

vocational skills to enhance their employability. On the negative side, the open enrollment

policies meant that community colleges could not select students based on a set of enrollment

criteria, such as minimum SAT/ACT scores or high school grade point averages, as competitive

enrollment colleges do. The result of this open enrollment policy is that the student body of

community colleges includes students (with or without a disability) who may not have the same

level of academic skills as students entering colleges with competitive enrollment policies.

Consequently, community college administrators are faced with providing programs that help

students who do not have college-level academic skills reach that level through remediation

courses (Nevarez & Wood, 2010).

The starting point for differently-abled high school graduates is frequently behind that of

their "non-disabled" peers when they enter college. Many differently-abled community college

students require these remediation courses to get up to par with their "college-ready" peers. For

the differently-abled community college student, the path to "academic success" as defined by the

Federal government (150% of expected time to program completion) may be difficult to achieve.

They will continue to lag behind their peers throughout their postsecondary education. "Non-

disabled" high school graduates have academic skill levels that not only enable them to gain

access to competitive colleges, but also position them to successfully engage in college-level

curriculum and earn college credits immediately upon entry into college-level programs.[17]

Student financial needs, lack of family supports, and/or insufficient academic preparation

at the secondary level have frequently blocked minority, poor, and disabled students' access to

postsecondary college/university programs with competitive admissions policies (Nevarez &

Wood, 2010). For these students, the open enrollment admissions policies of community colleges

may be their only path to postsecondary certifications and/or degrees (Bailey et al., 2005; Crisp &

Mina, 2012). However, studies of postsecondary persistence rates (the extent to which students

remain in a postsecondary institution) indicate that less selective institutions have lower

persistence rates (Mortenson, 2012). The higher the persistence rates, the better the chances that

the student will stay and complete their program of studies and thus achieve academic success as

traditionally defined by the colleges and government statisticians.

Community colleges' open enrollment policies may result in student bodies consisting of

students who may be less persistent,[18] and who will not complete their programs of study. These

students will not achieve the traditional definition of "academic success." The mandate for

community colleges to provide vocationally relevant certificate programs; developmental

programs to address insufficient academic skills; and academic programs leading to an

Associate's Degree, with credits that can be transferred to four-year college/university programs

opens the door to different interpretations of "academic success" (Crisp & Mina, 2012; Hagedorn,

2012; Mortenson, 2012). The different purposes of these programs, which are often unique to the

community college context, necessitate the use of different measures of success.

Given these unique characteristics and purposes of community colleges, academic success

in the community college setting can be measured in varied and unique ways by different

stakeholders, including the government, parents of students, and students themselves. The

government measures it by program completion rates and persistence rates (NCES, retrieved from

http://nces.ed.gov/programs/digest/ d12/tables/dt12_377.asp). Parents might measure success by

the attainment of vocational certificates, credits toward an associate degree, or transferable credits

that can be applied to a bachelor's program. Alternatively, students might measure academic

success as successful completion of non-credit bearing developmental programs in

English/Language Arts and/or Math. "The diversity of student intentions and goals have caused

practitioners, policy makers, accreditation agencies, and university scholars to debate about how

appropriately to measure retention or other success outcomes for community college students"

(Bragg, 2001, cited in Crisp & Mina, 2012, p. 161). Finally, in terms of real-life outcomes,

academic success can refer to students' acquisition of skills necessary to obtain competitive,

living-wage employment positions (Bailey et al., 2006; NCES, 2014; Seidman, 2012).

An additional definition of academic success considers the personal goals of the student,

as opposed to defining academic success as degree completion. The "Institutional Action for

Student Success" model acknowledges that any measure of student success must start with the personal goals of the student. It is the institution's responsibility then to provide the supports that will motivate the student to learn, engage in classroom instruction, and persist to achieve their personal goals (Tinto, 2012). Thus understood, the goal is to develop effective services, interventions, and programs that will support differently-abled students in their educational pursuits until they meet their *self-defined* goals of academic success.

Examination of postsecondary disability services through four different lenses.

My review of current literature on postsecondary studies of disability services provided to and used by differently-abled students identified four primary approaches, or "lenses" that have been used by prior authors for exploring postsecondary disability services. These lenses are: (1) exploration of the most commonly-/least commonly-used disability support services (Hagedorn et al., 2016; Tagayuna et al., 2005); (2) exploration of the psychological/emotional supports many differently-abled students need to achieve success (Bandura, 1997; Hong et al., 2007; Hoy & Miskel, 2013; Prat-Sala & Redford, 2010); (3) studies that map specific disability services to specific disabilities – frequently using a case study approach (Anthony & Shore, Eds., 2015; Ingersoll, 2016; Lechtenberger et al., 2012; Lee & Carter, 2012; Mowbray et al., 2003); and (4) studies where the authors have explored the role of assistive technology in supporting differently-abled postsecondary students (Bauer, et al., 2014; Ingersoll, 2016). I describe the prior findings from each of these study "lenses" in the paragraphs that follow.

Lens 1: Most-commonly used/least-commonly used services.

Prior studies of postsecondary disability support services indicate that the most commonly used support services by differently-abled students include: testing accommodations, use of note-takers (typically peer note-takers), academic counseling (i.e., course registration support),

advocacy assistance, tutoring, learning laboratories, work experience/work study/internship

supports, and "student success courses" (Hagedorn et al., 2016; Tagayuna et al., 2005). Additional

frequently-used services include providing: financial aid application assistance; help with

completing disability services request forms; and coordination with other campus services. Less

frequently used services include: personal counseling, real-time captioning, summer orientation

programs, "bridge programs," "modularization," "learning communities," transfer services,

career-related support, and assistive technology (Hagedorn et al., 2016; Tagayuna et al., 2005).

The terms "student success courses," "bridge programs," "modularization," and "learning

communities" that Hagedorn et al. (2016) use to describe different approaches to developmental

education[19] are worth exploring a bit deeper, as they provide examples of innovative

administrative attempts to increase student success. Student success courses (for students with or

without a disability) are targeted at first semester college students. These courses provide direct

instruction in how to use learning tools that for many of their peers were learned prior to entering

college. These tools include: "note-taking, study skills time management, introduction to the

services available on campus, [and] applying for financial aid . . ." (Hagedorn et al., 2016, p. 55).

Such courses are generally available at most colleges as a way to increase retention rates, transfer

rates, and academic performance. While such courses are mandatory at some colleges, they are

generally optional at others.[20]

Bridge programs are somewhat similar to summer orientation programs, in that they occur

between high school graduation and when the student first starts college. They are generally five

to ten weeks long and they introduce newly-graduated high school students to the "academic and

social rigors of college" (Hagedorn et al., 2016, p. 53). Modularization uses a targeted approach

to zero in on only those academic skills that a student's placement test results indicate are

deficient. The example these authors use to describe this approach is the case of developmental

math courses. If, for instance, a student is deficient in how to use fractions or percentages, but can

process basic algebraic functions, modularization would have that student take a 1-credit, 4-week

course on fractions and percentages. The Learning Communities model integrates (similar to team

teaching in high school general education classes) the curriculum from the non-credit bearing

developmental course with a credit-bearing course that uses those skills. The example the authors

provide is linking developmental English skills "with a content course such as history or

psychology" (Hagedorn et al., 2016, p. 54). The added supports that these innovative programs

("student success courses," "bridge programs," "modularization," and "learning communities")

provide all postsecondary students are especially helpful for the differently-abled students who

entered community college without the requisite college-level academic skills.

     Lens 2: The role of motivation, self-esteem, self-efficacy, and self-empowerment in

achieving academic success.

     Motivation can be defined as "an internal state that stimulates, directs, and maintains

behavior" (Hoy & Miskel, 2013, p. 170). The body of literature that has accumulated over the

years to describe human motivation, self-esteem, self-efficacy, and self-empowerment theory is

vast. Some of the most well-known motivation theories stem from employee motivation studies in

industrial settings. These theories include Maslow's hierarchy of needs, McGregor's Theory X

and Theory Y, and Vroom's expectancy model (Marion & Gonzales, 2014). While these

motivation theories were "born" in industrial settings, they have been applied to educational

settings by previous authors (Bandura, 1997; Schunk, 2000), and thus are relevant to the current

study. Maslow's theory of human motivation states that there is a hierarchy of human needs, and

that lower level needs (human physical needs and needs for safety) must be largely satisfied

before higher level needs (human needs for love, self-esteem, and self-actualization) can be

addressed and satisfied (Marion & Gonzales, 2014, p. 37). McGregor's Theory X and Theory Y

addresses human motivation from two perspectives: "humans are good" and "humans are bad."

Managers who believe "humans are bad" (Theory X) try to motivate employees using a "stick"

approach (micro-managing and/or punishment). Managers who believe "humans are good"

(Theory Y) try to motivate employees using a "carrot" approach: "Theory Y administrators

motivate with trust, with shared responsibility, by encouraging risk taking and creativity, and with

collaboration and collegiality" (Marion & Gonzales, 2014, p. 41).

　　　　Vroom's expectancy model of human motivation incorporates outside, environmental

influences on human desire to establish future goals for ourselves. Motivation thus stems from the

drive to achieve our goals that we have set for ourselves, but which are influenced by outside

factors. Vroom also incorporates the concept of self-efficacy into his theory of human motivation,

as shown below:

> The amount of effort invested in achieving a given intermediate goal depends on
>
> the person's belief that he or she can successfully achieve that goal and on
>
> perceptions of the instrumentality of given intermediate goals. . . .Put simply, one's
>
> motivation is a product of what one wants most and feels is obtainable – whether
>
> one judges that he or she can do the things that must be done to obtain the goal,
>
> and whether he or she can do them well enough to obtain the ultimate prize.
>
> (Marion & Gonzales, 2014, p. 89)

Subsequent research built on these "foundational motivation theories" that were based on studies

in industrial settings, and looked at motivation in educational settings (Sergiovanni, 1967).

Sergiovanni described positive motivating factors for teachers, such as "a sense of achievement,

recognition for good work, challenging and interesting work, and a sense of responsibility for

one's work" (Marion & Gonzales, 2014, p. 42). In the context of the current study, the "outside

factors" of Vroom's self-efficacy/drive-motivation theory are the supports that the community

college DSOs provide differently-abled students; and the positive motivating factors for the

students that parallel Sergiovanni's findings are the academic success students are able to

experience, given these DSO supports. The studies of required psychological/emotional supports

that are discussed below are instructive in that they tie motivation, self-efficacy, self-

empowerment, and self-regulatory behaviors to academic success.

Goal setting skills are critical components to academic and career success (Hong et al.,

2007, pp. 33-34). While these skills may be second-nature to non-disabled students, they are

frequently absent or weak in differently-abled students (Hong et al., 2007, p. 33). Consequently,

direct instruction in these skills is frequently required to enable differently-abled students to stay

on their academic track. There are four key skill sets associated with goal setting. These skill sets

enable people to set their own goals; make decisions; problem solve; self-advocate; and self-

evaluate their progress towards their goals based on the outcomes they experience, having the

insight and flexibility to change their goals as needed, and set reachable goals for themselves

(Hong et al., 2007). Instructional strategies to overcome the barriers to success caused by weak

goal setting skills include: use of experiential learning opportunities, so that students can relate

the instructional concepts to their own prior experiences; flexibility on the part of professors

about scheduling assignments and "chunking" assignments when necessary; modeling essential

study organizational and scheduling skills; and different ways to address mobility/visual/auditory

access for the physically disabled (Hong et al., 2007). "Specific and challenging but attainable

goals can and often do increase motivation because such goals lead to increased focus, effort and

persistence . . . to accomplish the goal" (Hoy & Miskel, 2013, p. 168). While it is outside the

scope of this paper to explore the systems of rewards, punishments, role models, and lessons

learned that form the self-esteem and motivation that individual community college-level students

bring with them as they enter the college doors, it is noteworthy that without sufficient positive

levels of self-esteem, they would not be able to envision the higher level educational and career

goals that require college-level studies (Prat-Sala & Redford, 2010).

Motivation through the lens of self-efficacy theory (Bandura, 1986, 1987, 1991) states that

"people work hard when they believe they have the capabilities to be successful; they believe that

the task is not too difficult; they have had success at completing similar tasks; [and] they have

good models of success" (Hoy & Miskel, 2013, p. 171). Research on teacher self-efficacy

development characterizes it as an upward spiraling process, when people receive positive

feedback on their actions. People who experience success come to believe in their own capacity to

successfully complete similar actions in similar contexts. These successful life experiences can

motivate them to ever-higher levels of self-efficacy (Hoy & Miskel, 2013). Self-efficacy is not

only important for achieving successful academic performance, but also for defining the life goals

people set for themselves. "The higher the level of self-efficacy, the higher the goals they set for

themselves and the more likely they . . . persevere and [are] committed to these goals" (Prat-Sala

& Redford, 2010, p. 301).

A study of students aged nineteen years and older found self-esteem to be a significant

factor in improving self-confidence and that collaboration between students, parents, education

staff, and employers can facilitate the empowerment and inclusion of people with learning

disabilities in society (Corrigan et al., 2001; Skellern & Astbury, 2012). Yet, with regard to

differently-abled students is their relatively low self-esteem that they have compared to their

"non-disabled" peers. Self-esteem scores of adults (as measured by the *Rosenberg Self-Esteem Scale*) with learning disabilities were found to be significantly lower than self-esteem scores of people without a learning disability (Thomson & McKenzie, 2005). The difference is also seen in other cultures. In a study of 240 Turkish children with learning disabilities, their parents and teachers, found significantly lower self-esteem in learning disabled ("LD") students when compared with non-LD students (Sakiz et al., 2015). A study of 54 adults, aged 23 - 65 years (M=42, SD = 9.6) found that younger adults with LDs experience lower levels of self-esteem than older adults with LDs (Abraham et al., 2002).

Starting at this lower level of self-esteem, the goals that differently-abled young adults think they can achieve (their self-efficacy) will likely be lower (they may not even attempt to enroll in postsecondary education), and they may give up sooner (they may not have the self-efficacy to persevere towards completing their goals).

Youth with disabilities are less likely to begin postsecondary education (63%) than their peers without disabilities (72%) and they are also less likely to persevere and take a longer time to complete their degrees once enrolled. (Tagayuna et al., 2005, p. 14)

These studies (Abraham et al., 2002; Corrigan et al., 2001; Sakiz et al., 2015; Skellern & Astbury, 2012; Tagayuna et al., 2005; Thomson & McKenzie, 2005) all indicate that differently-abled people will have a harder time reaching their academic goals due to lower levels of self-esteem, self-efficacy, and perseverance. Consequently, to achieve their academic and career goals, differently-abled students will need a support structure that reverses the downward spiral of prior academic failures and puts them on an upward spiral towards academic goal achievement.

Lens 3: Studies that map specific services to specific disabilities.

The studies of services required by people with specific disabilities typically use a case-study approach and bring the discussion of services and interventions down to a much more concrete and detailed level. By analyzing skill deficits caused by specific physical, psychological, emotional, and learning disabilities, these authors try to map interventions for each disability type. While this may be a very efficient way of providing services for postsecondary academic success, one-on-one analysis of differently-abled students' academic accommodation needs is still the only way to effectively support them. This viewpoint was noted in postsecondary student focus group discussions (Dowrick et al., 2005). Nevertheless, the process of mapping service types to specific disabilities should be considered at least as a useful guide for the community college counselors who work with the students to define what services are needed to help them succeed.

For the purposes of this review, I'll provide five examples of accommodations for specific disabilities that different authors have described: (1) students with the medical diagnosis of Attention Deficit Hyperactivity Disorder/Attention Deficit Disorder (ADHD/ADD); (2) students with other psychiatric disorders (e.g., anxiety and depression); (3) students with autism spectrum disorders ("ASD"); (4) students who are physically handicapped (e.g., orthopedically impaired students who require wheelchairs/scooters for mobility, and visually- and/or hearing-impaired students); and (5) students with the learning disability, dyslexia.

Each of the five examples requires different interventions to enable students to be successful learners. That is the nature of disabilities – there are so many different kinds that affect individuals in so many unique ways. There are, however, some commonalities in approaches to interventions that have been found to be successful for each type of disability. Ingersoll (2016) provides lists of accommodations needed by the individual. For students with ADHD/ADD,

students need to manage their ADHD/ADD medications; work with a tutor or academic coach to

help them with scheduling their time/completing their assignments; and use technology (SMART

pens to record lectures, computer applications to help the student organize his/her assignments,

due dates, class schedules, appointments; and reading/writing software (Ingersoll, 2016). Of note,

college students with ADHD/ADD are the second-largest group of students with disabilities who

attend postsecondary education (Conway et al., in Antony & Shore, eds., 2015). These authors

reiterate that these students are unable to sustain attention, have difficulty concentrating, lack

organization, and have trouble managing their time. The services they recommend for college

students with this disorder include more one-on-one assistance, prompting of students to request

assistance from their professors, scheduled meetings with advisors/counselors to help the students

stay on track with completing their assignments, one-on-one tutoring support, and peer

homework/study groups to help students meet their academic deadlines. They also state that a

relatively new approach for this group is to provide Internet "chat group" support to coach

students with ADHD/ADD, which has helped them to stay on track and persist with their work.

Students with the diagnosis of Autism Spectrum Disorder (ASD), including those

previously diagnosed as having Asperger's Disorder,[21] have only recently started to include

postsecondary education as a viable option after high school (Ingersoll, 2016). Because ASDs

encompass such a wide variety of skill deficits, the accommodations they need to succeed at the

postsecondary level are many and varied. To the extent that their needs can be generalized across

the spectrum, Ingersoll suggests the following regarding selecting a college: (1) select a small to

medium campus with smaller class sizes to minimize distractions that may become

overwhelming; (2) select a campus relatively close (e.g. within two to four hours) to home, so that

parents/guardians can intercede/advocate for them in emergencies; (3) select a college with

academic tutoring and personal coaching (for advocacy, time management, organization, and

impulse control); and (4) select a college that provides for substantial orientation to the campus,

dorms, cafeterias, and support services well in advance of the ASD student's first day on campus.

Also important is that parents/guardians do physical walk-throughs with their student, following

the student's schedule; set up appointments and meet with Disability Services and Counselors to

introduce the ASD student to them and describe their particular needs; walk through the logistics

of navigating the college cafeteria lines/food selection and payment systems; walk through the

logistics of dormitory living and specifically list applicable (institutional, safety, social) rules the

ASD student must follow; and get the ASD student's authorization to speak with his/her

professors on their behalf, in the event that accommodations need to be more clearly articulated

(Ingersoll, 2016). Setting up a routine with regard to tutoring services and weekly-scheduled

meetings with counselors are also critical for ASD students, who typically will not seek out help

and will not follow through on actions, unless they are scheduled in advance and are part of a

regularly-scheduled daily or weekly routine. See the discussion of electronic personal assistants,

such as are provided through assistive technology (e.g., *Identifor*), below that have been

particularly successful with this population. Workplace interventions and academic supports for

ASD people require the use of direct instruction, role playing, and scripting (among other

techniques) to help ASD people learn the social and problem solving skills, self-advocacy, and

job-specific functions required for their transition to the workplace. Co-workers, supervisors, and

management must also be specifically instructed about specific methods of intervening with the

ASD worker to redirect inappropriate behaviors (e.g., reducing unstructured time; avoiding

sensory and stimulation overloads) (Lee and Carter, 2012, pp. 995-996).

Students with psychiatric disorders such as anxiety and depression are the most frequently

seen mental disabilities on campus (Mowbray et al., 2003). These students require classroom

accommodations such as: peer notes; recording lectures; class breaks; preferential seating; testing

accommodations such as extended time, testing in a separate, quiet setting, or testing in the

hospital setting when necessary; and housing accommodations such as having a single dorm room

to minimize distractions (Ingersoll, 2016). Also critical for this group is the need for access to

psychological counseling – both on campus and through community-directed referrals for more

severe cases (Mowbray et al., 2003).

For the physically handicapped, the institutional interventions described previously in the

context of AHEAD standards, are the threshold level of required accommodations (for persons

with limited or no use of legs and/or arms). These are the physical access provisions to buildings,

classrooms, bathrooms, libraries, cafeterias, and all areas of the college campus where students

with mobility difficulties need to go. They are the curb-less access to sidewalks, elevators vs.

stairs, wide doorways and spaces to accommodate wheelchairs and/or scooters that we think of

when we think of the "accessibility" that the *Americans with Disabilities Act* mandated. On top of

these accommodations, physically handicapped students may need personal care assistants

(especially students with cerebral palsy), special dormitory room adjustments, and emergency

evacuation plans with the campus security (Ingersoll, 2016). Accommodations for the physically

disabled can also include:

peer notes; use of laptop for essay writing; textbooks in alternate format . . . [e.g., e-

books]; reading and/or writing software; specialized seating or desk/table; request to move

classroom to an accessible building; priority registration; reduced course load; 50%

extended test time; testing in a separate environment; . . . scribe for tests/exams; reader for

tests; priority housing; modifications to dorm room to meet the student's physical needs;

and modifications to bathroom and shower. (Ingersoll, 2016, pp. 62-63)

As we will see below, the integration of assistive technology supports is also critical for persons

with visual and/or hearing impaired physically disabilities.

Dyslexia is one of the most common forms of all learning disabilities that affects a

person's ability to read, spell, and write. People with dyslexia tend to be very creative and tend to

have excellent work ethics, making them excellent entrepreneurs (Ingersoll, 2016). Their

difficulties with reading comprehension, spelling, and written expression; however, present

extensive barriers to academic success in traditional academic settings. Postsecondary

accommodations Ingersoll recommends for people with dyslexia include:

> . . . priority registration; foreign language substitution; textbooks in alternate format; peer
>
> notes; recorded lectures; use of assistive technology for reading, writing and recording
>
> lectures; use of laptop for essay writing; . . . use of calculator for math problems; . . .
>
> extended test time (50% or 100%, depending on the student's processing speed and
>
> memory skills); testing in a separate environment; reader for tests; scribe for tests; [and]
>
> no use of scantrons. (Ingersoll, 2016, p. 79)

All of the accommodations and services that the above authors describe are currently

provided by colleges and universities; however, not uniformly. Differently-abled students must:

first, know which accommodations and/or service(s) are effective for their particular

disability/ies; and second, be able to advocate for themselves with the DSO counselor who

generates the student's first list of Section 504 accommodations and services during the student's

first semester at college.

Lens 4: Assistive technology supports.

The role of technology in opening doors to the physically disabled, to ASD students, and

to people with dyslexia cannot be over-extolled. Indeed, without the technological tools such as

audiobooks, text-to-speech, and computerized texts that enable the viewer to zoom in and out for

the visually impaired; captioned text for the hearing impaired; and read and write software [e.g.

Kurzweil, Read & Write Gold and *Dragon Naturally Speaking*] for people with dyslexia,

ADHD/ADD, ASD, and orthopedically impaired students; college success would be out of reach

for many of them. In a very real sense, these technologies help "level the playing field" for this

population (Ingersoll, 2016), and provide access to educational and career goals that was not

available to them as recently as ten years ago.

In the midst of this explosion of technological solutions; however, standards and

interdisciplinary training are critically needed so that education and related service providers

know what is available and can guide students to the appropriate technologies to address their

needs. The collaboratively-developed ATSM (*Assistive Technology Service Method*) system and

the RESNA (*Rehabilitation Engineering and Assistive Technology Society of North America*)

guidelines provide standards to integrate the unique physical and mental characteristics of the user

with his/her requirements for computing hardware and software. Assistive technology

professionals should work hand-in-hand with differently-abled individuals, their families, and

care-givers, with the goal of maximizing the individual's independent living skills, their access to

post-secondary education and competitive employment, and their integration in their local

community (Bauer, et al., 2014).

The list of software applications grows daily, and includes tools to help the visually

impaired read (Zoom Text and captioning); people with dyslexia comprehend text and write

essays (text-to-speech and speech-to-text); ADHD/ADD and ASD students stay on top of their

assignments with calendar applications to help them prioritize and organize their coursework

assignments by due dates; and the orthopedically impaired (e.g., cerebral palsy) effectively

interface with their computers (Ingersoll, 2016, pp. 225-228). Relatively new to the assistive

technology market is *Identifor*, which is a set of computer programs that were specifically

developed for the ASD community to help increase their overall independence. It is a powerful

assistive technology tool that addresses many of the accommodations (organizing work,

scheduling coursework due dates, daily living reminders) that are needed by the ASD population

(Ingersoll, 2016). *Identifor* uses interactive software in the form of video games to map the ASD

student's interests and skill levels to possible, attainable career options. Hence, it can be used to

help the student and his/her postsecondary academic counselor decide on and set attainable

academic and career goals. On top of this, it provides a personal assistant in the form of an Avatar

(male or female) of the student's choice, to help with scheduling daily duties (e.g., food shopping

lists, menus, daily routines), course assignments, and management of appointments. It is available

as an "app" for mobile phones, and thus, when used with ear-phones, the student has the benefit

of having a personal assistant along with them wherever they go (https://www.identifor.com,

viewed August 20, 2016).

Some barriers to success identified in previous studies.

One of the most frequently cited barriers to differently-abled postsecondary students'

paths to success is their reluctance to seek out help and self-advocate for themselves (Hong et al.,

2007; Ingersoll, 2016; Lee & Carter, 2012; Tagayuna et al., 2005). Another barrier is the failure

of secondary entities to collaborate with State Vocational Rehabilitation Services prior to the

students' high school graduation to develop achievable postsecondary transition plans that may

include postsecondary education, vocational training, and/or job coaching support (Grigal et al.,

2014). Other barriers have been mentioned in conjunction with the literature on specific

disabilities and the associated required services. Students' lack of organizational skills; time-

management skill deficits; reading comprehension and writing skill deficits; limited math skills;

distractibility; inability to successful negotiate the "unwritten rules"/read social cues of

postsecondary campus life; anxiety, depression, and memory skill deficits; and physical barriers

to access for the physically-/visually- and/or hearing-impaired are all barriers noted in the

literature, as previously discussed (Ingersoll, 2016). Add to this the additional barriers of limited

finances, and the need to balance work, study, and family demands that all postsecondary students

face, and we see that the mountains differently-abled postsecondary students must climb to

achieve "academic success" are quite steep.

An additional barrier that differently-abled people face is the decision whether to attend

college, if they are currently receiving State and Federal level disability benefits. The calculation

of these benefits is structured such that there is a significant _disincentive_ for differently-abled

youth to pursue postsecondary education. If people who qualify for disability benefits become too

independent as a result of attaining college degrees and higher paying, professional positions, they

may lose their disability benefits (Grigal et al., 2014). This may be why significantly disabled

youth are less likely to pursue postsecondary education. These authors state:

> . . . the individual [may be] concerned with losing his/her disability benefits. In order to
>
> receive disability benefits, applicants must prove that they lack essential skills that would
>
> allow them to become economically self-sufficient. Therefore, people with disabilities
>
> who receive disability benefits are often advised to refrain from engaging in any activity
>
> that might help them to become self-sufficient. (Grigal et al., 2014, p. 191)

Such advice contradicts the hard-fought and hard-won efforts of disability advocates over the past

decades and likely would lead to lower and lower levels of self-efficacy on the part of those

differently-abled persons who are so counseled. Fortunately, different states' Vocational

Rehabilitation Service programs help fund postsecondary training for people with disabilities

using a collaborative approach with colleges and universities to prepare these students for gainful

employment. In recent years, this collaboration has resulted in greater participation of

developmentally disabled persons in postsecondary education (Grigal et al., 2014). New Jersey's

Division of Developmental Disabilities continues to provide a large array of individually-tailored

services that have as their primary goal the *increase* of a developmentally disabled person's

independence and consequently, their self-efficacy.

In a focus-group study of adults with disabilities attending state universities in ten

different states, many of these differently-abled postsecondary students voiced significant

reluctance to self-identify as having a disability in the first place, in order to get required services,

because ". . . many participants still felt stigmatized with the misconception that disability equals

inability" (Dowrick et al., 2005, p. 45). The concepts of stigmatism and inability that are deeply

rooted in differently-abled students' psyches from the beginning of their public school education

directly relate to their personal concept of self-efficacy which is a critical prerequisite to being

able to self-advocate and obtain the support services they need (Dowrick et al., 2005). Their

reluctance to self-identify as having a disability may cause them to give up, without seeking out

the services that will lead to academic success and thereby decrease the probability they will

experience positive progress towards their personal academic and career goals. The spiral of self-

esteem can either move upwards with each positive outcome the student experiences; or move

downwards, as the student experiences failure. As the self-esteem spiral moves, so moves the

student's perception of self-efficacy and their formation of personal academic and career goals

that move them either closer to or further away from self-independence. If they choose not to self-

identify as having a disability and fail to obtain needed support services, this will be a significant

barrier to their achieving academic success.

In addition to being reluctant to self-identify as a differently-abled student with support

needs, if a student is also unable to *self-evaluate* their current and past academic achievements *in

relation to* their personal academic and career goals, they face an additional barrier to academic

success. Once students experience difficulties that cannot be surmounted with additional services

and/or accommodations, are these students able to objectively look at their outcomes; make sense

of the results; compare the outcomes to their goals and *readjust* their academic and career goals

accordingly? This takes a tremendous amount of self-awareness; openness to objective, critical

assessment of skills and talents by others (e.g., counselors); and emotional maturity that many

differently-abled postsecondary students may not yet possess. Poor problem-solving, self-

evaluation, self-monitoring, and poor communication skills are all barriers to self-empowerment

and self-regulation (Hong et al., 2007). Yet, it is precisely this ability to "self-regulate" and

readjust goals using a non-emotional, problem-solving approach that will enable these students to

experience success at reaching future, attainable goals (Hong et al., 2007). The positive outcomes

they experience by succeeding at future goal attainment will put them on the "upward spiral" of

self-esteem and self-efficacy and help to increase their longer-term levels of independence.

Administrative approaches to overcoming barriers and increasing success.

Although the above research suggests that differently-abled postsecondary students

already receive a wide array of accommodations and services, the attrition rates and

unemployment rates for the disabled continue to be higher than rates for the non-disabled, even

after enrollment in a community college (Barber, 2012; Schuh & Gansemer-Topf, 2012; Wyner,

2014). It is yet unclear why this is the case. As discussed previously, community colleges

throughout the United States have tried different approaches in an effort to boost "success rates" –

especially for students who enter community colleges who require developmental or remedial

courses/services before they can earn college credit (Hagedorn & Kuznetsova, 2016). The pre-

high school matriculation programs, bridge programs, "learning communities" and student

success courses all reflect our nation's community colleges' mandate to improve their students'

success rates, because of the historic role community colleges have played in providing a path to

upward economic mobility (Hagedorn & Kuznetsova, 2016). These programs are having positive

results, as indicated by Washington State's I-BEST ("Integrated Basis Education and Skills

Training") community college program, which achieved a 40% increase in basic-skills students

who earned vocational certificates (Viadero, 2009). The I-BEST approach is similar to the team-

teaching approach that has been successfully used in secondary general education classes, where

differently-abled students are provided support from a special education teacher within the

general education teacher's regular classes. The "wraparound collaborative planning process"

(WCPP) is another type of DSO program that integrates all service providers that a student with

cerebral palsy would require. The WCPP approach pulls together all service providers that the

student would need, the student his-/herself, and the student's family to identify all the academic,

personal living, and mobility supports required by a student with cerebral palsy (Lechtenberger et

al., 2012).

From a broader, institutional administrative perspective, DSOs can help improve student

retention and graduation rates by providing specific supports throughout the lifecycle of a

student's program at a community college (Culp, 2005). These initiatives begin prior to the

students' college entry; continue during their college program; and also are in place during the

students' transition to either four-year postsecondary colleges/universities or to the workplace.

Prior to community college entry, community college administrators can connect with the local

school districts from the feeder municipalities as early as high school students' sophomore year,

and have the districts administer the college Accuplacer tests that identify which remedial courses

a student needs to take before they can earn college credit. By identifying students "at risk" as

early as sophomore year of high school, the local school district can work to intervene and

provide low-performing students the extra instruction they need in their areas of academic skill

deficits. Also prior to college entry, or as part of the postsecondary student's first semester,

differently-abled students should work with their DSO counselor to register in an "orientation

course" that specifically describes what services are available, and to work with faculty to have

them incorporate overviews of services in the course syllabi, and review these with the

differently-abled students during the first week of classes (Culp, 2005).

Tangential to the administrative initiatives that specifically target differently-abled

students, DSOs can form partnerships both within the community college and with local

community business as a way to facilitate these students' progress in their academic programs and

in their transitions to work after college (Culp, 2005). Within the college, intentional movement

away from a "stove-pipe," segregated departmental operation mentality and towards a

collaborative approach to service delivery can help integrate the "remedial" or "developmental"

curriculum (not resulting in college credits) into the credit-bearing curriculum. By creating strong

professional relationships between counselors and faculty, this collaborative approach can result

in: (1) identification of required student entry and exit skills for courses; (2) the development of

faculty workshops on strategies they can use to guide them regarding appropriate referrals to

counselors; and (3) use of data-driven decision making to identify and track "at risk" students,[22]

and intensify counseling support for these students, using a case-management approach. DSOs

can reduce service levels for students whose needs are not as intense through use of webinars on

program requirements; service descriptions and access information; course scheduling and

registration; and posting of student life activities on a DSO website. By establishing collaborative

partnerships with local businesses, community college administrators can help to define

community colleges course offerings (including certificate-bearing courses) businesses need

students to take in order to prepare a "pipeline" of future employees. In turn, local businesses can

work with community colleges to establish local internships and mentorship programs for

community college students (Culp, 2005).

   With regard to differently-abled students' transitioning to post-community college pursuits

(e.g., transition to work or transfer to a four-year college/university), community colleges can

provide direct instruction to/counseling of these students to direct them to transition services

provided to all community college students, including: job search skills (e.g., résumé writing,

interviewing techniques, and connection to on-line recruiting services), and support in navigating

their transfer application to four year colleges. While community colleges already provide these

services to all their students, there is a need for advising differently-abled students when and

where the services are available. Many community colleges provide credit-bearing "transition"

courses for all students that encompass these topics. With regard to transfers to a four-year

college/university, strong relationships between the community college counselors and the four-

year college counselors are required, so that the community college counselors can advise

transferring students exactly what program requirements they will need to meet, and what they

can expect (student life, dorms, transportation, etc.) at the four-year college (Culp, 2005).

An additional administrative approach to surmounting the barriers to academic success that differently-abled postsecondary students face is the "hybrid hierarchical" strategy. This approach integrates some basic college skills development courses into related credit-bearing courses, but it requires professional development for the faculty that would implement this strategy. Faculty would require professional development to help them work with and counsel students with disabilities; and to instruct them on basic skills course syllabus creation, using standard templates (Kozeracki & Brooks, 2006). Both basic skills faculty and general education faculty would collaboratively develop college-wide exit requirements for the developmental courses, currently situated separately in English and Math Departments. Close monitoring of students with disabilities and immediate advising for referrals to "Learning Assistance Centers" after the student's first assessment within their courses would allow the student to receive timely extra supports to enable their success in the credit-bearing courses (Kozeracki & Brooks, 2006).

Community college disability support services cost and funding considerations.

Community colleges disability service offices are squeezed between rising demand and costs and decreasing funding sources, as they attempt to provide services for their differently-abled students. Although I did not find data that segregates DSO costs from overall community college costs, it is instructive to see the general allocation of community college expenses. Total community college costs break out as follows: 46% for instruction, 2.5% for public service, 0.5% for research, 9% for academic support, 11% for student services, 16% for institutional support, 10% for operations and plant maintenance, and 5% for scholarships and fellowships. On the revenue side, 44% comes from the State, 19% from local government, 19% from tuition and fees, 7% from other, 6% from auxiliary, and 5% from the Federal Government (Phillippe & Sullivan, 2005). With so much reliance on State and local funding, as State and local budgets are cut during

difficult economic times, the resources available to community colleges to provide critical support

services (and consequently improve graduation rates) decline. This is particularly problematic in

light of mandates to improve their graduation rates with less resources per student (Baily et al.,

2005; Baily et al., 2006; Phillippe & Sullivan, 2005).

The community college and state university funding models are in stark contrast to private

college funding models (Schuh & Gansemer-Topf, 2012). Private colleges receive between 78

and 88% of their funding from student tuition. Public colleges and universities rely on student

tuition and fees for roughly only 20% of their funding. The remainder is made up with State and

Federal aid, grant funding, and student loans. State and Federal tax credits and tuition tax

deductions are also part of the total revenue picture, as are indirect sources of revenue from

student bookstore purchases, food services, and entertainment. These all contribute to the local

college economy. Of particular note is that postsecondary attrition rates directly affect the bottom

line of a college/university. From a financial perspective, a drop in attrition rates as small as 2%

can benefit the institution significantly. This is achieved by providing a continuous revenue

stream from student tuition (as opposed to a broken revenue stream for students who drop out); as

well as decreasing needed recruitment costs to replace students who drop out (Schuh &

Gansemer-Topf, 2012).

While the above information on cost and funding considerations is important for DSO

administrators to consider in the context of determining how to effectively use available resources

to provide needed disability services, I was unable to find documentation of specific DSO cost

and funding data separate from overall postsecondary cost and funding data. This is an area for

future research, as is indicated in the *Discussion* chapter of this paper.

Literature Review Conclusion

In conclusion, the literature describes a vast array of problems community college administrators face in helping support differently-abled students progress in their academic programs. On the positive side; however, researchers have also presented many creative pathways to addressing those difficulties and helping these students reach their academic goals. In this chapter, I began with a brief overview of the legislative history that is the basis for our current mandates to provide postsecondary disability services, and described current postsecondary disability services in the context of community colleges. I then provided information from the literature that describes: (1) different types of accommodations and services provided to and accessed by differently-abled students in the postsecondary setting; (2) the role of motivation, self-efficacy, and goal setting in the context of post-secondary academic success for differently-abled students; (3) specific types of accommodations for specific types of disabilities; (4) the increasingly important role assistive technology plays in "leveling the playing field" for differently-abled postsecondary students; (5) barriers faced by both DSO administrators and differently-abled students in providing and accessing needed accommodations and services; (6) some innovative administrative approaches to overcoming barriers; and (7) some cost and funding considerations DSO administrators face. The first two research questions driving this study ("What services are provided to/accessed by differently-abled community college students?" and "What difficulties do administrators and students face in providing and accessing needed services?") relate to the literature described in items 1,3, 4, 5, 6, and 7, above. As will be seen in Chapter 4, *Findings*, and in Chapter 5, *Discussion*, the literature related to item 2 above (the role of motivation, self-efficacy, and goal setting in the context of post-secondary academic success for differently-abled students) is particularly relevant to differently-abled students' abilities to

access and use the accommodations and services they need to persist and reach their educational

and career goals.

In the following chapter, *Methodology*, I describe how the current research builds on this

body of literature through the documentation and analysis of in-depth, one-on-one interviews with

four DSO administrators and twenty differently-abled community college students at two New

Jersey community colleges.

Chapter 3: Methodology

In this Chapter 3, I describe the methodology used for this study, beginning with a description of my research perspective and my role as a researcher, followed by a detailed description of the methodology. These methodology details include descriptions of: the research sites; sample selection and participant recruitment; ethical considerations; quantitative data analysis; open, axial, and diagram qualitative coding procedures; and validity. At the conclusion of the chapter I note several methodological limitations that constrain the application of my findings more broadly.

Research Perspective

There are four main paradigms that orient the researcher's perspective about the research to be conducted. These are: postpositivism, constructivism, transformativism, and pragmativism (Creswell, 2014). Postpositivism is generally associated with the traditional "scientific research method" and with quantitative experimental design. "Constructivism" is associated with inductive, qualitative research, relying on the research participants to provide their interpretations or viewpoints to the situation at hand. The researcher, using open-ended questions, then "constructs" the social meaning from all the responses provided by the participants. "Transformativism" is driven by a research concern for the marginalized or disadvantaged of society, and seeks to promote a political agenda for this population by providing insight to their difficulties that the research highlights. Transformativism is also a qualitative methodology, and its focus is to use the individual stories of inequity that the research uncovers and to promote a course of political action to address the inequities. Finally, "pragmatism" is a research paradigm that seeks to document "what works" to solve problems. Frequently, a mixed methods (both

qualitative and quantitative) research design is used with the aim of finding the best solution to

the problem under research and to promoting social justice (Creswell, 2014; Rossi et al., 2004).

Within the above framework, my research falls largely within the "pragmatism" research

paradigm, with some aspects of "transformativism." To the extent that college administrators are

able to use the results of this research to fine-tune their support services for this population, a

pragmatic approach to providing solutions to problems is represented. The transformative aspect

of my research emanates from the following: (1) the student participants of this research are a

marginalized segment of our society (they meet the Federal and state criteria for having a

physical, mental, and/or learning disability); (2) the results of this research provide insight into

the educational difficulties they have experienced while pursuing their community college

programs of studies; and (3) the results document what they say has worked to help them succeed.

To the extent that a gap is identified in what is needed in support services for this population

versus what is available, and the challenges community college administrators face in meeting

these deficits is noted, the "call to action" that typifies transformative research is represented in

this research.

Role of the Researcher

I have been an LDT-C/Child Study Team Case Manager at a local public high school for

over twelve years and have worked with many students with almost every disability described in

the NJ Department of Education's Special Education Administrative Code. This experience has

afforded me the expertise to analyze and recommend accommodations for differently-abled high

school students. As more and more of the students whom I case manage express their intentions to

go on to college and succeed in postsecondary programs of study, I can personally see the need to

contribute to the body of knowledge that will help postsecondary Disability Service Centers

provide effective, sustainable services and programs of support for these students. Because of this

experience, I felt it would be good to collect, analyze, and document successful college services

and programs for a wider audience. I was also curious to see whether or not differently-abled

students' academic and career goals changed over the course of time they spent at community

colleges. Although my knowledge and experience as a high school LDT-C may not be directly

transferrable to knowledge and insight into community college level programs and services, my

twelve years of LDT-C knowledge and experience in analyzing and documenting the

accommodations and services required by all types of classified high school students provides me

with sufficient overlap in the skill set required to do an effective analysis of disability services at

the community college level.

Research Sites

I chose two New Jersey Community College sites to conduct my research. The decision to

select community colleges versus public or private four-year colleges was based on the

community colleges' open-enrollment mandates and on the likelihood that community colleges

would have more of the programs and services needed by differently-abled postsecondary

students. New Jersey's community colleges are located throughout all of New Jersey's twenty-

one counties, and in general, serve the residents of the county in which they are located. Two of

New Jersey's community colleges serve two counties each, resulting in a total of 19 New Jersey

community colleges. The two community colleges I chose were within commuting distance for

me to be able to conduct the twenty-four interviews, each of which lasted from forty-five minutes

to one hour. In addition, both of the selected colleges were known to me from my attendance at

their open house sessions, where they provided descriptions of their programs and services for

differently-abled students. A description of each community college that participated in this study

follows, starting with CC1.

Located in central New Jersey, CC1 is a public, two-year college that serves two counties

and has an enrollment of 8,214 students. 48.8% of these are men and 51.2% are women. 58% of

these students are part-time students and 42% are full-time. 70% of the students are pursuing

Associate's Degrees and plan on transferring to a four-year college; 30% attend programs leading

to certificates that will prepare them for direct employment. The demographic breakdown of the

student body is as follows: 0.2% of the students are American Indian or Alaskan Native; 6.0% are

Asian; 9.2% are Black or African American; 17.3% are Hispanic/Latino/Latina; 0.4% are Native

Hawaiian or other Pacific Islander; 54.4% are White; 2.1% are two or more races; and 7.6%

indicate "race/ethnicity unknown." The website also states in their demographic description of

their student body that 2.9% of their students are non-resident aliens. Tuition/fees/book costs for

"in-county" residents (2015-2016 data) are $5,358.00 for full-time students (excluding room and

board – many students live with their parents). The campus is located on 240 acres in a

suburban/rural setting. CC1 offers over 90 different degree majors and certificate programs within

its ten[23] departments (CC1 website, viewed July 28, 2016[24]).

CC2 is also located in central New Jersey, and has a student population of 11,662

students, of which 51% are full-time and 49% are part-time. 46.6% of the students are men;

53.4% are women. The demographics of the student body break out as follows: 0.4% are

American Indian or Alaskan Native; 14.0% are Asian; 11.3% are Black or African American;

30.4% are Hispanic/Latino/Latina; 0.5% are Native Hawaiian or other Pacific Islander; 31% are

White; 2.7% are two or more races; and 7.4% indicate "race/ethnicity unknown." The website

demographics indicates that 2.4% of the total student body are non-resident aliens. 2015/2016

tuition, fees, and books for in-county residents was $5,072.00 (excluding room and board – many

students live with their parents). The campus is located in a suburban/bordering on urban area. It

offers 71 associate degree programs and 29 certificate programs[25] (CC2 website, July 29, 2016).

At the time of this study, CC1's DSO consisted of two administrators and one part-time

counselor. CC2's DSO consisted of one administrator, three counselors, and access to six

additional non-DSO counselors. CC2-I's program consisted of one administrator and five

counselors who also served as CC2-I tutors and transition coordinators.

Sample Selection and Participant Recruitment

The sample for this study consisted of purposefully-selected participants (Creswell, 2014).

Criteria for participation included: (1) administrators responsible for disability services at CC1

and CC2, and (2) enrolled community college students who qualify for disability services. The

sample from CC1 included two administrators and twelve students. The sample from CC2

included two administrators and eight students. All eight of the CC2 students were accepted into

CC2's Intensive support program (CC2-I).[26]

To recruit the study participants, I first contacted (via e-mail and follow-up phone calls)

the Directors of the DSOs for CC1 and CC2. CC2 required a formal IRB process, which I

completed and their IRB connected me with their Director of DSO, who remained my primary

point of contact for CC2 throughout the research. To obtain student participant volunteers, I

reviewed my Rutgers IRB-approved recruitment flyer (see Appendix C) with the DSO

administrators; then asked them to post it in their offices and student lounges, as well as distribute

it to their students electronically. I provided the text for the administrators to send in an e-mail to

their students along with a .pdf file of the flyer. In this manner, the administrators were not

violating any confidentiality of the students, as it was up to the adult students, whether or not they

wanted to contact me to participate in the study. Once the administrators sent out the recruitment

flyer, I started receiving e-mails (at my Rutgers University, password-protected e-mail address) or

texts (on my personal cell phone) from the students wishing to volunteer. I returned each

student's message and scheduled dates, times, and interview sites with them. All interviews were

held on the CC1 and CC2 campuses in locations selected by the study participants. Students were

selected on a first-come basis after checking that they met the basic criteria for participation

(currently registered at the community college; receiving services from the college's DSO; and

had completed at least a semester's worth of classes).

The initial recruitment procedures yielded a low response rate. I discussed this difficulty

with one of the CC2 administrators, and asked her to try again to get additional student

participants. This time I requested that she randomly select every fifth student (of approximately

90 students in each CC2-I cohort) who is on record with the DSO and who is registered for their

second year of studies. In this way, I hoped to enlist volunteer participants with a full year's

experience of using CC2's disability services. Subsequently, I also attended a "back-to-college"

session held at CC2-I for returning students where I explained the purpose of the study and again

distributed the recruitment flyer, noting the participation incentive, which was a $30.00 gift card

to an on-line shopping site. The end result of these efforts was recruitment of two additional CC2-

I student participants, for a total of four administrators, twelve CC1 students, and eight CC2

students.

As is sometimes the case with qualitative studies, challenges related to participant

recruitment resulted in my rethinking my study design. Specifically, I eliminated one sub-group

of study participants. Initially I had hoped to compare the experiences of three distinct groups of

community college students at the two community colleges I studied: (1) CC1 students who were

eligible for and received disability services from a community college that provided general

disability support, as required by the *Americans with Disabilities Act* (ADA) and *Section 504* of

the 1973 PL *Rehabilitation Act*; (2) CC2 students who similarly accessed general disability

supports; and (3) CC2-Intensive ("CC2-I") students who were enrolled in CC2's Federally-

funded, competitively accessed program of disability supports. I had hoped to recruit ten students

from each of these three categories. While I was able to successfully recruit twelve students[27]

from the first category; I was only able to recruit one student volunteer for the second category

and eight student volunteers from the CC2-I group. Consequently, I discarded the data from the

one CC2 "general disability" student, and compared only the CC1 and CC2-I students.

Women and minorities were included if they happened to occupy any of the administrator

positions or were student volunteers who participated in the study; however, purposeful sampling

for diversity with regard to gender and race/ethnicity was not done for this study.[28] Gender and

race/ethnicity were not the focus of the study; rather, community college DSO services and

accommodations, and differently-abled students' academic and career goals were the areas of

investigation. The sample consisted entirely of administrators currently holding the positions

described above at CC1 and CC2 and those students who freely volunteered to participate.

Student volunteers were either full- or part-time students at CC1 or CC2; may have

completed 3 or more college credits; were all fluent in English; and all qualified for disability

services at the college they attended. The student demographics are given in Appendix H. In total,

there were eight males and twelve females; four students of Hispanic origin; one Asian; four

Black/African American students; and eleven White students. A majority of the students had

completed approximately 20 to 30 college credits (and so had been enrolled at the college for at

least one academic year), although the range of credits completed was from 6 credits to

approximately 50 credits. The disabilities represented from each of the colleges was quite varied.

From CC1 the following disabilities were represented in the students who participated: Traumatic

Brain Injury ("TBI"), Bi-Polar Disorder; Anxiety Disorder, Attention Deficit Hyperactivity

Disorder ("ADHD"), Specific Learning Disability ("SLD") in Reading, SLD in Writing, SLD in

Math, Cognitive Impairment, Visual Impairment, Orthopedically Impaired, Dyslexia, and

Speech/Language Impairment. The disabilities represented in the CC2 student participants were:

SLD in Reading, SLD in Writing, SLD in Math, Spastic Quadriplegic (with Cerebral Palsy),

Attention Deficit Disorder ("ADD"), and Dyslexia.

Ethical Considerations

To collect in depth, substantive information, I recognized the need to ask personal

questions of my study participants. These included their specific types of learning or medical

disabilities; their ages; their current and prior experiences with specific accommodations; and

their personal goals for pursuing postsecondary education (Corbin & Strauss, 2015). To adhere to

the highest ethical standards of social science research and to safeguard the privacy of my

participants, I: (1) obtained Institutional Review Board (IRB) approval from my university prior

to collecting data; (2) obtained IRB approval from CC2, which has its own IRB process; (3)

obtained authorization from CC1, CC2, and CC2-I administrators to distribute the recruitment

flyer and conduct the student interviews on their campuses; (4) disclosed the purpose of the study

and data use with CC1, CC2, and CC2-I administrators and students prior to collecting data; (5)

obtained interviewees' written, informed consent for study participation; (6) coded the

respondents' results to protect their anonymity; and (7) retained all field notes and e-mail

correspondence that might contain a linkage to study participants' identity in locked cabinets, on

the password-protected university e-mail server, and on my password-protected laptop.

There were no funders for this research, and no persons will profit from this study directly. In the reporting phase of this research, I followed standard APA (2010) source citation standards, and presented the results in either composite form or with personal identification information protected via use of coded identities. For example, the sample summary "vignette" of one of the interviews that is given in the appendices to this study uses coding such as "CC1-Student10" to indicate this was student number ten who attended Community College 1. These comprised the procedures I used to ensure ethical standards were not breeched during the course of this research (Creswell, 2014).

Data Collection Procedures

The primary data for this study were collected through in-person, structured interviews with participants (Appendices D and E). Additionally, documentation from each college's websites, program descriptions, and a student handbook provided data for this study. The interview questions were open-ended and provided opportunities for the interviewees to respond to follow-up, clarification questions, as well as a final open-ended invitation to add their own thoughts about any topics that were not specifically covered in the interview. Probing, follow-up questions (Creswell, 2014) were more formally included on the student interviews, after they completed their ratings of the student services, using the Likert Scale portions of the student interview protocol.

Upon completion of each interview, I uploaded the audio files to my password-protected laptop; then transmitted the .mp3 audio files to a transcription service. The transcription service returned the transcriptions to me in the form of Word® files. After reviewing the transcriptions, I e-mailed them to the respective participants, and asked them to review the files. I reminded the participants that they could edit any of the responses with which they were uncomfortable, as I

had indicated to them verbally at the start of the interview. For the student responses to the Likert

Scale parts of the interview, I populated Excel® files with their ratings and asked that they

confirm their responses. Any requested changes to either the transcriptions or the ratings resulting

from these member checks were incorporated into my data prior to analyzing the data.

I embedded the quantitative part (students' use of Likert Scales to rate the helpfulness and

quality of the services they used) of my data collection into the qualitative, open-ended questions

used in the structured interviews, to help validate the data collected. Both the qualitative and

quantitative parts of the student interview were collected concurrently to: (1) maximize the

students' concentration on the topics at hand, having immediately prior discussed the different

services they have and why they need them in the open-ended questions of the interview; and (2)

to minimize the risk of missing data, had the qualitative and quantitative parts of the interview

been scheduled on different dates or times that might have been inconvenient for the students. By

way of introduction to the difference between "helpfulness" and "quality" service ratings in the

student protocol, I clearly instructed the student interviewees that they were to first look at the

services and consider how helpful the services were for them, and rate them from 1 to 5, with 1

meaning "not helpful to me at all" and 5 meaning "critical to my success at college." I then

instructed the students that they were to look again at these same services, and for those services

that they actually used, rate the quality of the service from 1 to 5, with one being "poor" and 5

being "excellent." I explained to them that in both cases, if they didn't use a service, or a service

was not applicable to them, they should use the "N/A" rating for their response. Before they

began their ratings, I asked them if they understood the task, and I responded to any questions

they had. Further validation of the convergent qualitative and quantitative results were achieved

by utilizing the same topics (what services the students used) in both the quantitative and

qualitative sections of the interview; by following up with open-ended, qualitative questions about

the students' quantitative responses during the same interview; by recording the interviews and

having them independently transcribed; and by member-checking the transcripts with the

participants (Creswell, 2014).

Additional data were collected from CC1 and CC2 websites, program descriptions, student

handbooks, and program application forms. Most of the information related to program

application procedures, establishing disability eligibility, and college services available to

differently-abled students was posted on their websites. It was easier to navigate and find DSO

information on CC2's website than CC1's website; however, both websites generally provided the

basic information a student would need to begin the application process for disability services.

Quantitative Data Analysis.

The quantitative data for this study comes from the five-point Likert Scale ratings that the

college students provided on their perceptions of the helpfulness of and quality of different

college services they actually use at the college.[29] Service categories were adapted from CC2's

2014/2015 pamphlet describing the services their DSO offered. I intentionally chose CC2's

service offerings for both CC1 and CC2 students to rate, as my research of the two colleges at that

time indicated that CC2 provided more services, due to their Federal grant funding of their CC2-I

program. By using the greater number of services, I was less likely to miss services that both

samples of students felt they needed. These data provide insights into which services are most

helpful to students in moving them successfully towards their goals. For example, for the

orthopedically impaired students (CC1-Student 7 and CC2-Student 6), the "institutional

interventions" of barrier-free access to classrooms and community college facilities (McCleary-

Jones, 2007, 2008) are important. For the dyslexic students (CC1-Student 8 and CC2-Student 9),

some of the individual-level accommodations that assistive technology provides are more

important – such as the software programs that help them read and understand text.

With regard to the helpfulness and quality of services these students access, these Likert

Scale ratings reflect the individual student's perceptions of how well the services met their needs.

I entered the Likert Scale ratings from each student participant into an Excel® spreadsheet; then

compiled the data into one overall spreadsheet for CC1 and CC2, respectively. CC1 and CC2

totals were then combined and simple totals and percentages were calculated using embedded

Excel® calculation functions. Simple frequency counts of the responses were made and

aggregated, as shown in Tables 5 through 10 of Chapter 4, *Findings*. Further detail of the rating

scale responses are given in Appendices I, J, K, and L, aggregated by students from each of the

community colleges.

After I completed the frequency counts, I calculated simple percentages for each of the

following categories of service: Pre-Enrollment Services, Academic Counseling, Personal

Counseling, Assistive Technology, Financial Services Counseling, Career Counseling and

Internships, and Transfer Counseling. Because each service category is distinct from the other

college services that the students rated, I did not generate grand total responses for all the

categories together, nor calculate grand total percentages. The percentages were thus calculated

separately for each college and for each category, based on the total number of responses for each

rating level, divided by the total number of responses from all the students at each college, within

that category.

Qualitative Data Analysis

For the qualitative part of the analysis, my process generally followed procedures

described in Corbin and Strauss (2015), including: reading each line-numbered transcript (the raw

data of this research) through to get an overview of each participant's response ("general

analysis"); reviewing the transcripts to identify categories or themes that emerged ("open

coding"); "memoing" the concepts; and summarizing the descriptive information for each student

participant, using a template that I developed (e.g., Appendix F). I iteratively developed a code

book using the original transcript text and emerging concepts and categories from this preliminary

analysis. Once I was satisfied with the code book concepts and category mappings, I entered the

raw data (line-numbered quotations from the transcripts) into an Excel® spreadsheet, organized

by research question for each student and administrator participant. I reviewed my summary

descriptions of the transcript data to establish criteria for categorizing: (1) the levels and quality of

supports the students described; and (2) students' descriptions of their near- and long-term

academic and career goals. Finally, I integrated the concepts and categories by looking for

interrelationships between them and the core categories (see *Figure M-1* in Appendix M). By

following this systematic qualitative analysis process, I moved beyond a simple, summary

description of each administrator's and student's experiences, and identified some major themes

in the analysis (Corbin & Strauss, 2015). While I was able to identify major themes regarding

provisioning and accessing accommodations and services, the axial coding process yielded

inconclusive results with regard to student goal movement, as presented and discussed in

Appendix M. Thus the results related to student goal movement are not included in the *Findings*

chapter of this study.

Qualitative Data Analysis: Open Coding

The responses to the interview protocols provided the "thick descriptions" and an in-depth

understanding of successful interventions "within the context of" NJ community college disability

services (Gall et al., 2010; Patton, 2008). Table 2 presents a mapping of the research questions for

this study to the protocol questions.

Table 2. *Open Coding Mapping of Research Questions to Protocol Questions*

Research Questions	Protocol Questions	Appendix
1. What support services are provided to and accessed by differently-abled students in two New Jersey community college settings?	*Administrator Protocol:* Questions: II A, B, C, & E. *Student Protocol:* Questions: IVB 2a & IVB 3a, & V.	Appendices D & E (Administrator & Student Protocols)
2. What difficulties do CC1 and CC2 administrators and students encounter in providing and accessing support services in the community college setting?	*Administrator Protocol:* Questions: III A & B *Student Protocol:* Questions: IV B2, V, VI, & VII.	Appendices D & E (Administrator & Student Protocols)
3. How helpful are these services in supporting students' progress towards their educational and career goals?	*Administrator Protocol:* Questions: I C, III B, & III G. *Student Protocol:* Questions: Likert Scale ratings & follow-up questions to ratings; Questions IV A 1 & 2; VI A; VI B 4 & 5.	Appendices D & E (Administrator & Student Protocols)

I started the qualitative data analysis by reviewing the community college administrators'

member-checked interview responses for common verbal descriptions of types of services they

provided at their respective colleges, the challenges they faced in providing these services, and

their descriptions of what they felt was effective for their students' success. Similarly, I reviewed

the students' responses for commonly-occurring verbal themes. The students' responses also

included their personal goals for obtaining a community college education, the challenges

(academic, financial, logistical, and personal) they faced in completing course requirements, and

what services were most helpful to them in reaching their educational goals. Once I identified a

set of common categories, I coded ("open coding") each student's raw data using these common

concepts and categories that emerged from each transcript, thereby highlighting the properties and

dimensions of each concept (Corbin & Strauss, 2015). I documented emerging concepts and

categories/themes from the transcripts, using an iterative process between code book drafts and

transcript reviews. Once I was satisfied with the codes, categories/themes, and core categories for

the code book, I generated summary descriptions (using Word® software) for each student's

transcript, that included: (1) the student's demographic information (age, gender, race/ethnicity,

disability type); (2) the student's college major; (3) the student's reasons for coming to the

community college; (4) the student's personal goals after completing his/her community college

studies; (5) the student's required accommodations; (6) the student's difficulties in college; and

(7) the student's logistical mitigating factors (current employment, transportation, and housing).

Appendix F provides an example of these individual student summaries. To further analyze the

line-numbered student transcripts, I entered the students' raw data into matrices, organized by

research question and core category, using Excel® software. In this way, student's verbatim

responses were associated with each research question and each research core category. Table 3

shows the association of research questions to the open coding core categories for the analysis of

the qualitative data in this study.

   Qualitative Data Analysis: Axial Coding.

   The preliminary analysis (open coding) of my data revealed common accommodations

and services accessed by students and common difficulties experienced by students; but varying

educational and career goals. For some students there were specific life events that triggered their

desire to pursue a particular line of study and set a specific career goal for themselves.[30] For other

students, their career goals were not crystalized; in fact, some were not even sure they wanted to

Table 3. *Association of Research Questions to Open Coding Core Categories – Used to Map Raw Data to Research Concepts*

Research Question	Core Categories
1. What support services are provided to and accessed by differently-abled students in two New Jersey community college settings?	***Accommodations Services:*** • Pre-Enrollment Services • Academic Counseling • Personal Counseling • Assistive Technology • Financial Services Counseling • Career Counseling/Internships • Transfer Counseling
2. What difficulties do CC1 and CC2 administrators and students encounter in providing and accessing support services in the community college setting?	***Administrator Difficulties*** ***Student Difficulties***
3. How helpful are these services in supporting students' progress towards their educational and career goals?	***Accommodations Services:*** • Pre-Enrollment Services • Academic Counseling • Personal Counseling • Assistive Technology • Financial Services Counseling • Career Counseling/Internships • Transfer Counseling ***Personal Goals - Educational*** • Educational goals prior to entering Community College • Current educational goals ***Personal Goals - Career*** • Career goals prior to entering Community College • Current career goals

continue their studies. I wanted to see if I could tease out from the data a deeper level of analysis

that would investigate the changes in student academic and career goals they described in the

interviews. To conduct this deeper analysis, I reviewed the students' interview responses about

their prior and current educational and career goals. My reasoning was that if students were

getting the support that they needed to succeed academically from their college's DSOs, they

would gain ever higher levels of self-confidence in their ability to reach their academic goals and

that this would have an impact on their longer-term academic and career goals. I thought that

student responses to questions IV A 1, IV A 2, VI A, and VI B 4 & 5 (see Appendix E)[31] of the

Student Protocol would enable me to detect any patterns in movement between prior and current

educational and career goals.

This deeper analysis ("axial coding") of the students' responses enabled me to see possible

relationships between the emerged categories and core concept and the students' self-described

academic and career goals. Appendix M provides the results of my exploration of the possible

relationships between students' academic and career goals and the core categories shown in Table

3. Axial coding enables the researcher to begin the next step in qualitative research; i.e.,

"diagramming." Diagramming is an iterative process that involves analyzing the categories and

concepts across all responses and in relation to each other; then creating a visual representation of

the information (Corbin & Strauss, 2015). The results of the diagramming process are presented

in *Figure M-1* in Appendix M. Because the axial coding and diagramming analyses presented in

Appendix M yielded inconclusive comparative findings between the two colleges, this part of the

qualitative analysis is not included in this study's findings.

Validity

Validity was established through the processes of triangulation and member checking of

data (Creswell & Miller, 2000). Both the qualitative data (transcripts of interviews) and the

quantitative data (spreadsheets of student responses on the Likert Scale ratings) were member

checked. Triangulation of the data from the different sources (administrators, students, and

college website descriptions of disability services) enabled me to find common themes that

describe the disability services offered by CC1 and CC2; the challenges administrators and

students face in providing and accessing these services, respectively; and the services students

identified as being "very helpful" or "critical" to their success in reaching their academic goals.

Both triangulation and member checking are systematic qualitative research processes that ensure

the validity of qualitative research results. The summary descriptions that I generated for each

student helped me to organize the information into major "categories" that were also useful in

validating the categories that emerged from the open coding process used to establish my code

book.

Study Design Limitations

While the use of a qualitative research methodology provides deep, rich descriptive

information, it does not provide generalizable results that derive from rigorous, controlled

experimental design and quantitative statistical analysis (Patton, 2008). The limitations of the

current study design include: (1) the small sample size; (2) the use of only two community

colleges in New Jersey; (3) the focus on the few types of disabilities included in this study; (4)

inability to access DSO cost and budgetary factors; and (5) exclusion of variables outside

community colleges' DSOs' control, such as SES, family background, race, ethnicity, gender, or

religious affiliation. Despite these limitations, the results can add to the current body of

information on postsecondary educational disability services and provide community college

administrators with information that helps them better understand the accommodations and

services that students and administrators from two New Jersey community colleges say are

helpful to differently-abled students in reaching their academic goals.

Chapter 4: Findings

Findings for this study are presented in three sections, organized by research question and

include both qualitative and quantitative evidence as reported by the study participants. There was

no quantitative survey included in the administrator interviews, so there are no quantitative results

for administrator responses for any of the research questions. For research question #1 (what

support services are provided and accessed), qualitative findings are presented first by CC1 and

CC2 administrators' interview responses. The student responses for research question one include

both the qualitative interview responses, and a quantitative analysis (presented in Table 4)

consisting of a count of common accommodations and services students reported. For research

question #2 (difficulties in providing and accessing services), only qualitative findings are

presented for both CC1 and CC2 administrators and students. Research question #3 (helpfulness

of services in supporting students' progress towards their goals) includes only qualitative

administrator responses, but both qualitative and quantitative student responses. The quantitative

student findings for research question three present findings from the student ratings of the Likert

survey questions regarding helpfulness and quality of accommodations and services.

I. What support services are provided to and accessed by students?

The primary support accommodations and support services provided to and used by

students at both institutions were: extended time for testing; testing in a quiet test center;

permission to record the lecture; use of designated note-takers; use of alternative format texts

(e.g., digital and/or audio books) and assistive technology; permission to use a calculator; and

individualized tutoring.[32] CC1 and CC2 administrators reported similar services and

accommodations provided at each college, and both noted that they must comply with Federal law

(*Americans with Disabilities Act* of 1990, or "ADA" and Section 504 of the *Rehabilitation Act* of

1973) when providing these services and accommodations to students who qualify for DSO

services. One key difference between the two colleges, reported by both administrators and

students; however, was the different levels of access to and use of assistive technology, tutoring,

and counseling. Students from CC2 described the range of assistive technology supports available

to them, and how critical the tutoring and counseling were for them. In contrast, students from

CC1 were at times unaware of possible assistive technologies, and described varying levels of

helpfulness and quality with regard to the tutoring and counseling support services. In the

subsections that follow I provide greater details about a) administrators' reports of the services

provided and b) students' reports of the services they accessed. Findings for this data are from

Questions II A, B, C, & E of the *Administrator Protocol*, and from Questions IV2, V, and the

students' Likert Scale ratings on the *Student Protocol*.

CC1 and CC2 administrator responses regarding the services they provide.

As to the services provided to different disability types,[33] both CC1 and CC2

administrators noted that they are bound by Federal Law (*Americans with Disabilities Act* of

1990, or ADA; Section 504 of the *Rehabilitation Act of 1973*) to provide services for all students

who qualify, based on strict definitions of disability, as noted in the *Introduction* chapter of this

paper. The different disabilities they must respond to vary from year to year, depending on who

enrolls, but CC1 and CC2 administrators cited the most common disability types being students

with learning disabilities, followed by students with physical disabilities; then students with

psychiatric disabilities – most notably ADHD/ADD. Less common are students with auditory or

visual processing impairments, chronic medical conditions, students who have severe food

allergies, or students with temporary injuries (CC2-Administrator-1; CC1-Administrator-2). CC2-

Administrator-1 described the college's responsibility to comply with Federal law as follows:

"It's not just about service; it's also about maintaining compliance, what's required under the

law" (CC2-Administrator-1, lines 191-192).

With regard to the type of accommodations provided to differently-abled students, CC1

and CC2 administrators both indicated that this was a one-on-one process that tailors classroom

and testing accommodations to the student's individual disability, based on their medically

evaluated[34] diagnosis. Of note, CC1's DSO website states: "Accommodations cannot alter the

fundamental nature of the course, programs, or activities being offered or impose an undue

burden on the College", which is consistent with the Office of Civil Rights quotation on Section

504 accommodations (CC1's webpage, viewed September 11, 2016). CC1-Administrator 2

described classroom accommodations as being an important factor in differently-abled students'

persistence with their college studies. She stated that some of the most frequently-provided

accommodations include note-taking support, [35] testing accommodations (extended time and

reduced distraction environment; tests presented orally), ability to record lectures, and digitized

texts. When asked if DSO provides students with a list of different possible accommodations,

CC1-Adminstrator 2 replied: "I know we have an old application, but I revised that application to

take off the list of accommodations" (CC1-Administrator 2, lines 130-131). CC1-Administrator-

2's motivation for removing the list is unknown; however, as I will demonstrate later, students

indicated that they weren't aware of the full range of available supports and accommodations.

Assistive technology was another area of noted accommodations; however, CC1 does not

have a dedicated assistive technology coordinator; does not have a separate classroom dedicated

to technology (hardware and software) specifically designed for differently-abled students; and

does not have required classes teaching all differently-abled students about the many possible

assistive technology solutions currently available to address disability needs. Rather, CC1-

Administrators 1 and 2 are the primary providers of assistive technology information to

differently-abled students and these administrators work with the college's IT department, as

needed to provide assistive technology support. Comparing CC1's provisioning of assistive

technology supports with those of CC2's, the findings indicate that CC1 students are not as aware

of what is possible and/or how to use assistive technology as their CC2 counterparts. By relying

on CC1's general information technology (IT) staff (or the two DSO administrators) to provide

assistive technology support to CC1 differently-abled students, these students are placed at a

distinct disadvantage, compared with CC2 differently-abled students.

In addition to the above-noted classroom and testing accommodations, CC1-

Administrator-2 reported additional services, including placement testing, financial aid, advising

and counseling, and some workshops offered to students to relieve stress during exam periods.

She reported that all services available to non-disabled students are available to students who

qualify for DSO services, such as: drop-in tutoring, freshman college experience orientation (a

mandatory four hour orientation for newly-enrolled students), and program counseling and

advising services (CC1-Administrator 1, lines 102-110; lines 127-132). CC2-Administrator-1 also

reported that CC2-I students access all the services that are available to all CC2 students. CC2-

Administrator-2 described the close collaboration and coordination between CC2-I and the

general DSO for CC2. "So we all work together, and we have weekly meetings, and we have all

kinds of things; because again, we're all part of the same program. . . . Because we are a branch of

disabilities services. We're not a separate entity" (CC2-Administrator-2, lines 252-257). So we

see that, as would be expected, at both colleges, differently-abled students have access to all the

services that any other student has available to him/her. In addition to these services, students

qualifying for DSO services may get classroom and testing accommodations, and in some cases

physical supports (e.g., ergonomically-designed computer interface attachments; ergonomic

seating; and/or mobility accommodations), tailored to their particular disability needs.

Just as the need for different services and accommodations are highly individualized,

based on a student's needs; the process for obtaining services and accommodations is also highly

individualized at both community colleges. According to the administrators, the first step for all

students is to demonstrate their level of academic skills in reading, writing, and math, by either

providing high-enough scores on nationally-normed college entrance tests (such as the College

Board's Scholastic Achievement Test, or SAT; or the ACT), or by taking the college's placement

test to determine whether s/he has to take remedial courses in English or Math before they can

earn college credit. A key difference between the two colleges on the placement testing is that

CC2 students take the placement test in the Adaptive Testing Center and CC1 students take the

placement test in the general testing center that is used by all students qualifying for extended

time on testing. At CC2 ". . . two special staff members proctor exams in alternate format" (CC2-

Administrator-1, lines 139-141). Examples of alternative format include having the exams

presented in text with audio [where the computer reads the questions displayed on the screen] or

having text enlarged for visually impaired students. Staff members who are trained in these

adaptive technologies administer the placement tests to CC2 students who qualify for these

accommodations.

Once students have completed the entrance placement testing/assessment, they bring their

documentation to the college academic counselor and discuss what classroom/testing

accommodations are required. Both colleges require a separate application for accommodations,

distinct from their admissions application. To apply for accommodations, students must bring the

appropriate documentation (either a recent Psychological Evaluation and Educational Evaluation

for specific learning disability ("SLD") students; or a medical evaluation for students with

physical or psychiatric disabilities); meet with a counselor; and discuss what accommodations are

needed/what accommodations the college agrees to provide. The Director of the CC2-I program

described an additional layer of screening due to the requirements stipulated in their Federal

funding grant. She explained that CC2-I must accept students with a "specific learning disability"

and who are considered "college able" and likely to graduate or transfer to a four-year college

(CC2-Administrator-2, lines 25-38). As a result, students who apply for the CC2-I program are

individually interviewed before they are accepted into the program.

CC2 administrators further described the extra supports provided to students accepted into

the CC2-I program. These supports include extensive academic planning and accommodations

counseling; assigned case managers; one-on-one mandatory tutoring; and direct instruction

(through the two mandatory courses that are part of the CC2-I program) about study skills,

assistive technology, self-advocacy, and career choice. Motivation coaching is another component

of the services they receive. She said, ". . . we tell them, over and over again, we think they can be

successful. We tell them that we don't accept students we don't think can be successful; and that's

really important to us, because we glow in their success. We really do" (CC2-Administrator-2,

lines 76-87).

The two mandatory courses that are part of the CC2-I program are *Strategies for Success*

(CPS041) and *Student Success* (SSD101). *Strategies for Success* consists of three modules, each

approximately five weeks long. The first module is about the different kinds of assistive

technology available to the students – students are encouraged to try the different kinds, even if

they think it doesn't apply to them.[36] A second module has to do with learning about learning

disability issues and self-advocacy; then a third focuses on career selection based on students'

interests and skills. The second course, *Student Success*, is a freshman study skills course that

provides training on research paper writing (researching sources, organizing a research paper,

citing references); time management; and critical thinking skills (CC2-Administrator-2, lines 138-

151). With regard to the different services and accommodations that CC2 DSO and CC2-I

administrators provide their differently-abled students, CC2-Administrator-2 explained that

compared to the supports the general CC2 DSO provides, CC2-I students are required to take the

2 additional days of summer orientation; they are required to take the *Strategies for Student*

Success and the *Student Success* courses, described above; and they are required to schedule in

their one-on-one tutoring each week (CC2-Administrator-2, September 1, 2015).

One final aspect of services that CC1-Administrator-1 described was their referrals to

community-based service providers, for services outside the scope of CC1's DSO. She described

a holistic approach to keeping students in school, by not only providing academic services and

accommodations, but also by directing students to community resources outside the college (e.g.,

local county social services) to meet personal problems that interfered with their ability to

concentrate on their studies (financial, health, relationship). She noted that they had recently hired

a social worker, so that the DSO could effectively refer students to food pantries, housing

supports, psychological counseling, and abusive relationship counseling services. She said that

these services are critical in helping students address basic needs before being able to concentrate

on their academic program (CC1-Administrator-1, lines 389-399).

CC1 and CC2 student responses regarding services they access.

Table 4 lists the different services and accommodations CC1 and CC2 students reported

needing and using most. All students who participated in this study reported using extended time

for testing and testing in a separate test center, both at CC1 and at CC2 (100% of student study

participants). The second most frequently (38%) reported accommodations were peer note-takers

and permission to record lectures and/or use LiveScribe™ to record and take notes. This was true

for both CC1 and CC2 students; however, there appeared to be a distinct difference in approaches

between the two colleges regarding note-taking accommodations. Whereas CC1 students relied

heavily on peer note-takers[37] (58% versus CC1's 11%), consistent with CC2's emphasis on

assistive technology, more of CC2 students use a mechanical recorder or *LiveScribe*™ pen (78%

versus CC1's 8%).

The third most frequently-reported accommodations were use of a calculator and access to

alternative format text (audio and/or audio plus digital text), but again the breakout of use by

college was different. For calculators, 44% of CC2 students received this accommodation versus

25% of CC1 students; for alternative format text, 56% of CC2 students use this accommodation

versus 17% of CC1 students. The fourth most commonly used service or accommodation was

individualized tutoring which was utilized by 67% of CC2 students study participants but was not

cited by any CC1 students. It should be noted that the CC2 individualized tutoring is a required

component of the CC2-I program whereas CC1 students have a "drop-in" tutoring center

available to them.

The fifth most commonly cited services were academic counseling (program and course

selection counseling) and use of assistive technology (each at 24% for CC1 and CC2 students

combined). Broken out by college, CC2 students reported academic counseling more frequently

(33%) than CC1 students (17%). For assistive technology, 56% of CC2 students reported using

this versus none for CC1 students. Again, this skew is likely due to CC2-I's emphasis on students

becoming familiar with the different assistive technologies available to them. The last data point

of interest is the assignment of a Case Manager for CC2 students. 33% of CC2 students reported

this service, which was not reported at all by CC1 students. Again, this is likely attributable to

CC2-I's Federally-funded program that provides the additional resources available to CC2-I

students.

Finally, regarding *all* the percentages calculated in Table 4, it should be noted that the

percentages are calculated from very small sample sizes. Thus, the resultant percentages are high

for small numbers of students, and the percentage differences between the two colleges are larger

than would be seen with larger sample sizes. Nevertheless, the percentages can be seen as

indicators of what services and accommodations were most frequently cited by students, and as

indicators of differences between the two colleges with regard to services and/or accommodations

being used by students.

II. What difficulties do administrators/students have providing/accessing services?

The most significant difficulties that administrators at both institutions reported were those

related to community colleges' open enrollment policies and the consequent variation in student

needs from year to year. This fluctuation challenged their ability to budget and plan for

differently-abled students' needs and was exacerbated by an overall lack of resources. They stated

that this funding squeeze, caused by the dual forces of cuts from local, State, and Federal aid and

the rising costs of needed services by incoming students was exacerbated by their inability to plan

for the different types of disabilities each year, due to community colleges' open enrollment

policies. Students from both colleges most frequently reported their disability as the most difficult

barrier to accessing services. Additional challenges cited by both groups of students included

balancing work with study and passing required remedial courses. Students from CC1 also

reported difficulties accessing services, particularly academic counseling and tutoring. In the

subsections that follow I provide greater details about a) difficulties that administrators faced in

providing services and b) difficulties students face in accessing services. Other difficulties

reported by both CC1 and CC2 students were logistical in nature (e.g., financial limitations for

tuition; needing to live with their parents/relatives to save money; and transportation

considerations in getting to and from their classes). Students from CC1 reported difficulties

accessing services, particularly academic counseling and tutoring. Data for these findings is from

Administrator Protocol questions IIIA & B, and questions from sections IVB2, V, VI, & VII of

the *Student Protocol*.

Difficulties administrators face in providing services.

When speaking about the challenges they face, CC1 administrators named the primary

sources of challenge as being under-resourced and the fact that the community college mandate to

be open admissions precluded any kind of systematic planning and budgeting. They simply do not

know which students will enroll each semester, with what disabilities, and what accommodations

and services students will need. Against this backdrop, they strive, with increasingly limited

resources, to help students with disabilities succeed. CC1-Adminstrator-2 stated: "I think that the

biggest issue is just trying to help students remain matriculated in their course work and trying to

offset some of the ways that their disability is impacting them in a learning environment." (CC1-

Administrator-2, lines 36-38). CC1-Administrator-1 elaborated on these challenges, explaining

that her office consisted only of two full-time staff; that sign language interpreters (for students

with hearing impairments) cost $25,000 a semester, compared with a student's tuition of around

$5,000 a semester; the college's open admissions policy made it difficult to effectively budget

year to year; and that the increasing influx of students with mental disabilities pose a huge

challenge for her (CC1-Administrator-1, lines 233-296, 407-408).

CC2-Administrator-1 could not respond to budget/cost data, as she is not the person who

handles that. She said:

> I'm not the administrator of the office. So, the director of this department manages
>
> the department of budget. There's an ADA compliance law in our budget; but
>
> we're also required to be in compliance. So that number is up and down every
>
> semester, depending upon the needs of the students. So, our students who are deaf
>
> and need interpreter services, probably, we're providing the most financial support.
>
> It can cost $80,000 a year to provide interpreters for a full-time student. . . . So, it's
>
> very costly. And then the rest, mostly salary and technology and some money for
>
> note taking support; and at times, reader support or the lab support, if a student's in
>
> a lab science course. . . . If there's a student who is blind, or a student with a
>
> physical disability that's taking a lab science course, they might need a pair of
>
> hands with them in lab … (CC2-Administrator 1, lines 379-396)

One strategy CC1-Administrator-1 cited as a possible means to address at least the

accommodations and services resource deficit, is to look at shared service provisioning with State

agencies. She noted that the Commission for the Blind and Visually Impaired is very good about

providing accommodations to students while on campus, and posited that perhaps the Division of

Vocational Rehabilitation Services (DVRS) should similarly share the cost of training differently-

abled students to gain the skills needed to be able to work. She cited recent success in getting

DVRS to pay for half the cost of the sign language interpreter for a student registered with

DVRS' workforce program. She said, "I think it should be a shared responsibility with some of

the community agencies and the colleges. Too much is being put on the colleges, I believe" (CC1-

Administrator-1, lines 302-318).

Table 4. *CC1 and CC2 Students' Report of the Accommodations they Use.*

Accommodation or Service	CC1 #	CC1 (%)	CC2 #	CC2 (%)	Total #	Total (%)
Extended time for testing	12	(100)	8	(100)	20	(100)
Testing in quiet test center	12	(100)	8	(100)	20	(100)
Designated peer note-taker (anonymous)	7	(58)	1	(13)	8	(40)
Permitted to record lectures/LiveScribe	1	(8)	6	(75)	7	(35)
Audio books, or books in alternative format (includes digital books with audio features – Learning Ally or BookShare)	2	(17)	5	(63)	7	(35)
Permitted use of calculator	3	(25)	4	(50)	7	(35)
Individualized Tutoring[1]	0	(0)	6	(75)	6	(30)
Assistive Technology: Read &Write Gold; DragonSpeak; Kurzweil	0	(0)	5	(63)	5	(25)
Academic counseling for course selection	2	(17)	3	(38)	5	(25)
Not required to mark answers to multiple-choice test questions on "bubble" (e.g., Scantron) answer sheets – student records answer directly on the test.	3	(25)	1	(13)	4	(20)
Case Manager	0	(0)	3	(38)	3	(15)
Permitted use of computer for testing/note-taking	1	(8)	2	(25)	3	(15)
Getting copy of Instructor's notes/study guides or slide presentations	2	(17)	1	(13)	3	(15)
Breaks permitted during tests; permitted to stand/walk, if can't sit for long periods of time	2	(17)	0	(0)	2	(10)
Test questions read aloud	2	(17)	0	(0)	2	(10)
Mandatory classes on career goals; time management; study techniques; how to use assistive technology	0	(0)	2	(25)	2	(10)
Initial Program Orientation for new students	0	(0)	2	(25)	2	(10)
Scooter	0	(0)	1	(13)	1	(5)
Personal counseling for psychological support	1	(8)	0	(0)	1	(5)
Presentations given in smaller settings (with just the instructor or 1 or 2 additional students)	1	(8)	0	(0)	1	(5)
Permission to get up & leave the classroom if can't sit, stand, or walk for long periods of time (mobility accommodations)	1	(8)	0	(0)	1	(5)
Provision of an ergonomic chair to help with sitting for longer periods of time.	1	(8)	0	(0)	1	(5)
Scribe (to record student's answers presented orally, for students w/ physical disabilities)	1	(8)	0	(0)	1	(5)

Notes: N for CC1 = 12; N for CC2 = 8; [1] No CC1 students use individualized tutoring, as this is not a provided service; however, they do use the "Drop-In Tutoring Center."

CC2-Administrator-1 also described the difficulty of planning for providing services and

accommodations, due to not knowing what disabilities students bring with them year to year. She

singled out blindness or visually impairment as being the one of the most challenging disabilities

for which she provides. In accordance with CC1-Administrator-1's response, she described an

increasing influx of students with psychiatric disabilities, students with Autism Spectrum

Disorders (including Asperger's Syndrome), and students with intellectual disabilities (cognitive

impairments) that are new to college campuses and who need help transitioning to the decreased

levels of support at the college level, compared to what they had in high school. She described ". .

. keeping up with emerging populations that are on the radar; . . . making sure your website and

your learning platform and your technology support what a student might need" are in place, as

other major challenges (CC2-Administrator-1, lines 110-130; 248-268).

Difficulties students face in accessing services.

The difficulties that differently-abled college students face include not only the financial

and logistical barriers that every college student faces (e.g., financial limitations for tuition;

needing to live at home to save money; and transportation considerations in getting to and from

their classes), but additionally, the physical, mental, and learning difficulties that make the student

eligible for *Section 504* of the *Rehabilitation Act of 1973* support services challenged their ability

to access support services. Appendix M details the disabilities of each student participant in this

study, based on students' reports of either their disability classification in high school or their

current medical diagnosis that qualified them for college disability services under *Section 504*.

Their different disabilities included, in part, specific learning disabilities in reading or math,

dyslexia, orthopedic disabilities (requiring use of a wheelchair for mobility), cognitive

impairment, diagnoses of Attention Deficit Hyperactivity Disorder (ADHD) or Attention Deficit

Disorder (ADD), Traumatic Brain Injury (TBI), Anxiety, Depression, and Bi-Polar Disorder.

Students described how their specific disabilities contributed to the challenges they faced

accessing support services. The TBI student described the difficulty of getting the college to

accept that she did qualify for services, and that her TBI was the reason she was unable to

complete her coursework within the allotted time (CC1-Student-2, lines 169-194). A student with

a reading disability described how it was the cause of her being put on academic probation by the

college. She said:

> I didn't know [what my disability was] until I failed English [remedial course]. I
>
> think I was going into my third time. They said, "If you don't pass it this time, then
>
> you're going to have to be excused from the college." They set me up. They said,
>
> "You have to go see a counselor." I had to go see several people. The one
>
> counselor I saw – I guess I was talking to her, and she said, "Let me do a test."
>
> When she did the test, she was like, "You have all the signs of dyslexia." That was
>
> the reason why I wasn't able to get through English. (CC1-Student-8, lines 71-88)

The orthopedically impaired student described the difficulty she had getting around campus,

despite the fact that CC2 is compliant with ADA regulations regarding access to buildings and

classrooms.

> … Well, sometimes, I guess, it's really a physical barrier. Some of the roads, like,
>
> they'll have the slope for wheelchairs and stuff. It won't be lined up with, like, the
>
> rest of the road, so like, you have to curve or, you know, turn your scooter or walk
>
> up a little lip. It's little minor things, but stuff like that you can work on. And then
>
> sometimes, doors will be too heavy. So it will be a handicap bathroom in the

bathroom, but then the door to get in the bathroom will, like, weigh a ton. It's the

little things, but not anything too detrimental. (CC2-Student-6, lines 243-249)

Financially, differently-abled students must meet the same tuition, books/supplies, housing, and transportation costs that non-disabled students face. Results from this study indicated that a majority of students interviewed lived with their parents, despite their ages, which ranged from 18 to 44 years[38] of age. Many students cited financial constraints and the inability to pay for college room and board as a key reason for attending their local community college and living with their parents. An additional difficulty mentioned by students was their need to work to support themselves and/or their families, and the competing forces of working more hours to be financially solvent versus working fewer hours and having more time to study. CC1-Student-5 cited this conflict as a difficulty he had in using the drop-in tutoring service center at CC1.

My biggest issue [with the drop-in tutoring] is being a science major. . . . I mean, [there are tutors for] majors like liberal arts and communications, but for, like, anatomy, which is debatable, but for some people it's one of the more difficult classes undergraduate students can take. There are no - there is no available tutors. . . . So it would be - and I think, for like, every semester they have, like, two or three days to actually bring in a few people who are anatomy tutors, but two or three days. That's it. I remember when I took Anatomy 1 I was working. You know, I couldn't go. (CC1-Student-5, lines 917-926)

Most of the students had a driver's license and were able to drive themselves to work; however, seven of the students either took public transportation or had a relative drive them to their classes (CC1-Students-2, -7, -12; CC2-Students-4, -6, -7, and -8). While differently-abled students faced all the same challenges faced by non-disabled students, they each had the added

difficulties of self-advocating for their specific accommodations and services they required, and

learning how to effectively use these supports to achieve their academic goals.

III. How helpful are these services in supporting students' progress towards their

educational and career goals?

        To answer the third research question I examined data collected from the student survey

(students' Likert scale ratings of services and accommodations) and interview responses from

both students and administrators. The findings for this third research question are organized into

two sections. In the first section I present ***descriptive statistics*** derived from the survey data that

illuminate students' perception of the helpfulness and quality of support services for meeting their

educational and career goals. I begin by examining students' ratings of the **helpfulness** at each

individual community college (Tables 5 and 6) and then by presenting a comparative analysis of

these findings (Table 7). Next, I compare CC1 and CC2 students' ratings of the **quality** of

services and accommodations (Tables 8 and 9, respectively) and conclude with a comparative

analysis of CC1 and CC2 students' ratings of the quality of services and accommodations (Table

10).

        In the second section I present ***qualitative data*** related to key ***service categories*** that

illustrate how both students and administrators understood the quality and helpfulness of the

services provided to and accessed by students. These data come from the interviews with the

administrators and from the probing, follow-up interview questions after the students completed

their ratings of the *helpfulness* and *quality* of the service categories presented in the Likert Scale

rating survey.

Descriptive statistics.

Three areas of the *Student Protocol* provide insights into the helpfulness and quality of

support services for meeting students' educational and career goals. The first area was Question

IV A 3 that asked students: "On a scale of 1 to 5, with 5 being the best match of your community

college experience with your personal goals for education/training after high school, how well do

you think your personal goals have been met?" Based on the collective responses of the CC1 and

CC2 students, it can be said that both community colleges do a good job of meeting these

students' educational goals. Eleven of the twelve CC1 students reported that most or all their

personal educational goals were met and one student said the college met about half of his goals.

For CC2 students, seven of the eight students said that CC2 met most or all of their personal

educational goals; one said it met about half their goals. Thus, overall, both CC1 and CC2 appear

to meet the students' educational goals. The other two areas of the *Student Protocol* that provided

additional insights to the helpfulness and quality of support services were the two Likert Scale

rating components of the interview.

During students' interviews, they were asked to rate a list of accommodations and services

for first, their ***helpfulness*** and then, the ***quality*** of each service category (shown in Appendix E,

pages 7 – 9). For the reader, the difference between the concepts of service ***helpfulness*** and

service ***quality*** may be difficult to distinguish. It is; however, an important distinction. Students

who need a service to succeed academically may seek it out and use it; but if the quality of that

service is not good, it will not be helpful to the student in reaching his/her academic goals. Worse,

poor quality services may even discourage students from continuing their studies (affecting their

drive/motivation), and may affect their concepts of self-efficacy with regard to completing their

community college academic program. Thus, in the following two subsections I present data

related to both categories, helpfulness and quality, identifying similarities and differences

between the two community colleges according to students' Likert Scale survey ratings.

   Likert Scale student rating responses: helpfulness.

   Students' Likert Scale ratings about the ***helpfulness*** of services are presented in Tables 5

(CC1) and Table 6 (CC2). The percentages shown in these tables are derived by dividing the

number of responses for each rating, by the total number of responses for that category. It should

be noted that due to the very small sample sizes in this study, the percentages cited may overstate

the size of the differences between CC1 and CC2 student ratings. The percentages are; however,

overall indicators of differences in student ratings of the helpfulness. Detailed service descriptions

and composite responses (total number of responses for each service description for all students in

each college) related to Tables 5 and 6 are given in Appendices I and K. Table 7 presents a side-

by-side comparison of both CC1 and CC2. For the data display in Table 7, I collapsed similar

ratings at both ends of the rating scale and compared the results, as I was trying to elucidate the

two ends of the helpfulness spectrum to see if there were any major differences between the two

colleges. In this way larger percentage responses immediately become apparent.

   Overall, these Likert Scale ratings indicated that CC1 and CC2 students found the

following services very ***helpful***: (1) *Pre-enrollment/Orientation services*; (2) *Academic*

Counseling; (3) *Financial Services Counseling* and (4) *Transfer Counseling*. The majority of both

CC1 (53.3%) and CC2 (72.5%) students believe that **pre-enrollment services** (accommodations

counseling, building/facilities tours, program descriptions/requirements, placement testing, and

pre-enrollment orientations/mini-courses) are "very helpful" or "critical." 16.7% of CC1 students

and no CC2 students (0%) believe these services are "not helpful" or just "slightly helpful." Also,

more CC1 students believe pre-enrollment services do not apply to them (20%) versus CC2's

2.5% who think they do not apply

At the same time, an examination of Table 7 data reveals differences between CC1 and

CC2 students' ratings in the following service categories: *Pre-enrollment Services*; *Academic*

Counseling; and in *Financial Services Counseling*. Similarities between CC1 and CC2 student

ratings of service helpfulness were in *Transfer Counseling* and *Assistive Technology*. CC2

students find *Pre-Enrollment* (72.5% for CC2 versus 53.3% for CC1) and *Academic Counseling*

(69.6% for CC2 versus 40.5% for CC1) services more helpful than CC1 students, while CC1

students find *Financial Services Counseling* (66.6% for CC1 versus 37.5% for CC2) more helpful

than CC2 students. *Assistive Technology, Career Counseling/Internships*, and *Transfer*

Counseling are roughly equivalent in student helpfulness ratings between CC1 and CC2. Slightly

more CC2 students than CC1 students find *Personal Counseling* more helpful (20.8% versus

13.9%, respectively).

The greater helpfulness ratings of pre-enrollment services from CC2 students is likely

attributable to the fact that the CC2-I program includes, as part of the pre-enrollment services,

assignment of one-on-one counselor to review the student's documentation and spending time

helping the student understand that documentation and relevant accommodations to address

student needs. Likewise, the differences in academic counseling support is likely attributable to

CC2's assignments of one-on-one case managers as counselors versus CC1's "drop-in"

counseling approach. I am not sure why CC1 students rated *Financial Services Counseling* almost

twice as helpful as CC2 students. The data do not provide clues to explain this difference, other

than in follow-up questioning to the Likert Scale ratings, more CC2 students indicated that their

parents take care of the finances. Another factor might be due to the slightly older median age of

CC1 students, who may be more involved with handling their own finances. Or, it may simply be

that the financial services at CC1 are more comprehensive or better quality than those at CC2.

The current research did not explore these differences in depth and so the answer to this question

is left to future research.

It should be noted that, due to the very small sample sizes in this study, the percentages

cited may overstate the size of the differences between CC1 and CC2 student ratings. The

percentages are; however, overall indicators of differences in student ratings of the helpfulness of

services.

Table 5. *CC1 Students' Ratings of Service Helpfulness*

Service Category	Rating											
	1		**2**		**3**		**4**		**5**		**N/A**	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Pre-Enrollment Services	4	(6.7)	6	(10)	6	(10)	18	(30)	14	(23.3)	12	(20)
Academic Counseling	7	(8.3)	8	(9.5)	17	(20.3)	20	(23.8)	14	(16.7)	18	(21.4)
Personal Counseling	5	(13.9)	2	(5.6)	3	(8.3)	4	(11.1)	1	(2.8)	21	(58.3)
Assistive Technology	3	(6.3)	3	(6.3)	4	(8.3)	12	(25)	8	(16.6)	18	(37.5)
Financial Services Counseling	1	(4.2)	0	(0)	1	(4.2)	9	(37.5)	7	(29.1)	6	(25)
Career Counseling/Internships	5	(8.3)	2	(3.3)	7	(11.7)	11	(18.3)	13	(21.7)	22	(36.7)
Transfer Counseling	1	(2.1)	0	(0)	6	(12.5)	12	(25)	21	(43.7)	8	(16.7)

Notes: Rating "1" = "not helpful to me at all;" "2" = "slightly helpful to me;" "3" = "somewhat helpful to me;" "4" = "very helpful to me;" "5" = "critical to my success at college;" and "N/A" = "not applicable to me."

Table 6. *CC2 Students' Ratings of Service Helpfulness*

Service Category	Rating											
	1		**2**		**3**		**4**		**5**		**N/A**	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Pre-Enrollment Services	0	(0)	0	(0)	10	(25.0)	17	(42.5)	12	(30.0)	1	(2.5)
Academic Counseling	0	(0)	2	(3.6)	7	(12.5)	25	(44.6)	14	(25.0)	8	(14.3)
Personal Counseling	1	(4.2)	3	(12.5)	1	(4.2)	3	(12.5)	2	(8.3)	14	(58.3)
Assistive Technology	2	(6.2)	1	(3.1)	6	(18.8)	6	(18.8)	9	(28.1)	8	(25.0)
Financial Services Counseling	2	(12.5)	0	(0)	2	(12.5)	4	(25.0)	2	(12.5)	6	(37.5)
Career Counseling/Internships	1	(2.5)	2	(5.0)	8	(20.0)	6	(15.0)	12	(30.0)	11	(27.5)
Transfer Counseling	1	(3.1)	1	(3.1)	6	(18.8)	3	(9.4)	15	(46.8)	6	(18.8)

Notes: Rating "1" = "not helpful to me at all;" "2" = "slightly helpful to me;" "3" = "somewhat helpful to me;" "4" = "very helpful to me;" "5" = "critical to my success at college;" and "N/A" = "not applicable to me."

Table 7. *Analysis of CC1 and CC2 Students' Ratings of Service Helpfulness*

| Service Category | Rating %s | | | | | |
| | Not Helpful/ Slightly Helpful | | Very Helpful/ Critical | | N/A | |
	CC1	CC2	CC1	CC2	CC1	CC2
Pre-Enrollment Services	16.7%	0.0%	53.3%	72.5%	20.0%	2.5%
Academic Counseling	17.8%	3.6%	40.5%	69.6%	21.4%	14.3%
Personal Counseling	19.5%	16.7%	13.9%	20.8%	58.3%	58.3%
Assistive Technology	12.6%	9.4%	41.6%	46.9%	37.5%	25.0%
Financial Services Counseling	4.2%	12.5%	66.6%	37.5%	25.0%	37.5%
Career Counseling/Internships	11.6%	7.5%	40.0%	45.0%	36.7%	27.5%
Transfer Counseling	2.1%	6.3%	68.7%	56.3%	16.7%	18.8%

Notes: Percentages for ratings "1" = "not helpful to me at all" and "2" = "slightly helpful to me" are combined; rating "3" = "somewhat helpful to me" is omitted; the percentages for ratings "4" = "very helpful to me" and "5" = "critical to my success at college" are combined; and "N/A" = "not applicable to me" is retained unchanged.

Likert Scale student rating responses: quality.

Students' Likert Scale ratings about the ***quality*** of services are presented in Tables 8 (CC1) and Table 9 (CC2). As with the presentation of data for Likert Scale rating responses for *helpfulness* of services, the percentages shown in Tables 8 and 9 are derived by dividing the number of responses for each rating by the total number of responses for that category. Again, the reader is cautioned not to attribute huge differences in these different percentage calculations, due to the small sample sizes (12 students for CC1 and 8 students for CC2). Detailed service descriptions and composite responses (total number of responses for each service description for all students in each college) related to Tables 8 and 9 are given in Appendices J and L. Table 10 collapses student ratings (as described for Table 7) to achieve starker contrast of results – this time, at either end of the ***quality*** spectrum to see where major differences might appear between the two community colleges.

Overall, these Likert Scale ratings indicated that roughly similar percentages of CC1 and CC2 students found the following services to be high ***quality***: *Financial Services Counseling* (29.2% of CC1 students and 18.8% of CC2 students) *Career Counseling/Internships* (23.3% of CC1 students and 32.5% of CC2 students) and *Transfer Counseling* (47.9% of CC1 students and

43.8% of CC2 students). Major differences are found between CC1 and CC2 students'

perceptions of the quality of *Pre-Enrollment Services*, *Academic Counseling*, *Personal*

Counseling, and *Assistive Technology*. Again, due to the very small sample sizes in this study,

readers are cautioned that the percentages cited may overstate the size of the differences between

CC1 and CC2 student ratings.

Table 8. *CC1 Students' Rating of the Quality of Services Used*

Service Category	Rating											
	1		2		3		4		5		N/A	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Pre-Enrollment Services	6	(10.0)	8	(13.3)	11	(18.3)	7	(11.7)	13	(21.7)	15	(25.0)
Academic Counseling	3	(3.6)	9	(10.7)	19	(22.7)	7	(8.3)	7	(8.3)	39	(46.4)
Personal Counseling	3	(8.3)	0	(0)	1	(2.8)	0	(0)	0	(0)	32	(88.9)
Assistive Technology	5	(10.4)	1	(2.1)	9	(18.7)	3	(6.3)	4	(8.3)	26	(54.2)
Financial Services Counseling	1	(4.2)	1	(4.2)	7	(29.1)	3	(12.5)	4	(16.7)	8	(33.3)
Career Counseling/Internships	0	(0)	2	(3.3)	6	(10)	12	(20)	2	(3.3)	38	(63.4)
Transfer Counseling	0	(0)	0	(0)	9	(18.8)	14	(29.1)	9	(18.8)	16	(33.3)

Notes: Rating "1" = "poor;" "2" = "fair;" "3" = "good;" "4" = "very good;" "5" = "excellent;" and "N/A" = "not applicable to me."

Table 9. *CC2 Students' Rating of the Quality of Services Used*

Service Category	Rating											
	1		2		3		4		5		N/A	
	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
Pre-Enrollment Services	0	(0)	2	(5.0)	7	(17.5)	15	(37.5)	14	(35.0)	2	(5.0)
Academic Counseling	0	(0)	0	(0)	7	(12.5)	19	(33.9)	20	(35.7)	10	(17.9)
Personal Counseling	0	(0)	0	(0)	1	(4.2)	5	(20.8)	1	(4.2)	17	(70.8)
Assistive Technology	0	(0)	0	(0)	8	(25.0)	6	(18.8)	11	(34.3)	7	(21.9)
Financial Services Counseling	2	(12.5)	2	(12.5)	3	(18.8)	3	(18.8)	0	(0)	6	(37.4)
Career Counseling/Internships	0	(0)	3	(7.5)	9	(22.5)	7	(17.5)	6	(15.0)	15	(37.5)
Transfer Counseling	1	(3.1)	0	(0)	5	(15.6)	6	(18.8)	8	(25.0)	12	(37.5)

Notes: Rating "1" = "poor;" "2" = "fair;" "3" = "good;" "4" = "very good;" "5" = "excellent;" and "N/A" = "not applicable to me."

Table 10. *Analysis of CC1 and CC2 Students' Perceptions of the Quality of Services*

Service Category	Rating %s					
	Poor/Fair		Very Good/ Excellent		N/A	
	CC1	CC2	CC1	CC2	CC1	CC2
Pre-Enrollment Services	23.3%	5.0%	33.4%	72.5%	25.0%	5.0%
Academic Counseling	14.3%	0.0%	16.6%	69.6%	46.4%	17.9%
Personal Counseling	8.3%	0.0%	0.0%	25.0%	88.9%	70.8%
Assistive Technology	12.5%	0.0%	14.6%	53.1%	54.2%	21.9%
Financial Services Counseling	8.4%	25.0%	29.2%	18.8%	33.3%	37.4%
Career Counseling/Internships	3.3%	7.5%	23.3%	32.5%	63.4%	37.5%
Transfer Counseling	0.0%	3.1%	47.9%	43.8%	33.3%	37.5%

Notes: Percentages for ratings "1" = "poor" and "2" = "fair" are combined; rating "3" = "good" is omitted; the percentages for ratings "4" = "very good" and "5" = "excellent" are combined; and "N/A" = "not applicable to me" is retained unchanged.

Table 10 (service ***quality***) shows that there are major differences in CC1 and CC2

students' perceptions of the quality of *Pre-Enrollment Services*, *Academic Counseling*, *Personal*

Counseling, and *Assistive Technology*. Here we see that CC2 students felt that their college's pre-

enrollment services were "very good" or "excellent" by a factor of more than two to one (72.5%

of CC2 students versus 33.4% of CC1 students). Only 5.0% of CC2 students believe that the

quality of pre-enrollment services are "poor" or "fair," compared with 23.3% of CC1 students

who rate these services as having lower quality. Also of note, fewer CC2 students than CC1

students indicate that pre-enrollment services are not applicable to them (5.0% of CC1 students

versus 25% of CC1 students). From this, I conclude that the Federally-funded CC2-I program that

includes pre-enrollment accommodations counseling, program orientations, and required mini-

courses that describe all the services available to CC2-I students, are meeting these students'

needs as they enter the program, and are providing them with the information they need to

effectively utilize the services available through the CC2-I program.

Qualitative data by service category: insights from students and administrators.

In this section on findings pertaining to research question #3, I present qualitative findings by the major service categories from both students and administrators. These qualitative findings expand on the student quantitative findings presented above, by providing direct quotations from the student and administrator interviews, related to each of the service categories. The key service categories are: *Pre-enrollment Services/Orientation Programs, Academic Counseling, Personal Counseling, Assistive Technology, Financial Services Counseling, Career Counseling/Internships, Transfer Counseling,* and *Immediate Access to Employment*. They are presented in the same order as shown in the quantitative tables discussed above.

Pre-enrollment services/orientation programs.

The comments from two CC2-I students are indicative of how much the CC2-I students appreciate the pre-enrollment introductions to their college programs. CC2-Student-3 said that all the pre-enrollment programs were very helpful and that she still keeps the books she got from those programs (CC2-Student-3, lines 534-536). CC2-Student-4 talked enthusiastically about how the pre-enrollment programs included a tour of all the buildings, showing each room, and what services were available in each room. "It was all out there! It was all good information!" (CC2-Student-4, lines 396-402).

Accommodations counseling (a sub-category of *Pre-Enrollment Services*) was discussed by students both in the context of pre-enrollment services and academic counseling, and specifically in response to questions IVB 2 & IVB 3 of the *Student Protocol* (see Appendix E).

> *Interviewer:* I see you rated pre-enrollment services as four. Which ones stood out for you?

Student: Accommodations counseling. . . . I see my case manager almost all the

time. She just gives me tips on task managing, or if not, they have workshops for

stress and how to deal with stress and time management, stuff like that. I go to

them, and they actually help (CC2-Student-1, lines 350-360).

Interviewer: Your academic counseling you rated pretty much uniformly as four,

and I guess you can say what you most like about them. I know they have those

module courses.

Student: Yes, SSD and CPS. Those are very helpful, and they showed you the map

of the classes, map of the school; showed how – plagiarism and time management

and procrastination. I still have the books at home (CC2-Student-3, lines 526-536).

Again, due to the additional resources available to CC2 from the Federal grant, CC2-I

students are assigned a counselor who is qualified[39] to read and understand the implications of the

psychological and educational evaluations, and/or any medical evaluations that students bring

with them to apply for services. This thorough, individualized review of a student's prior records,

along with meeting with the student during the intake process, enables the counselors to more

closely target the specific accommodations each individual student requires. This individualized

approach to assessing student needs and positive counselor attitudes towards the needs of

differently-abled students helps students feel that: (1) they are not alone in their challenges; (2)

that counselors are very familiar with the needs of students with the same disability; and (3) that

the challenges are not insurmountable: there is a support structure at the college to help students

succeed.

Conversely, CC1 students state that the quality of the accommodations counseling

services they receive is very much dependent on the care with which an individual counselor

approaches his/her task. From Appendix J, we see that 6 of 12 (50%) CC1 students rated this

counseling "very good" or "excellent;" 4 of 12 (33%) rated it "poor" or "fair;" and 2 of 12 (17%)

rated it "good" – demonstrating the "hit" or "miss" quality of "drop-in" accommodations

counseling. CC1-Student-4 talked about how he felt rushed each semester when he went in to

pick up his accommodation letters from the drop-in counseling center. He said, ". . . the meetings

are, like, two seconds and then you pick up your letters and that's it. So I feel like if I needed to

make a change to it I would be, like, afraid to go in and actually try and talk to them because they

don't seem very involved" (CC1-Student-4, lines 450-455).

Academic counseling.

One of the key differences between the two colleges in terms of support services was the

level of academic counseling[40] that the two colleges are able to provide. Recall that CC2 has the

Federal grant money that enables it to have six full-time counselors on staff, while CC1 only has

one full-time counselor, two administrators who serve as part-time counselors, and one part-time

counselor.

> In this office, we have two other counselors that work with me. We have another
>
> counselor that is formally assigned half time, and then another that is about quarter
>
> time; but I work in a suite where there are nine of us, and our students do use other
>
> counselors for other needs; so, for academic counseling, career planning or for
>
> transfer counseling. They're deciding on a major. It's not just all from my office.
>
> They're welcome to see anyone who's in the suite (CC2-Administrator-1, lines 98-
>
> 103).

The difference in level of academic counseling services provided by the two colleges is reflected

in the widespread difference in opinion between CC1 and CC2 students. While both participant

groups agree that academic counseling is very helpful or critical, 69.6% of CC2 students feel it is

critical versus 40.5% of CC1 students. Only 3.6% of CC2 students feel it is not helpful/slightly

helpful versus 17.8% of CC1 students who think it is of limited help. These data suggest that CC2

students, who are assigned case-manager/counselors, recognize and appreciate the value of having

professional guidance for course selection/career counseling, versus CC1 students who use "drop-

in" counseling services.

As with the accommodations counseling discussed previously, academic counseling and

tutoring at CC1 is on a "drop-in" basis. Consequently, the quality of services varies with the

particular counselor/tutor the student happens to get when they need counseling about course

selection for their program, or tutoring. The experiences of two students at CC1 exemplify the

"hit or miss" nature of "drop-in" academic counseling.

> Well, for this semester again I was taking too many courses for what I could
>
> handle, and one of the advisors was really rude and not listening to what I was
>
> saying and talked down to me and acted like I shouldn't be dropping my courses
>
> when I was talking about my accommodations and everything, and I didn't enjoy
>
> it. (CC1-Student-2, lines 348-352)

On the other hand, another CC1 student waxed enthusiastically about her drop-in

academic counseling. When asked about how she manages around campus, this student (who

requires a wheelchair) said: "One of the people I talked to said they could help me out with that

by either making sure that next semester that class is around here in the campus, or they'll make it

so I can take another class instead of that one. They really care" (CC1-Student-7, lines 181-185).

At CC2, where counselors (who are generally also the CC2 students' tutors) are assigned

individually to students, 69.6% of CC2 students rate the quality of academic counseling services

(including tutoring) as "very good" or "excellent" compared with 16.6% of CC1 students. 14.3%

of CC1 students rate their college's academic counseling as "poor" or "fair" versus *none* of CC2

students. When probed about his negative rating of tutoring in the follow-up questioning, CC1-

Student-6 said:

> They try really hard to be good tutors. All you have to be to be a tutor in the
>
> tutoring center is to have an A in the class and to have good notes. I know the last
>
> couple times I tried to go in for statistics, they were only able to give me 15
>
> minutes and I didn't really understand. . . . Maybe some of them could be trained
>
> better. . . It was crazy. It's drop-in tutoring. . . . There's been times when I tried to
>
> get help with my homework and brought the homework, and the next day the
>
> Spanish teacher was like, "This is completely wrong." (CC1-Student-6, lines 244-
>
> 261)

Again of note, is a look at the "not applicable to me" percentages from Table 10, that are

consisted with the above qualitative data. For CC1 students, 46.4% believe that academic

counseling is not applicable to them, versus the 17.9% of CC2 students who feel this way.

Conversely stated, almost 82% of CC2 students believe that academic counseling is applicable to

them, and they rate the quality of the counseling they receive very highly. Both the qualitative and

quantitative data support the conclusion that academic counseling is an integral factor in helping

CC2 students stay on track towards reaching their personal academic goals.

Personal counseling.

The support service of *Personal Counseling* (counseling for anxiety/depression;

family/relationship counseling; other personal counseling) is interesting from the standpoint that

administrators believe psychological health is important as a precondition to enable students to

focus on their academic demands (in the same vein as Maslow's hierarchy of needs); yet, the

students do not rate it as a service that applies to them. CC1-Administrator-1's statements below

address the need to attend to students' psychological needs.

> We do a whole student development series throughout the year from advising and
>
> counseling so today I think it's...they called it *Get a Grip*. I think it's a stress
>
> management workshop. So we do organizational. We have meditation during mid-
>
> terms. We try all through the term to support our students as they move through
>
> the year with different kinds of workshops and programming (CC1-Administrator-
>
> 1, lines 127-132).
>
> Well, all of our support services are designed with the idea of helping the student
>
> stay in school. So our mental health services are not designed to be the major
>
> therapist for someone. It's crisis intervention, making sure we support you in such
>
> a way. We have now a social worker because we have students who now need
>
> food and housing and things that people don't think about . . . So we spend a lot of
>
> time on that. We spend a lot of time on domestic abuse issues and just all social
>
> service, just support needs. My philosophy is our job is to keep students in college.
>
> So if they don't have any food they're not going to stay. So I have food cards that
>
> we give people and if you're being abused you're not going to be able to focus on

your classes. So we deal with that. We bring in agencies to help us and things like

that. (CC1-Administrator-1, lines 389-399)

Of note, several of the students stated in their interviews that while they used the

counselors for personal counseling, it was more as a first stop to get them over an immediate

issue, and then they continued individual psychological counseling on their own, privately. The

conversation below provides this data.

> *Interviewer:* And personal counseling you indicated you don't use. Would you use
>
> it if they offered it on campus?
>
> *Student:* Not at the moment just because - I see my own - outside twice a week. I
>
> don't think that anything else - I think anything else would be kind of excessive - but
>
> if I wasn't seeing somebody outside I think I would use the school's (CC1-Student-
>
> 4, Lines 457-467).

Another student talked about how when she first went to CC1, she had a need for personal

counseling that the college did not meet; yet, now, she indicates that CC1 counselors are more

flexible and helpful, and will provide personal counseling, when students need it.

> *Interviewer:* Personal counseling you also rated poor. Talk about what you didn't
>
> like about that.
>
> *Student:* When I actually first came here, I had some issues. Some of those issues
>
> were affecting my disability. If you have any kind of – one of the things that the
>
> person at [one county college] told me – if I had any other mental issues like
>
> depression or anything like that, it's going to affect the dyslexia. It created blockages.
>
> While I was reading, I wasn't comprehending because of other issues that I had going
>
> on. I kept that in the back of my head. I probably needed to talk to somebody at that

time, but it didn't seem like it was readily available. They're really good now, though.

They're better. They actually say, "If you just need to talk, come see us." When I

first came here, it was "[see me] if you need to talk about transferring, if you need

to talk about your courses." It wasn't "we're here because we're counselors; we're

here because you have to do something with school." But now they're more open

(CC1-Student-8, lines 220-236).

From Table 7, we saw that for both CC1 and CC2 students, 58.3% of students believe this

service does not apply to them; and 19.5% of CC1 students and 16.7% of CC2 students believe it

is of little help to them. Both the qualitative and quantitative data confirm that personal counseling

is not frequently used by CC1 and CC2 students.

Assistive technology.

Data from both students and administrators at CC2 indicate that assistive technology

(technology assessments, assistive technology options available, funding for assistive technology,

building/classroom/utilities/parking access) is highly emphasized. Not only do they have their

own department within DSO, staffed by a full-time professional; they require all students in the

CC2-I program to take a course during their first semester that provides an overview of all the

different technology options available to students at CC2, and how the different technologies

might assist individual students' areas of need.

We have an enormous amount of facilities; much more than most any other

college. We have a wonderful adaptive technology lab. We have a technology

coordinator, so we work with them, giving them technology (CC2-Administrator-

2, lines 125-127).

We have two classes that we make the students take. The first one is called CPS

041. It's a counseling program. It's a student success class, and what we do there

is, we have three modules. One module talks about technology. So we expose them

to programs that they may never have seen before. So each module is five weeks.

So they're with one teacher, and then they switch after about five weeks. So they

get all three teachers, all three modules. Again, the technology module: They learn

about all different kinds of programs that we have here. We have either 10 or 11

computers in our technology lab, plus we have another five computers that we

have in our study lounge. They all have some technology loaded on them, in

addition to being regular computers. There's also Kurzweil in the library so that

they can use technology over the weekends if they're here (CC2-Administrator-2,

lines 140-151).

Comparing CC1's provisioning of assistive technology supports with those of CC2's, the

findings indicate that CC1 students are not as aware of what is possible and/or how to use

assistive technology as their CC2 counterparts. One CC1 student with a disability in reading noted

that his professors weren't aware of the assistive technology that would help him, and had never

been introduced to the concept of audio books. When I spoke with him about it, his response was

"Not much of the teachers have audio books" (CC1-Student-11, lines 425-427). By relying on

CC1's general information technology (IT) staff (or the two DSO administrators) to provide

assistive technology support to CC1 differently-abled students, these students are placed at a

distinct disadvantage, compared with CC2 differently-abled students. While 54.2% of CC-1

students don't believe assistive technology services are applicable to them, 78.1% of CC2-I

students **do** believe they are applicable to them. This may in large part be due to the fact that

CC2-I students are directly instructed about the many assistive technology options available to

them, and how to use the different types of assistive technology.

> *Interviewer:* So, I think [CC2-I] has some, like, they have specific courses that you
>
> have to take, right? What are they?
>
> *Student:* They're mainly in your first year. It deals with learning about learning
>
> disabilities and, I think that's it. Your first semester, I think, or they used to rotate
>
> it, it's learning about your learning disabilities and then it's learning about the
>
> adaptive technology lab that they have here where they go through the different types
>
> of adaptive technology that they have and the instructor, and you just get to play
>
> around with it, see what it does, they give you different prompts, things like that
>
> (CC2-Student-6, lines 571-576).

CC2-Student-2 sums the assistive technology support up in one word: "amazing!" (CC2-

Student-2, line 405). Again, the differences in approaches between the two colleges,[41] as well as

the differences in funding resources (Federal grant for CC2-I program versus none for CC1) are

likely major contributors to these differences in students' perceptions of the quality of assistive

technology at their respective colleges.

Financial services counseling/community college financial advantages.

The financial advantage of lower tuition cost, and not having to pay for room and board

because they could live at home with their parents or other relatives and drive (or take a bus) to

their local community college was cited by many students – more so by CC1 students, who were,

as a group, only slightly older than CC2 students.[42] CC1-Student-4 was in a position to most

clearly articulate the financial advantage, having spent a year away at a residential school, and

then coming back home after a year. She emphasized the financial advantage this way: "I see my

friends who went to four-year colleges right away who are already in $40,000 of debt. I'm not. In

the end, I'm going to be above water when it comes to debt. I went to community college mostly

because I can get the same education for the first two years" (CC1-Student-6, lines 64-68). CC2-

Student-4 voiced the same concepts of having to take the same basic classes during the first two

years and community college tuition being less expensive (CC2-Student-4, lines 143-146).

      CC1 and CC2 students' perceptions of the quality of *Financial Services Counseling* are

roughly the same. Interestingly, approximately a third of each group do not believe the financial

counseling is applicable to them. One student's comment to me was: "my mother handles that"

(CC1-Student-12, lines 334-340) and this may be true for most of the students – that their parents

handle the financial matters, and the students don't get involved with it. More CC2 students rated

the quality of financial services counseling as "poor" or "fair" than CC1 students. One CC2

student who rated the services negatively suggested that there should be a special counselor

within the student financial services organization who works exclusively with differently-abled

students. She said: "I wish the financial aid would have a section for kids like us so we can have a

personal conversation, figure out the paperwork together. . . .Because when you talk to the

secretaries, they'll be like, 'oh, I don't understand what you're trying to say.' . . . I had to bring

my significant other to help translate, because they wouldn't understand me" (CC2-Student-3,

lines 167-186).

      Career counseling/internships.

      Administrators from both colleges talked about the career counseling services they

provide.

            In this office, we have two other counselors that work with me. We have another

            counselor that is formally assigned half time, and then another that is about quarter

time; but I work in a suite where there are nine of us, and our students do use other

counselors for other needs; so, for career planning or for transfer counseling.

They're deciding on a major. It's not just all from my office. They're welcome to

see anyone who's in the suite (CC2-Administrator-1, lines 98-103).

I think with community college many students are coming because they're parents

think they should come and it takes them some period of time to realize that they

want to be here. You know, they're coming. They're accustomed to their families

being very involved, coming from K-12, and they're not always sure why they're

here and need to find that. So in that sense I think we're a big help in motivation,

that we help them clarify their career goals and determine if this is even the

appropriate place for what their goal might be (CC1-Administrator-1, lines 51-58).

With regard to the student data, one student actively pursued job opportunities advertised

on campus, while another did not.

Interviewer: And job search services, job postings, and internship opportunities; do

you want to talk a little bit about that?

Student: Yes. From time to time all around the college I've seen people set up little

booths in places like the college center. And I've talked to quite a few people about

finding a job. And these guys aren't just representatives of the college from the place

that – like such as UPS. . . No, these are the actual people who worked at UPS and

they're representing UPS at the college. . . So they're not just going to say to a

random student and to that it just so happens to work here, you're here to talk about

UPS for example. They will find someone who actually works there.

Interviewer: And are there any internships you're trying to get before you finish up

here?

Student: One thing that I'm hoping to get is a supervising position at UPS. And it's

like the very definition of entry-level where no experience is needed . . . This

position is specifically for supervising. I can't remember off the top of my head. But

I do know that any given point if I do get the job while I'm working I might be

talking with anywhere between five to ten people to sort out certain problems. Such

as loading and unloading stuff or – that's all I can remember from that flier itself

(CC2-Student-8, lines 655-704).

The other student's data is quite different, as shown in her response to the follow-up

questions after her survey ratings, as shown below.

Interviewer: Job searches and internship you'd like a little more support with;

right?

Student: Yes, especially because I'm not, like, done done, but I'll be done in, like,

two semesters, so I'd kind of like to have my eyes opened a little bit more to what's

going to be out there when I'm ready to do my internship.

Interviewer: Okay. Do you know what they offer here in terms of support for that

or not?

Student: No. No idea (CC1-Student-4, lines 479-492).

Transfer counseling.

Student responses regarding transfer counseling services (selecting a major, transfer

articulation/dual degree counseling, transferrable course selection, and 4-year college/university

selection) were the most similar between the two colleges of all the categories of services. This is

not surprising, as one of community colleges' many missions is to prepare students to transfer on

to four-year colleges/universities. Also, all of the students in the CC2-I are told that to stay in the

program, they need to be working towards completion of their Associate's Degree, with a goal of

transferring to a four-year college/university. 68.7% of CC1 students and 56.3% of CC2 students

rated transfer counseling as "very helpful" or "critical" as a service. 47.9% of CC1 and 43.8% of

CC2 students rated the transfer counseling as "very good" or "excellent." Transfer counseling is

something that both CC1 and CC2 do well in the eyes of their students. An example is shown in

the student quotation below.

> *Interviewer:* And transfer counseling you're also going to need as well?
>
> *Student:* Yes, because I'm going to do Cheyney University for bowling and stuff,
>
> and they want to give me a scholarship; but since I'm going here, I have to
>
> transfer. I have to transfer over. So we're going to look at that. . . I already talked
>
> to [my counselor] about it. He said that – well, actually, my coach, the coach that's
>
> over there [at Cheyney], wants me to leave in the spring; but I'm not sure if I want
>
> to leave in the spring, because I just got into [CC2-I], and all this other stuff. I
>
> don't know how I'm going to react to the whole leaving in a dorm and college life
>
> yet, you know? I don't know how they're good with dyslexic kids and all that good
>
> stuff. So I'm seeing how this works, and [my counselor] said he thinks I should
>
> stay for the rest of the year and go next year, which is also a possibility. I can stay
>
> for the rest of this year. He said that I can go next year. So I'm just weighing …
>
> (CC2-Student-2, lines 521-540).

Additional qualitative findings.

With regard to services that help students progress toward their educational goals, and stay in college, CC1 administrators talked about students with mental health issues, students suffering from poverty and from abuse (physical and/or mental), and the increasing need to provide motivational and counseling support, as well as referrals to local social service agencies (especially to address hunger, mental health, substance abuse, and partner abuse), in addition to academic planning related to the student's career goals. CC1-Administrator-1 said that one strategy that seemed to be helping students stay in college was to help them develop individual academic plans that directly correlate to their career aspirations. "The retention rate of students with academic plans from year one to year two is about 15% to 20% higher each semester. And you could say they're motivated to begin with . . . we know that getting students in to plan works" (CC1-Administrator-1, lines 207-215). Both CC1 administrators stated that the college plays an important role in helping students clarify their career goals; it helps motivate them to self-advocate for their academic needs; and students' career and educational goals change as the students become more self-aware and experience academic success (CC1-Administrator 1, lines 56-58; 60-63; 73-74; CC1-Administrator 2, lines 222-240).

CC2 administrators talked about the extensive counseling and support they provide CC2 students to help them reach their educational goals. One major difference between the colleges is that CC2 assigns each full-time matriculating student a faculty advisor from the department in which they are majoring (regardless of whether they qualify for DSO services or are part of the CC2-I program). While this may also be available at CC1, it was not specifically described as such during my interviews with CC1 administrators. CC2-Administrator-2 attributes students' success in reaching their individual goals to the different mandatory classes (described

previously), all the one-on-one supports (counseling and tutoring), and the assistive technology

facilities that are part of the CC2-I program. She notes that the counseling that they provide in

helping students understand their own disability; what tools are available to them to address their

difficulties in learning; and guidance on career options all help move students forwards as they

work to achieve their individual goals (CC2-Administrator-2, lines 123-129, 221-240, 261-264,

and 339-350).

Immediate access to employment.

Immediate Access to Employment emerged as an additional topic (not included in the

service ratings) that was discussed by several students during the interviews. It is a benefit to

attending community college that is not a service or accommodation; rather, a result that students

can expect from obtaining a community college certificate. While it is somewhat outside the

scope of this research, it was something that two students from CC1 mentioned as their primary

motivation for attending community college. These students were both unemployed at the time of

the interview, and both had recently switched into a special, State-funded program for counseling

people with drug addiction. This program is an 18-credit, undergraduate program that results in

certification as a drug counselor. Both were somewhat older than the rest of the CC1 students.

CC1-Student-8 (age 44 years, 9 months) had already completed her Associate's Degree, and was

already certified as a para-legal. She had recently been laid off due to staffing cuts, and needed to

support her family. She wanted to continue working in some aspect of the legal system and heard

that counselors were needed for people who were arrested and brought before drug courts. CC1-

Student-10 (age 36 years, 10 months) had already completed his Bachelor's Degree in

Psychology and had started in CC1's nursing program before hearing about this special chemical

dependency counseling certification program. Both needed employment quickly, and saw this

certification program as a path to employment that built on their prior interests and training (CC1-

Student-8, lines 32-42 & 165-196; CC1-Student-10, lines 293-302 & 314-328). Consequently,

this program offered by CC1 was meeting their personal goals for very near term access to a

career path of their choice.

The case for increased "scaffolding" of differently-abled community college students.

Administrators and students alike attributed academic planning and transfer counseling as

critical to students' drive to stay in school and to their motivation to continue to pursue the career

of their choice. Students reported that they viewed community college as a "stepping stone"

towards their ultimate educational and career goals and cited the financial advantages of attending

community college.

> *Interviewer:* What did you hope to gain by going to a community college as
>
> opposed to going straight to a four year college?
>
> *Student:* More/less it was cost - the factor of money. So I went here for the fact
>
> that it was relatively inexpensive and the fact that I didn't start here for three years,
>
> so I didn't start as a nursing major. So it allowed me - because I wasn't 100 percent
>
> on what I wanted to do . . . (CC1-Student-5, lines 144-156).

> *Interviewer:* What did you hope to gain by attending a community college first?
>
> *Student:* I pretty much knew as soon as I got into high school that I would be doing
>
> community college. I looked at other colleges. I got into other colleges. I chose
>
> community college because I wasn't sure how four-year colleges would help me with
>
> my IEP. Secondly, the way I look at the way the education system is currently
>
> worked, it is more of a money pit than they're teaching me. I see my friends who

went to four-year colleges right away who are already in $40,000 of debt. I'm not.

In the end, I'm going to be above water when it comes to debt. I went to a community

college mostly because I can get the same education for the first two years (CC1-

Student-6, lines 58-68).

There are also some qualitative findings in the current research that support the concept

that higher levels of academic support can result in: academic success at community college and

higher levels of drive/motivation and self-efficacy. These findings are the anecdotal evidence

provided by CC2-Administrator-1, CC1-Student-6 and CC2-Student-6 in my interviews with

them. CC2-Administrator-1 directly commented on her experience with students' goals changing

to higher level goals, once they experience success in their college programs.

. . . sometimes [a student's goal] changes, and not just for students with

disabilities. This part of our conversation is for everybody. Sometimes they'll

come in, and they'll think they only want an AAS degree. They don't want to go

any further, and they are chugging along. They earn their degree and say, this isn't

so bad. I think I'd like to continue. So what we don't want to have happen is that

they make that decision too late, because sometimes . . . If you go to transfer . . .

[the four year college] wants you to take core classes with them; not come and

transfer the credit. (CC2-Administrator-1, lines 545-554)

The students' comments related to their own drive/motivation and self-efficacy included

CC1-Student-6's drive to complete her education ahead of other differently-abled students by

taking courses throughout the school year and during the summer: "I did the first and second

summer sessions. . . . [when the first] summer session was ending, then I had my second session

was online. I was doing online work while I was working. It was one of the only ways I was

going to be able to graduate on time. Most of my friends who have disabilities are not graduating.

They'll be graduating in maybe three or three-and-a-half years" (CC1-Student-6, lines 349-354).

CC2-Student-6 was similarly motivated.

> I do two classes, about, a semester. I've tried three before, but it just hasn't worked
>
> yet. It might be the class combination, but for me it's two classes a semester and
>
> then I go basically all year round if I can. [I take courses] in the summer and
>
> winter, although for the summer it might be one class a semester and then I might
>
> do another class in the same summer and then, if I can fit a winter class in,
>
> depending on the classes I have left, I do a winter class. Although, those are really
>
> hard, because it's really crammed. . . . I have to keep up because most people, they
>
> take four or five classes in order to get done. So, I'm kind of at a disadvantage.
>
> (CC2-Student-6, lines 466-481)

The above quotations from CC2-Administrator-1, CC1-Student-6, and CC2-Student-6 are

evidence of students who recognize some of the limitations of their disabilities, yet who have the

determination to work hard to achieve their goals, despite the difficulties they face. Other factors

are likely at play that are outside of the DSO's control and which were not a part of this research.

These factors would include a student's SES, their individual family expectations, their internal

drive/motivation that has formed as a result of their life experiences prior to entering college,

family logistical support structures (financial support; food, housing, and transportation support);

and family psychological encouragement – all of which can contribute to a student's academic

success and increased feelings of self-efficacy. Such mediating factors are outside of the college

DSOs' sphere of control (which was the focus of the current research) and should be examined in

future studies. Logically, higher levels of services should yield higher rates of success. To more

clearly decipher the validity of this statement, access to and analysis of graduation rates, attrition rates, and time to program completion for differently-abled community college students are needed. A comparison of those data, in conjunction with students' SES, and quantifications of levels/quality of services and accommodations[43] would likely yield more conclusive findings related to student academic and career goal attainment than those that were evident in the current research (see Appendix M).

In the next Chapter 5, *Discussion*, I relate this chapter's findings to past research, explain how my research expands on prior research, and describe some implications for practice in supporting differently-abled students at the postsecondary educational level.

Chapter 5: Discussion

In this chapter, I relate the findings presented in Chapter 4 to past research, explain how

my research expands on this prior research, and describe some implications for practice in

supporting differently-abled students at the postsecondary educational level. I first discuss how

the responses from CC1 and CC2 administrators relate to the AHEAD standards introduced in the

Literature Review chapter (Shaw & Dukes, 2006). Second, I discuss how the study participants'

insights into what works for differently-abled students helps move the knowledge base forward,

comparing their perspectives to existing literature on community colleges' efforts to serve

differently-abled students (Antony & Shore, Eds., 2015; Hagedorn & Kuznetsova, 2016;

Ingersoll, 2016). Third, I provide a discussion of the practical implications of this research for

DSO administrators. I conclude this chapter with a discussion of pragmatic and transformative

use of research results, study limitations, and future research needed to advance our knowledge of

the supports necessary to help differently-abled students succeed in the post-secondary academic

environment.

Discussion of AHEAD Standards Relative to this Study

My literature review in Chapter 2 described the standards for disability services that were

adopted by the Board of Directors of the *Association on Higher Education and Disability* in 1999

(AHEAD standards). As noted previously, these standards (listed in Appendix B) are

comprehensive; yet, to date, are currently voluntary for postsecondary educational institutions. As

we saw with my historical synopsis of progress in the area of disability supports [*Annotated*

Timeline of Federal Disabilities Legislation/Significant Court Rulings (Appendix A)], substantive

progress is only realized in the presence of legislative and/or judicial action. The AHEAD

standards provide a balanced context for the provisioning of disability support services by

postsecondary educational institutions and they comply with the Office of Civil Rights ruling on

Section 504 accommodations;[44] however, differently-abled students entering different colleges

and/or universities are not guaranteed that the standards will be followed by the institution. Thus,

these students' needs for accommodations and services to enable them to effectively access

college curricula are differentially addressed, depending on which educational institution they

elect to attend. At the community college level, administrators are faced with trying to provide

accommodations to all students who qualify for them, regardless of the level of accommodation

and service needs, due to the open-enrollment policies of community colleges. The different

levels of accommodations and services that any one college can provide, and that any one

differently-abled student can access, may contribute to the differential postsecondary graduation

and attrition rates experienced by differently-abled young adults, and their subsequent difficulties

accessing living-wage employment. Implementation of the standards universally for all post-

secondary educational institutions would go a long way towards "leveling the playing field" for

differently-abled persons who wish to pursue postsecondary academic and career goals.

My research findings do indicate that both CC1 and CC2 largely comply with the AHEAD

standards – the differences between the two colleges appear to be more of a matter of degree.

Both colleges advocate for their differently-abled students through their counselors who act as

liaisons between the students and the teachers/professors (AHEAD standards 1.1 and 3.1). CC1

and CC2 both: (1) "disseminate information to students . . . regarding available campus and

community disability resources (AHEAD standards 2.1 through 2.3); (2) help faculty to be aware

of student accommodation needs (AHEAD standards 3.1 through 3.4); (3) update their policies

and procedures (AHEAD standards 6.1 through 6.5); (4) collect data to monitor and evaluate their

programs (AHEAD standards 7.1 through 7.7); and (5) provide professional development for their

staff (AHEAD standards 8.1 through 8.3). My findings indicate that CC2 *may* do a better job than

CC1 of adhering to the information dissemination (standard category 2.0), faculty/staff awareness

(category 3.0), and program evaluation (standard category 7.0) standards; however, I did not

expressly explore each area described in the AHEAD standards, and consequently cannot

definitively state that this is the case.

What I do not know, as I was not granted access to financial (budgeting, revenue, and

cost) data, is how well the DSOs monitor and manage their programs fiscally; nor, what data

would help them better anticipate and/or plan for program and service offerings. All of the

administrators interviewed for this study indicated that DSO statistical program data was not

helpful to them for planning their services, due to the uncertainty of which students enroll each

semester with what disabilities. Also of note was the sharing of resources between DSO and other

community college departments (e.g., the testing centers and the information technology

departments), which makes it difficult to isolate DSO costs.

The AHEAD standards can, and possibly already do, serve as effective guidelines for

DSO program and service analyses. Results of such annual analyses by DSOs would be helpful to

DSO administrators, as they seek to address many of the difficulties CC1 and CC2 administrators

identified in this study (e.g., inability to rely on past data, due to the uncertainty open enrollment

policies present, which preclude DSO administrators from effectively budgeting and planning for

their services and supports). Regular self-auditing of DSO programs and services outcomes, using

the AHEAD standards shown in Appendix B, may require mandatory regulations at the State

and/or Federal levels. Such consistent use the AHEAD standards in the provisioning, monitoring,

and planning for disability services at the postsecondary level could lead to improved quality of

services for differently-abled students.

Community College DSO Efforts to Support Differently-Abled Students

The focus of the current research was to examine those mediating interventions that

community college DSOs can control in terms of kind, level, and quality of services and

accommodations available to students who qualify for DSO services. Responses to **research**

question 1 from both students and administrators indicate that within colleges, students and

administrators largely agree on the services and accommodations that are available. Extended

time for testing; testing in a separate, quiet testing center; use of note-takers (generally peers); and

academic counseling were the most commonly cited accommodations in this study, and this

corroborates prior research findings (Hagedorn et al., 2016; Ingersoll, 2016; Tagayuna et al.,

2005). This study extended prior research (Bauer et al., 2014; Ingersoll, 2016) findings on the

increasing role assistive technology plays in facilitating students' access to tailored

accommodations. CC2 administrators' descriptions of the dedicated assistive technology

department for CC2-I students and CC2 students' ratings of the importance of assistive

technology for them, suggests that DSO-dedicated assistive technology resources (staff, hardware,

software, and required training for students) may provide more effective and frequent use of these

resources by differently-abled students.

In response to **research question 2**, "What difficulties do CC1 and CC2 administrators

and students encounter in providing, requesting, and using support services in the community

college setting?" CC1 and CC2 administrators primarily attributed their difficulties to the

colleges' policies of open enrollment and not knowing what kinds of services and

accommodations would be needed by entering students each year. This is related to prior findings

that describe the wide variety of goals that community college students pursue and their different

definitions of "academic success" (Crisp & Mina, 2012; Hagedorn, 2012; Mortenson, 2012).

Entering students may not be interested in pursuing an associate's degree, or completing a

certificate program. Yet, if they qualify for DSO services, regardless of their reasons for attending

community college, DSOs must attend to their academic needs and provide appropriate

accommodations.

The difficulties students from CC1 mentioned had to more to do with not being aware of

available services and accommodations; the unevenness in the helpfulness of counseling and

tutoring services; dissatisfaction with pre-enrollment services; financial concerns; and balancing

work and studies. The difficulties CC2 students mentioned had less to do with accessing services

and more to do with balancing work and study time. It may be more difficult for CC1 students to

access the most effective accommodations for themselves, as the accommodations review process

CC1 students described were less rigorous than those described by CC2-I students.

Student responses **to research question 3**, "How helpful are these services in supporting

students' progress towards their individual educational and career goals in community colleges?"

were generally positive from both CC1 and CC2 students; with CC1 students indicating more

variability in quality than CC2 students. Examples of this variation include CC2 students' ratings

of greater helpfulness of pre-enrollment services, assistive technology, academic counseling, and

tutoring. CC1 and CC2 students' ratings of the helpfulness of career/transfer counseling and

personal counseling were roughly equal. CC1 students' ratings of their helpfulness of financial

services counseling was two times greater than CC1 students' ratings for financial services

counseling. As noted previously in Chapter 2, Section 504 of the *Rehabilitation Act of 1973* does

not require a standard level of services and accommodations, and indeed, protects colleges from

being required to provide so many services and accommodations that they are unable to afford the

support, or that the accommodations would significantly alter the curriculum. Consequently,

students can expect that the quality of services, and how helpful a college's services will be in

targeting the particular needs of a differently-abled student will vary from college to college. This

study's findings corroborate this fact. Although my comparisons of the student ratings regarding

the helpfulness and quality of the accommodations and services highlighted differential student

perceptions between the two colleges, I could not ascertain whether these differences were due to

differential levels and quality of service and accommodations; or to other factors outside college

DSOs' loci of control (e.g., students' SES, family motivating factors, and the students' own levels

of drive/motivation and self-efficacy).

My coding and analysis processes that were used to compare students' self-reported prior

and current goals at the two colleges is presented in Appendix M. As the results of this analysis

were inconclusive with regard to whether or not movement towards higher levels of academic and

career goals was due to differential levels and quality of service and accommodations or to other

factors outside college DSOs' loci of control, they are not part of this study's findings.

Pragmatic and Transformative Use of Research Results

From a pragmatic research perspective, this study added to the body of research on

disability support services in community colleges by providing comprehensive documentation of

what specific services two community colleges and the students themselves have found to be

effective in moving them forward in their chosen programs of study (see Table 4 and findings for

Research Question #1). It also extended prior research findings regarding the need for and use of

assistive technology supports, and the increased scaffolding required by differently-abled students

throughout their college programs to encourage program completion. Findings from this research

provide community college administrators information on the different accommodations and

services differently-abled community college students use at two New Jersey community

colleges; the difficulties CC1 and CC2 DSO administrators have in providing the services; and

some of the strategies they have used to overcome these barriers. The findings from this study are

largely corroborative with prior research. To the extent that use of these research findings by

community college administrators positively affects the availability and type of support services

they can provide, there may be a secondary, indirect impact to differently-abled New Jersey

community college students. If these students can successfully complete their community college

programs through use of tailored, enhanced services, ultimately they may improve their

employability prospects and labor participation rates.

From a transformative research perspective, information from my literature review helps

spotlight the disparity between the intended outcomes (as represented through legislative

mandates), and the lack of statistical data on community college graduation and attrition rates for

differently-abled students. My research also highlights the lack of statistical data on actual

postsecondary educational and career outcomes for differently-abled adults. These findings

indicate the need for a transformative "call to action" by stakeholders (DSO administrators,

differently-abled students, and their advocates) to address the lack of Federal and State data on

this population of postsecondary students.

Implications for Practice

What are the practical implications of this study? Using both the prior research highlighted

in this paper and the findings from this research, community college DSO administrators can

review their programs and processes and work to improve their services and accommodations to

differently-abled students, with the mutually inclusive goals of: (1) increasing student persistence

rates to the point of program completion (Associate's Degree or certificate attainment); and (2)

decreasing attrition rates. The importance of using AHEAD standards as guidelines for self-

auditing of DSO accommodations and services has already been discussed, and is an important

first step for the DSO administrator.

The literature presented in this paper on "most-commonly used/least commonly-used"

accommodations and services is instructive to the DSO administrator, in that it describes some

innovative practices that have been effective in community colleges in states other than New

Jersey. While DSO administrators are very familiar with the common accommodations/services,

such as test-taking accommodations; "student success courses;" physical plant (facilities)

compliance with ADA requirements; and general academic counseling and tutoring services, they

may not be as familiar with some of the other DSO accommodations and services this paper has

highlighted. From prior research (Bauer, et al., 2014; Hagedorn et al., 2016; Ingersoll, 2016;

Tagayuna et al., 2005) some of the less frequently used, but effective interventions include the

summer orientation/bridge programs between a student's high school graduation and their

attendance at college; modularization of remedial skills; learning communities; enhanced use of

assistive technology; and partnering with local businesses to provide learning labs/internships.

These innovative approaches were described in Chapter 2, *Literature Review*, and the DSO

administrator who seeks to improve the effectiveness of their services and programs should

consider these innovative approaches.

Undergirding these practical approaches, are the lessons learned from motivation/drive,

self-efficacy, and goal-setting theory (Bandura, 1997; Hong, 2007; Hoy & Miskel, 2013; Prat-

Sala & Redford, 2010). Corroborated by CC2-Administrator-1 from this study, a key take-away

from this research is that differently-abled college students typically need a lot of scaffolding to

help them reach higher levels of drive/motivation and goal attainment. A "life-cycle" approach

(Culp, 2005) to this scaffolding takes the form of: (1) expert and individualized analysis of

required accommodations and services; campus/academic program orientation; and placement

testing with appropriate accommodations prior to entering college; (2) a case manager approach

to academic and accommodations counseling throughout the student's progression through his/her

college program; (3) required academic tutoring built into the student's program; (4) required

"student success courses" that include *direct instruction* not only on study skills, time

management and organizational skills, and research paper writing skills; but also on academic and

career goal setting, analysis, and self-evaluation skills; hands-on introduction to the different

assistive technology options available and how they can scaffold students' skill and/or physical

deficits; (5) connections with local businesses to provide internships and hands-on experience for

future local job options; and (6) direct instruction related to transition – either to a four-year

college (college application assistance), or to employment (resume writing, job search, and job

applications). DSO administrators should also keep "in their back pocket" the understanding that

CC1-Administrator-1 shared: students with unmet psychological/physical needs (e.g., need for

psychological counseling; food and/or shelter) cannot concentrate on their studies and be

academically successful – DSO administrators and counselors should have readily available

contact information to local services that can meet these needs. This administrator's description of

some of the "stress reduction" seminars she provides at exam time are also instructive.

Both the quantitative and qualitative data highlighted the importance of dedicated

accommodations-, academic-, and transfer-counseling versus a "drop-in" approach to these

services. To do this requires more counselors, which requires higher levels of funding for DSOs.

It is an important matter for DSO administrators to consider, and should be analyzed carefully,

using attrition and graduation rate data for this population of community college students. The

data-driven analysis should form the basis for DSO administrators to substantiate requests for

additional counseling staff. The financial considerations described by (Schuh & Gansemer-Topf,

2012) regarding the effects of attrition rates on colleges' budgets would help support such funding

requests.

Another practical "take away" is the need for DSO administrators to be able to make

"data-driven" decisions. As I was not permitted access to cost and funding data for this study, I do

not know how much data is available to DSO administrators to help them with their program and

service planning. At a minimum, attrition and graduation rate data, enhanced with periodic

student surveys that probe for answers to the helpfulness and quality of accommodations and

services, such as was included in the Likert ratings for this study, would be helpful for these

administrators to continually improve their support structures for these students (AHEAD

Standards 6.0 and 7.0). Some of the innovative approaches to funding sources (CC1-

Administrator-1's description of shared service and cost provisioning with State adult disabilities

agencies, such as New Jersey's Division of Vocational Rehabilitation Services; CC2-

Administrator-1's description of the Federal Grant that funds the CC2-I program) are also

instructive for DSO administrators.

Study Limitations

While the study provides useful information about support services used by differently-

abled students at community colleges; challenges faced by DSO administrators and students who

qualify for DSO services; and which services are most helpful to students, there are also

limitations. I have shown that using students' academic and career goal movement does not

provided conclusive results regarding any association between increased levels of DSO

accommodations and services and student goal movement. Also, I anticipated that the

administrators would indicate that budget and cost data, as well as recent graduation and attrition

rates by disability type would be essential for their program planning purposes; however, this was

not the case. Administrators from both CC1 and CC2 indicated that because of open enrollment

requirements, they do not know who will be entering and needing services; nor the level and kind

of services they will need. My interviews with the administrators from both colleges indicated

that these administrators were not personally involved with budgeting, monitoring, and reporting

the financial data associated with providing services to their differently-abled students.

Consequently, the lack of detailed financial data about the costs and funding of providing needed

services to this population of community college students remains a limitation of this study that

will need to be addressed in future research.

Future Research

Although results from this study may be more widely interpreted as possibly applying to

other New Jersey community colleges, care must be taken in over-generalizing the findings in this

qualitative study (Patton, 2008). Several key areas require more elaboration in future research.

These areas include: (1) additional research using larger sample sizes; (2) the need to quantify and

document the budgeted and actual costs of providing the services needed by differently-abled

community college students; (3) research that uses the AHEAD standards to comprehensively

evaluate community college programs for their effectiveness in helping differently-abled students

achieve their postsecondary academic goals; (4) research that elucidates the "hidden costs" of

community colleges' failures to retain students until program completion; and (5) research that

calls for Federally-mandated statistical reporting of community college graduation and attrition

data for the disabled versus non-disabled student populations on individual college, state, and

Federal levels. Detailed data (on a national, state, or specific community college levels) were not

available to me on community college DSO costs, funding, and graduation and attrition rates,

comparing students who qualify for community college disability services and those who do not.

A future cost and funding analysis should draw from quantitative budgetary, actual cost, and

student outcome data from New Jersey community colleges over a multi-year period to

specifically identify "what it takes" to implement "what works" to move differently-abled adults

on the path to self-sufficiency and greater self-efficacy. Future research should also include a

discussion of "hidden costs" caused by high attrition rates that Schuh and Gansemer-Topf (2012)

describe as a key motivators for postsecondary educational institutions to consider as they

develop their disability services budgets. Future research should also document specific numbers

of students who qualify for disability services at community colleges – both in New Jersey and

nationally – and highlight what the graduation rates are for these students and what services are

needed by them to complete their programs of studies. While looking at the graduation rates for

this population of community college students, factors such as time to completion and full- versus

part-time status should also be documented. Political advocacy to implement requirements that

correspond to the AHEAD standards for statistical reporting of detailed data cost and funding

data, and graduation and attrition rates are required at the local, State, and Federal levels.

Numbers matter. What is counted brings clarity to need; clarity has the potential to bring action to

address the needs.

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Appendices

A: Annotated Timeline of Federal Disabilities Legislation/Significant Court Rulings[45]

Year	Context/ Legislation/Significant Court Ruling	Key Additions to Existing Law at the Time
1850's	1st separate special education school established for the mentally retarded in Boston (Rowe, 2004)	----
1926	Mandatory laws for sterilization of disabled in 23 states (Rowe, 2004)	----
1954	Brown v. Board of Education [347 U.S. 483 (1954)]	• "Where states require compulsory school attendance, a right which must be made available to all on equal terms." • "separate but equal" is not equal. Segregation violates the 14th Amendment of the US Constitution re. rights to equal protection of the law for ALL [includes disabled].
1958 – 1970	"Legislation for disabled students stalled" (Rowe, 2004, p. 79).	-----
1965	Elementary & Secondary Education Act (ESEA)	• States had to pay back Federal monies, if they didn't comply with Federal legislation • Provided funding to address poverty areas.
1966 -1970	Amendments to ESEA: • PL89-750, 80, Stat.119 [1966] • PL90-247, 81, Stat.783 [1967] • PL90-230, 84, Stat. 175 [1970: *Education of the Handicapped Act*]	• Created the Bureau of Education for the Handicapped • Created the National Council on Disability • Provided grants for local districts to establish Special Education programs in-district [promoting inclusion placement for special education students in the general education setting] • Funded disabilities research • Funding to train and recruit special education teachers.

Annotated Timeline of Federal Disabilities Legislation/Significant Court Rulings

Year	Context/ Legislation/Significant Court Ruling	Key Additions to Existing Law at the Time
1973	Rehabilitation Act of 1973, Section 504	• "prevented discrimination against disabled persons in Federally funded programs, including public education." (Rowe, 2004, p. 80) • Physical access in public places for physically disabled.
1975	**November 29, 1975: PL 94-142: Education for all Handicapped Children Act (EAHCA)** (Rowe, 2004, pp. 80-81)	• "Federal guarantee to a free appropriate public education (FAPE) for disabled children aged 3 to 21." (Rowe, 2004, p. 81) • Federal fund to train teacher; initiate programs. • All states required to submit policies and procedures in compliance with EAHCA. • Provided for "fairness, appropriateness, and due process" • FAPE in least restrictive environment (LRE) • Requirements for testing, evaluations, Individualized Education Programs (IEPs) • Related services must also be provided (transportation, Speech, Occupational Therapy, Physical Therapy, Counseling).
1982	**Board of Education v. Rowley (458 U.S. 176, 188 n. 10 (1982)**	• Defined FAPE: ○ "that level of special education and related services that will enable students to benefit from classroom instruction." ○ No guarantee of levels of services ○ No requirements for students to be able to "maximize their potential" • EAHCA provides a "basic floor of opportunity consistent with equal protection." Districts are only required to provide services that will enable the student to achieve a passing grade in general education setting. (Rowe, 2004, p. 82)

Annotated Timeline of Federal Disabilities Legislation/Significant Court Rulings

Year	Context/ Legislation/Significant Court Ruling	Key Additions to Existing Law at the Time
1979 - 1989	*Context:* number of students in self-contained classes doubled. 1987: US Department of Education issued a Regular Education Initiative ("REI")	Purpose of REI: stimulate inclusion in general education setting; provide Districts guidance on how to make inclusion work. (Rowe, 2004, pp. 83-84)
Late 1980's to early 1990's	"Inclusion gained momentum." (Rowe, 2004, p. 84)	------
1983 1986	EAHCA amended: • PL 98-199, 97 Stat. 1357 • PL 99-457, 100 Stat. 1145	No significant changes.

1990	EAHCA renamed to *Individuals with Disabilities Education Act* ("**IDEA**").	• "Handicapped" removed from title.
		• FAPE: Must be provided to ALL, regardless of severity of disability.
		• IEP must be based on individual's present levels of performance.
		• As much as possible, placement should be in local neighborhood school and the General education classroom setting – interventions required to make such placements succeed must be provided.
		• All have rights to related services, as required.
		• Parents have to give written consent prior to evaluation.
		• Parents must be included in the decision making at IEP meeting; signature required before IEP can be implemented.
		• Due process procedures established to challenge decisions of placement, assessment, IEP provisions, or FAPE.
		• Minor legislative changes to 1990 IDEA:
		  o Addition of High-functioning Autism & Traumatic Brain Injury as separate categories of classification.
		  o Postsecondary transition goals and objectives are required in IEP, beginning at age 14. (Rowe, 2004, pp. 84-85)

Annotated Timeline of Federal Disabilities Legislation/Significant Court Rulings

Year	Context/ Legislation/Significant Court Ruling	Key Additions to Existing Law at the Time
1990	*Context:* US Department of Education statistics: Only 40% of general education classroom contained special education students [Vermont had most; Arizona the least] (Rowe, 2004, p. 85)	------
1997	IDEA reauthorized.	• Special education students MUST be given access to general education curriculum, standards, and assessments. • Positive behavioral interventions/ strategies must be based on functional behavioral analysis and included in IEP. • No suspensions greater than 10 days ("manifest determination" provision) • Weapons brought to school by SE students: provisions for "interim alternate placement" for up to 45 days; criminal behavior can be reported to police. • IEPs have to include Goals and Objectives, linked to general education curriculum. • IEPs must include and consider student's strengths. • A combination of formal and informal assessments are required. • Aides/assistive technology must be considered. • Supplemental services for school personnel must be considered. • Transition plans for college or work after high school must be developed no later than age 14, and student must be enrolled in courses towards that objective by age 16. • SE students must have any standardized testing accommodations included in the IEP, and to extent possible, participate in state assessments and pass these tests for HS graduation; otherwise, alternative assessments to demonstrate proficiency must be documented in IEP. • Discrepancy model to determine eligibility (Rowe, 2004, pp. 86-87).
2004	**Individuals with Disabilities Education Improvement Act (IDEIA)**	"Response to Intervention" basis for classification added.

B: Association on Higher Education and Disability (AHEAD) Postsecondary Education

Disability Program Standards and Performance Indicators

(Shaw & Dukes, III, 2006)

Number	Standard
1.0	**"Consultation/Collaboration**
1.1	Serve as an advocate for issues regarding students with disabilities to ensure equal access.
1.2	Provide Disability representation on relevant campus committees.
2.0	**"Information Dissemination**
2.1	Disseminate information through institutional electronic and printed publications regarding disability services and how to access them.
2.2	Provide services that promote access to the campus community.
2.3	Disseminate information to students with disabilities regarding available campus and community disability resources
3.0	**"Faculty/Staff Awareness**
3.1	Inform faculty regarding academic accommodations, compliance with legal responsibilities, as well as instructional, programmatic, and curriculum modifications.
3.2	Provide consultation with administrators regarding academic accommodations, compliance with legal responsibilities, as well as instructional, programmatic, physical, and curriculum modifications.
3.3	Provide disability awareness training for campus constituencies such as faculty, staff, and administrators.
3.4	Provide information to faculty about services available to students with disabilities
4.0	**"Academic Adjustments**
4.1	Maintain records that document the student's plan for the provision of selected accommodations.
4.2	Determine with students appropriate academic accommodations and services.
4.3	Collaborate with faculty to ensure that reasonable academic accommodations do not fundamentally alter the program of study.
5.0	**"Counseling and Self-Determination**
5.1	Use a service delivery model that encourages students with disabilities to develop independence.

**AHEAD Postsecondary Education Disability Program Standards and Performance
Indicators (continued)**

Number	Standard
6.0	**"Policies and Procedures**
6.1	Develop, review and revise written policies and guidelines regarding procedures for determining and accessing 'reasonable accommodations.'
6.2	Assist with the development, review, and revision of written policies and guidelines for institutional rights and responsibilities with respect to service provision.
6.3	Develop, review, and revise written policies and guidelines for student rights and responsibilities with respect to receiving services.
6.4	Develop, review and revise written policies and guidelines regarding confidentiality of disability information.
6.5	Assist with the development, review, and revision of policies and guidelines for settling a formal complaint regarding the determination of a 'reasonable accommodation.'
7.0	**"Program Administration and Evaluation**
7.1	Provide services that are aligned with the institution's mission or services philosophy
7.2	Coordinate services for students with disabilities through a full-time professional.
7.3	Collect student feedback to measure satisfaction with disability services.
7.4	Collect data to monitor use of disability services.
7.5	Report program evaluation data to administrators.
7.6	Provide fiscal management of the office that serves students with disabilities.
7.7	Collaborate in establishing procedures for purchasing the adaptive equipment needed to assure equal access.
8.0	**"Training and Professional Development**
8.1	Provide disability services staff with on-going opportunities for professional development.
8.2	Provide services by personnel with training and experience working with college students with disabilities (e.g., student development, degree programs).
8.3	Assure that personnel adhere to relevant Codes of Ethics (e.g., AHEAD, APA)."

Source: Shaw & Dukes, 2006, pp. 16 – 23.

C: Student Recruitment Letter

COMMUNITY COLLEGE STUDENT VOLUNTEERS NEEDED!

RUTGERS UNIVERSITY RESEARCH ON DISABILITY SERVICES LEADING TO SUCCESSFUL PROGRAM COMPLETION

$30.00 GIFT CARD FOR SURVEY/INTERVIEW COMPLETION!

Are you a community college student with a disability? Are you currently using your community college's Office of Disability Services?

Contact Mildred Waale, Rutgers University Doctoral Candidate, for an interview about what services you use; what services you need to successfully complete your community college program of studies.

Your anonymous input will be critical to providing feedback to college administrators as they seek to improve opportunities for academic success for students with disabilities. Please know that your anonymity will be protected for this study. Your professors will not have access to your responses.

Call or e-mail now to schedule a time for an interview on your community college campus! Dates and times are at your convenience.

Call: Mildred F. Waale: xxx-xxx-xxxx

e-mail: mildred.waale@gse.rutgers.edu

D: NJ Community College Administrators/Disability Services Support Center Staff

Interview Protocol

Thank you for meeting with me again. As you know, I am researching how community colleges can best support students with disabilities. Also as you know, the national persistence rates for students with disabilities is far below those for students without disabilities. I would like to document the successes you have been having with disabled students, to add to the body of research of what works for these students. Ultimately, perhaps this research can in some small way help to decrease the disparity in persistence rates between these two populations, and increase the number of disabled students who can succeed in their academic pursuits.

Shortly after our interview, I will be e-mailing you a draft of your responses to my questions, for you to review and see if I have captured your information correctly, as well as to allow you a chance to edit your responses.

I would like to cover the following topics in this interview: (1) the students with disabilities that your programs serve; (2) the support programs you provide these students; and (3) what statistics you routinely monitor to help you administer your programs. Let's start by discussing the students who participate in your programs.

I. Your Students
I'm interested in knowing more about your students with disabilities who come here; how you are able to meet some of their challenges; and how you encourage them to persist in their programs.
A. First, what types of disabilities are represented in your student population?

_____

B. And what do you believe are some of the major challenges faced by students with these disabilities?

_____

C. What supports do you think are critical to these students to enable them to persist in their studies?

_____

D. Is there anything else you'd like to say about your students?

_____

**NJ Community College Administrators/Disability Services Support Center Staff
Interview Protocol**

II. <u>Programs</u>

1. Now let's talk about your programs. Please tell me about the different programs you have to support your students with disabilities.

   _____

2. This is impressive! What aspect(s) of these programs are you especially proud of?

   _____

   Are there other aspects that have been especially successful?

   _____

3. I'd like to hear more about your program goals. Does each program have specific goals that it works to achieve? Please describe.

   _____

4. How do program administrators learn about students' personal goals (what they hope to achieve by attending you college) for pursuing certificates/associate degrees?

   _____

   If program administrators have input from students on the goals for completing their programs of study, are there ways that program administrators can use this input to change or improve their program goals?

   _____

   E. Is there anything else you'd like to say about your programs?

   _____

   _____

III. <u>Administration of Your Programs</u>

Let's move on now to the topic of program administration.

A. What are some of the major challenges you've experienced over the years in providing services to these students?

_____

NJ Community College Administrators/Disability Services Support Center Staff Interview Protocol

B. What are some of the strategies you have used in the past that address these challenges?

_____

C. What data is helpful to you in administering your various programs of support for your declared disabled students?

_____

D. What are the cost components of your disability support programs for which you must budget and manage?

_____

E. Are there other "infrastructure" components (e.g., separate testing centers; tutoring centers/staff)?

_____

F. Do you have a pamphlet or program description of your support programs that you give to special needs students and their families?

 _____ **Yes** _____ **No**
[If administrator answers "yes," follow up with: "Could I have a copy?"]

G. Is there anything else you'd like to add about the administration of your programs?

_____

_____

_____

E: Community College Student Interview Protocol

Introductory Remarks:

"Hi __(name of student)__. Thank you for volunteering for this study. It is about how community colleges can best support students with disabilities. I have been working with high school students with disabilities for many years and am interested in writing about what can best help them succeed after high school, for those students who continue their education at community colleges.

Your anonymous input will be critical to providing feedback to college administrators, as they seek to improve the supports available to students and the opportunities for academic success for their disabled students. Please know that your anonymity will be protected for this study. Your professors will not have access to your responses. Also, you may terminate this interview at any point, if you wish to stop.

Shortly after our interview, I will be e-mailing you a draft of your responses to my questions, for you to review and see if I have captured your information correctly, as well as to allow you a chance to edit your responses. What is the best e-mail that I can use to contact you?

    Student's e-mail: _____

Would you also be willing to provide me with a phone contact number?

    Student's phone contact #: _____

Adult Student's ID # [assign a # to preserve anonymity]: _____
I. *Demographic Information:*
    a. Date of Birth: _____
    b. Gender: _____
    c. Ethnicity: (*CHECK ONE OPTION*): Are you Hispanic or Latino/Latina?
        _____(1) Yes (A person of Cuban, Mexican, Puerto Rican, South of Central American or
            Other Spanish culture or origin, regardless of race.)
        _____(2) No

        If you answer "Yes" to (c), do not answer (d).

    d. Race (*CHECK ALL THAT APPLY*):
    _____ (1) American Indian or Alaska Native
    _____ (2) Asian
    _____ (3) Black or African American
    _____ (4) Native Hawaiian or other Pacific Islander
    _____ (5) White

Community College Student Interview Protocol

II. _Special Needs Description:_

Classification while in High School (_CHECK ONE OPTION_):

_____ (1) Intellectual Disability (Cognitive)	_____ (7) Other Health Impairments
_____ (2) Hearing Impairment	_____ (8) Specific Learning Disability [Specify area of weakness (e.g., reading, math, writing): _____]
_____ (3) Speech or Language impairment	_____ (9) Deaf/Blindness
_____ (4) Visual impairments	_____ (10) Multiple Disabilities
_____ (5) Emotional disturbance	_____ (11) Autism
_____ (6) Orthopedic impairments	_____ (12) Traumatic Brain Injury

_OR_ (_CHECK ONE OPTION_):
_____ Medical Diagnosis/Diagnoses: _____

_____ I do not know.

_____ I prefer not to answer this question.

Adult Student's date of high school exit: _____ (mm/yyyy)
==

III. _Community College Program/College Transfer Descriptions:_
  A. Which Community college did you attend/are you attending now?
  _____
  B. Are you still registered at _____ Community college? _____ Yes _____ No
        Are you a full-time or part-time student?
        _____ Full Time   _____ Part-Time
  A. How many credits have you completed at _____ Community college?
  _____
  B. Did you receive an Associate's Degree from _____ Community college?
        _____ Yes _____ No

Community College Student Interview Protocol

C. **What is/was your major at _____ Community College if you were in a degree-bearing program?**

_____

D. **Did you receive a *Certificate of Program Completion* from _____ Community college?**
       _____ Yes _____ No

E. **If you received a certificate, what was the program of study for the certificate?**

_____

F. **Did you transfer to a 4-year college/university after you completed your Associate's Degree?**
       _____ Yes _____ No   _____ Not Applicable.

G. **If you answered "yes" to the previous question, please state the name of your 4-year college/university; your major; and whether you are/were a full- or part-time student.**
    4-Year College Name: _____

    Major: _____

       _____ Full Time   _____ Part-Time

IV. *Community College Goals/Services Questions:*

A. *Goals:*
1. **I'm interested in learning about your personal goals for attending a community college. What did you hope to gain by attending community college? Would you please talk a little bit about this?**

    _____

Community College Student Interview Protocol

2. **Did you find that your personal goals for attending a community college changed over time?**

        _____ Yes _____ No

Please explain:

_____

3. **On a scale of 1 to 5, with 5 being the best match of your community college experience with your personal goals for education/training after high school, how well do you think your personal goals have been met?**
   - 1— My community college experience **did not meet** any of my personal goals.
   - 2— My community college experience **met one or two** of my personal goals.
   - 3— My community college experience **met about half** of my personal goals.
   - 4— My community college experience **met most** of my personal goals.
   - 5— My community college experience **met all** of my personal goals.

   a. Please explain what personal goals you think were **_not_** fulfilled very well:

   _____

   b. Can you think of a way that the Community College might have better assisted you to meet your personal goals? If yes, please describe:

   _____

B. *Comparing High School Services to Community College Services:*
   1. **Services Provided While *in High School***

I'm interested in comparing the services you received in high school to the services you get now/got while you attended _____ Community College.

Think back to when you were in high school.

a. **Can you tell me about the support services you received prior to exiting high school?**

_____

Can you remember any others – for example, did you have Occupational therapy ("OT"), Physical Therapy ("PT"), Speech, or counseling?

_____

Community College Student Interview Protocol

Do you remember how frequently you had these services?

_____

b. **How do you think any of these high school services contributed to your success in Community College? Can you think of some specific examples?**

_____

c. **Can you think of any services you would have liked to receive in high school that might have improved your Community College experience? Can you provide some specific examples?**
_____

2. **Questions Related to *Community College* Services**
Now let's talk about your experiences with the support services you received or are currently receiving at _____ Community College.

a. **Did you apply for community college support services just prior to starting your first course at college?**
_____ Yes _____ No

If yes, please describe the process you used to become eligible for services.

_____

Please describe the services for which you were/you are eligible.

_____

b. **Can you think of any other services for which you think you were/you are eligible, but you didn't request (for example, attending a summer orientation program prior to the start of your first classes; counseling support; tutoring support; assistive technology)?**
_____

Community College Student Interview Protocol

c. **Were there services for which you think you were eligible, but you didn't request?**

  _____ Yes _____ No

  Please explain – why do you think you might have been eligible?

  _____

d. **Were there services that you had hoped for, but didn't receive?**

  _____ Yes _____ No

e. **Can you give some examples of these services that you couldn't get?**

  _____

3. **Now let's talk about the Community college services that you _did_ receive.**

a. **Of the Community College services you did receive, what services did you actually use?**

  _____

  I'd like to get your evaluations of the community college services you used – for example, did you think they were helpful? Did you use different services for different classes? Why or Why not? To help me understand your evaluations better, what I'd like you to do is first fill out this sheet of ratings, and then we can talk a bit about why you rated the services as you did.

  [hand student the list of questions with the Likert rating scales; give them the time they need to respond; then review their ratings with them, asking the probing "Why?" or "Why not?" questions.]

Community College Student Interview Protocol

On a scale of 1 to 5, with 5 being the highest level, please rate ***how helpful you found*** **the different services you received.** Please circle a number from 1 to 5 for each service.[46] If a service listed is not applicable, circle "N/A" for "not applicable."
  1— The service was ***not helpful to me*** at all.
  2— The service was ***slightly helpful to me***.
  3— The service was ***somewhat helpful to me.***
  4— The service was ***very helpful to me***.
  5— The service was ***critical to my success at college***.
  "N/A"— The service ***did not apply*** to me.

- *Pre-Enrollment Services:*
  o Accommodations Counseling   1 2 3 4 5 N/A
  o Building/Facilities Tours   1 2 3 4 5 N/A
  o Programs Descriptions/Requirements   1 2 3 4 5 N/A
  o Placement Testing   1 2 3 4 5 N/A
  o Pre-Enrollment Orientations/Mini-Courses 1 2 3 4 5 N/A
- *Academic Counseling:*
  o Time Management   1 2 3 4 5 N/A
  o Test-taking strategies   1 2 3 4 5 N/A
  o Study techniques   1 2 3 4 5 N/A
  o Academic planning   1 2 3 4 5 N/A
  o Liaison w/Faculty re. Accommodations   1 2 3 4 5 N/A
  o "Drop-in" tutoring   1 2 3 4 5 N/A
  o Weekly-scheduled counseling   1 2 3 4 5 N/A
- *Personal Counseling:*
  o Personal counseling for anxiety/depression 1 2 3 4 5 N/A
  o Family/relationship counseling   1 2 3 4 5 N/A
  o Other personal counseling   1 2 3 4 5 N/A
- *Assistive Technology:*
  o Assistive technology assessments   1 2 3 4 5 N/A
  o Assistive technology options at the college 1 2 3 4 5 N/A
  o Funding sources for assistive technology   1 2 3 4 5 N/A
  o Building/classroom/utilities/parking access 1 2 3 4 5 N/A

Community College Student Interview Protocol

- *Financial Services Counseling:*
  - Financial options counseling/funding sources   1 2 3 4 5 N/A
  - Financial applications assistance   1 2 3 4 5 N/A
- *Career Counseling/Internships:*
  - Job Search Services   1 2 3 4 5 N/A
  - Resume Writing   1 2 3 4 5 N/A
  - Interview Counseling   1 2 3 4 5 N/A
  - Job Postings   1 2 3 4 5 N/A
  - Internship Opportunities   1 2 3 4 5 N/A
- *Transfer Counseling:*
  - Selecting a major   1 2 3 4 5 N/A
  - Transfer articulation/dual degree counseling   1 2 3 4 5 N/A
  - Transferrable course selection   1 2 3 4 5 N/A
  - 4-year college/university selection   1 2 3 4 5 N/A

===

[Now I'd like to get your input on the __quality__ of the services you used.]

On a scale of 1 to 5, with 5 being the highest level, please rate *__the quality__* **of the different services you *__actually used__*.** Please circle a number from 1 to 5 for each service *__you used__*. If a service listed is not applicable, circle "N/A" for "not applicable."

1— The service was *poor*.
2— The service was *fair*.
3— The service was *good.*
4— The service was *very good*.
5— The service was *excellent*.
"N/A"— The service *did not apply* to me.

- *Pre-Enrollment Services:*
  - Accommodations Counseling   1 2 3 4 5 N/A
  - Building/Facilities Tours   1 2 3 4 5 N/A
  - Programs Descriptions/Requirements   1 2 3 4 5 N/A
  - Placement Testing   1 2 3 4 5 N/A
  - Pre-Enrollment Orientations/Mini-Courses   1 2 3 4 5 N/A

Community College Student Interview Protocol

- *Academic Counseling:*
  - Time Management   1 2 3 4 5 N/A
  - Test-taking strategies   1 2 3 4 5 N/A
  - Study techniques   1 2 3 4 5 N/A
  - Academic planning   1 2 3 4 5 N/A
  - Liaison w/Faculty re. Accommodations   1 2 3 4 5 N/A
  - "Drop-in" tutoring   1 2 3 4 5 N/A
  - Weekly-scheduled counseling   1 2 3 4 5 N/A
- *Personal Counseling:*
  - Personal counseling for anxiety/depression   1 2 3 4 5 N/A
  - Family/relationship counseling   1 2 3 4 5 N/A
  - Other personal counseling   1 2 3 4 5 N/A
- *Assistive Technology:*
  - Assistive technology assessments   1 2 3 4 5 N/A
  - Assistive technology options at the college 1 2 3 4 5 N/A
  - Funding sources for assistive technology   1 2 3 4 5 N/A
  - Building/classroom/utilities/parking access 1 2 3 4 5 N/A
- *Financial Services Counseling:*
  - Financial options counseling/funding sources 1 2 3 4 5 N/A
  - Financial applications assistance   1 2 3 4 5 N/A
- *Career Counseling/Internships:*
  - Job Search Services   1 2 3 4 5 N/A
  - Resume Writing   1 2 3 4 5 N/A
  - Interview Counseling   1 2 3 4 5 N/A
  - Job Postings   1 2 3 4 5 N/A
  - Internship Opportunities   1 2 3 4 5 N/A
- *Transfer Counseling:*
  - Selecting a major   1 2 3 4 5 N/A
  - Transfer articulation/dual degree counseling 1 2 3 4 5 N/A
  - Transferrable course selection   1 2 3 4 5 N/A
  - 4-year college/university selection   1 2 3 4 5 N/A

Community College Student Interview Protocol

V. *Follow-up Questions After the Student Has Completed the Ratings [only follow up on areas that are marked 1, 2, or 4,5]:*

    A. I see you rated ***Pre-Enrollment Services*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Pre-Enrollment*** services? What did you like/What didn't you like about these services?

    _____

    B. I see you rated ***Academic Counseling*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Academic Counseling*** services? What you liked/didn't like about these services?

    _____

    C. I see you rated ***Personal Counseling*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Personal Counseling*** services? What you liked/didn't like about these services?

    _____

    D. I see you rated ***Assistive Technology*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Assistive Technology*** services? What you liked/didn't like about these services?

    _____

    E. I see you rated ***Financial Services Counseling*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Financial Services Counseling*** services? What you liked/didn't like about these services?

    _____

    F. I see you rated ***Career Counseling/Internships*** as _____. Would you talk a bit about why you rated it as ____? Do you have some examples of your experiences you had with ***Career Counseling/Internships*** services? What you liked/didn't like about these services?

    _____

Community College Student Interview Protocol

G. I see you rated ***Transfer Counseling*** as _____. Would you talk a bit about why you rated it as _____? Do you have some examples of your experiences you had with ***Transfer Counseling*** services? What you liked/didn't like about these services?
_____

VI. *Employment-Related Questions:*

We are almost done now. Just a few questions on your employment, transportation, and housing. Thank you for your patience in completing this interview. First I'd like to ask you just a few questions about your employment, starting with the time when you were attending Community College.

A. Employment While at Community College
   1. Did you/Do you work while enrolled in your community college?
         _____ yes   _____ no

   If yes, what did/do you do?
   _____

   How many days/week?_____ and how many hours per day? _____.
   About how many total hours did you usually work each week? _____

   2. If no, why not?
   _____

B. Employment After Community College
Now I'd like to shift topics a bit and talk about your employment *after* community college.
   1. Are you employed now?
         _____ yes   _____ no

   2. If yes, in what industry do you work (e.g., medical, pharmaceutical, retail, construction, finance/banking, education, hotel service, food service, other - describe)?
   _____

   How many days/week?_____ and how many hours per day? _____.

   About how many total hours did you usually work each week? _____

Community College Student Interview Protocol

3. What is your position title?
   _____

4. Is your current job related to your Community College studies?
   _____ yes   _____ no
   If yes, please describe:
   _____

5. Is there anything else you'd like to say about you employment after community college?
   _____

VII.   *Transportation- and Housing-Related Questions:*

We're at the last section now. Just a few questions about your transportation and housing while you are attending/while you attended _____ Community College.

A. Transportation-Related Questions:
   1. Did you have a driver's license/access to a car while enrolled in community college program?
      _____ yes   _____ no
   2. How did you get to classes when you attended _____ Community college?

B. Housing-Related Questions:
   1. Where do/did you live while attending _____ Community college?
      _____
   2. What is your current housing situation?
      _____
   3. Was there any housing support offered while you were in college?
      _____ yes   _____ no
   Please describe:
      _____
   4. If you did not/do not get any housing support in college, is there any that you would find useful?
      _____ yes   _____ no
   Please describe:
      _____

COMMUNITY COLLEGE STUDENT INTERVIEW PROTOCOL

F. Is there anything else you'd like to say about transportation and housing while you were/are attending community college?

_____

_____

F: Sample Memo

<u>Vignette 10: CC1-Student 10</u>

Description of Student:

Age at time of Interview	Gender	Race/Ethnicity	Date Exited High School	Classification while in High School	Current Disability/ Medical Dx
36;10	Male	White	June, 1997	Specific Learning Disability – Math (SLD-M)	ADHD

Currently studying: Certificate for Chemical Dependency Counseling
- *Credits/Semesters completed* so far: Currently taking 9 credits. Has completed 6 credits.
- *Remainder*: 12 (including the 9 currently taking).
- *Catalyst for this line of study?* He received an e-mail notice from the college, indicating that there was a Federal grant for people who would enroll in the Certificate for Chemical Dependency Counseling program. He was taking a summer course on *Introduction to Addictions*, when the e-mail came through to students attending that class about the Federal grant for the Chemical Dependency Counseling program.

Reasons for coming to community college:
- He already has a Bachelor's Degree and wanted to get the certification to become certified for chemical dependency and alcohol counseling.

Personal goals for after completion of Community College Program:
- Transfer to 4-year college? No. Has a Bachelor's Degree already from Southern Methodist University in Dallas (majored in psychology and religious studies). Will likely pursue a Master's Degree in Social Work after this community college program.
- After this program, he'll work on completing the required 3,000 hours to become fully certified to do counseling for mental health and substance abuse.
- Have these changed since beginning studies at community college? Yes. Was originally going to study nursing.

Accommodations Required for Success:

In High School	In College
- None – was too embarrassed in high school to use services.	- Extended time on tests. - Testing in Testing Center.

Difficulties Encountered While in College:
- He said that everything has been great at this community college with accommodations. The only issue he had was that one of his professors asked him if he needed the extended time in front of the entire class. He didn't think that was right [interviewer assured him that it was NOT right, and was a violation of his confidentiality rights]. He said there should be more training for the professors about confidentiality safeguards.
- Since he has been on medication for his ADHD, he has been able to do well in college.
- Sometimes uses the Drop-in Tutoring services, but finds that the quality of tutoring varies, depending on what tutor is available, and there's a long wait before a tutor is available. It wasn't like that at Southern Methodist University.
- No orientation for the accommodations services – didn't know what was available.
- Not sure whether or not he would be allowed to record the lectures. Also might use audiobooks. At Southern Methodist University they have amazing disability services, including classes on test taking, time management skills.

Employment:
- Not working now. Currently unemployed.
- Hoping to get a paid internship within the Chemical Dependency program.
- Previously was an admissions counselor and student counselor at a college (full-time).

Transportation:
- Has a driver's license.
- Drives himself to community college.
- The college has a special parking lot closer to the classes, if students carpool.

Housing:
- Moved back in with his parents to save money.
- If housing were available at the community college he would not take advantage of it.

G: Description of Research Sites

Research Site	Research Site Location/ NJ Counties Served	Student Enrollment	Services Offered
CC1	2 central NJ counties; other NJ counties, with tuition transfer agreements.	8,214 (Fall, 2015) 58% part-time 42% full-time	Counseling; Study Skills courses; Developmental courses; Registration assistance; Drop-in tutoring; Orientation; Institutional, classroom, and individual-level accommodations. Accredited by the Middle States Association of Colleges and Schools
CC2	1 central NJ county; other NJ counties, with tuition transfer agreements.	11,662 (Fall 2015) 49% part-time 51% full-time	Intensive Counseling; Study Skills courses; Developmental courses; Case Management; Registration assistance; Drop-in tutoring; Orientation; Institutional, classroom, and individual-level accommodations. Accredited by the Middle States Association of Colleges and Schools

Sources: CC1 and CC2 websites, viewed July 28 & 29, 2016.

H: Student Participants' Demographics

Student	Student's Age at Time of Interview	Student's Gender		Hispanic? 1= Yes; 0 = No	Race				
		Male	Female		Amer. Ind./ Alaskan Native	Asian	Black	Hawaiian/ Pacific Islander	White
CC1-Student1	20;7	1	0	0	0	1	0	0	0
CC1-Student2	21;9	0	1	0	0	0	0	0	1
CC1-Student3	19;5	0	1	1	0	0	0	0	0
CC1-Student4	21;10	0	1	0	0	0	0	0	1
CC1-Student5	20;6	1	0	0	0	0	0	0	1
CC1-Student6	19;7	0	1	0	0	0	0	0	1
CC1-Student7	21;9	0	1	0	0	0	0	0	1
CC1-Student8	44;9	0	1	0	0	0	1	0	0
CC1-Student9	24;11	0	1	0	0	0	0	0	1
CC1-Student10	36;10	1	0	0	0	0	0	0	1
CC1-Student11	19;8	1	0	0	0	0	1	0	0
CC1-Student12	18;9	1	0	0	0	0	0	0	1
CC1 Totals:		**5**	**7**	**1**	**0**	**1**	**2**	**0**	**8**
CC2-Student1	20;1	0	1	1	0	0	0	0	0
CC2-Student2	18;4	0	1	0	0	0	1	0	0
CC2-Student3	20;10	0	1	1	0	0	0	0	0
CC2-Student4	19;7	0	1	1	0	0	0	0	0
CC2-Student6*	21;0	0	1	0	0	0	1	0	0
CC2-Student7	20;10	1	0	0	0	0	0	0	1
CC2-Student8	20;11	1	0	0	0	0	0	0	1
CC2-Student9	21;0	1	0	0	0	0	0	0	1
CC2 Totals:		**3**	**5**	**3**	**0**	**0**	**2**	**0**	**3**
CC1&CC2 Totals:		**8**	**12**	**4**	**0**	**1**	**4**	**0**	**11**

Note: CC2-Student5 was removed from the analysis, because although she qualified for CC2's general disability services, she was not part of the CC2-I program.

I: Community College 1 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Helpfulness of Services

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me"; 5 = "critical to my success at college.")						Category Totals
	1	2	3	4	5	Not Applicable	
Pre-Enrollment Services:							
Accommodations Counseling	0	0	3	5	3	1	
Building/Facilities Tours	1	2	2	3	1	3	
Programs Descriptions/Requirements	0	0	1	6	4	1	
Placement Testing	2	1	0	1	5	3	
Pre-Enrollment Orientations/Mini-Courses	1	3	0	3	1	4	
Subtotals:	4	6	6	18	14	12	60
Academic Counseling:							
Time Management	1	0	5	5	0	1	
Test-taking strategies	1	1	2	4	1	3	
Study techniques	1	1	3	3	2	2	
Academic planning	0	1	2	5	4	0	
Liaison w/ Faculty re. Accommodations	1	2	2	1	2	4	
"Drop-in" tutoring	2	0	2	2	4	2	
Weekly-scheduled counseling	1	3	1	0	1	6	
Subtotals:	7	8	17	20	14	18	84

**Community College 1 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Helpfulness of Services (continued)**

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me"; 5 = "critical to my success at college.")					Not Applicable	Category Totals
	1	**2**	**3**	**4**	**5**		
Personal Counseling:							
Personal counseling for anxiety/depression	1	0	3	1	1	6	
Family/relationship counseling	2	2	0	1	0	7	
Other personal counseling	2	0	0	2	0	8	
Subtotals:	*5*	*2*	*3*	*4*	*1*	*21*	*36*
Assistive Technology:							
Assistive technology assessments	1	2	2	2	1	4	
Assistive technology options at the college	1	0	1	6	1	3	
Funding sources for assistive technology	1	0	1	1	2	7	
Building/classroom/utilities/parking access	0	1	0	3	4	4	
Subtotals:	*3*	*3*	*4*	*12*	*8*	*18*	*48*
Financial Services Counseling:							
Financial options counseling/funding sources	1	0	1	3	4	3	
Financial applications assistance	0	0	0	6	3	3	
Subtotals:	*1*	*0*	*1*	*9*	*7*	*6*	*24*

**Community College 1 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Helpfulness of Services (continued)**

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me"; 5 = "critical to my success at college.")						Category Totals
	1	2	3	4	5	Not Applicable	
Career Counseling/Internships:							
Job Search Services	1	0	1	3	4	3	
Resume Writing	0	2	2	2	3	3	
Interview Counseling	1	0	2	2	2	5	
Job Postings	1	0	1	3	2	5	
Internship Opportunities	2	0	1	1	2	6	
Subtotals:	5	2	7	11	13	22	60
Transfer Counseling:							
Selecting a major	0	0	1	3	7	1	
Transfer articulation/dual degree counseling	1	0	2	3	2	4	
Transferrable course selection	0	0	2	4	5	1	
4-year college/university selection	0	0	1	2	7	2	
Subtotals:	1	0	6	12	21	8	48
ALL CATEGORIES TOTALS:	26	21	44	86	78	105	

J: Community College 1 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Quality of Services Used

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Pre-Enrollment Services:							
Accommodations Counseling	2	2	2	1	5	0	
Building/Facilities Tours	2	2	3	0	1	4	
Programs Descriptions/Requirements	0	0	3	5	3	1	
Placement Testing	2	2	1	1	3	3	
Pre-Enrollment Orientations/Mini-Courses	0	2	2	0	1	7	
Subtotals:	6	8	11	7	13	15	60
Academic Counseling:							
Time Management	0	2	2	1	0	7	
Test-taking strategies	1	0	3	1	0	7	
Study techniques	1	1	2	0	1	7	
Academic planning	0	0	7	3	2	0	
Liaison w/ Faculty re. Accommodations	1	2	1	1	3	4	
"Drop-in" tutoring	0	3	2	1	1	5	
Weekly-scheduled counseling	0	1	2	0	0	9	
Subtotals:	3	9	19	7	7	39	84

Community College 1 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Quality of Services Used (continued)

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Personal Counseling:							
Personal counseling for anxiety/depression	1	0	1	0	0	10	
Family/relationship counseling	1	0	0	0	0	11	
Other personal counseling	1	0	0	0	0	11	
Subtotals:	3	0	1	0	0	32	36
Assistive Technology:							
Assistive technology assessments	1	0	2	0	1	8	
Assistive technology options at the college	1	0	2	2	1	6	
Funding sources for assistive technology	2	0	3	0	0	7	
Building/classroom/utilities/parking access	1	1	2	1	2	5	
Subtotals:	5	1	9	3	4	26	48
Financial Services Counseling:							
Financial options counseling/funding sources	1	1	3	1	2	4	
Financial applications assistance	0	0	4	2	2	4	
Subtotals:	1	1	7	3	4	8	24

**Community College 1 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Quality of Services Used (continued)**

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Career Counseling/Internships:							
Job Search Services	0	1	2	3	0	6	
Resume Writing	0	0	1	2	1	8	
Interview Counseling	0	0	1	2	0	9	
Job Postings	0	0	0	4	1	7	
Internship Opportunities	0	1	2	1	0	8	
Subtotals:	*0*	*2*	*6*	*12*	*2*	*38*	*60*
Transfer Counseling:							
Selecting a major	0	0	2	5	3	2	
Transfer articulation/dual degree counseling	0	0	2	1	1	8	
Transferrable course selection	0	0	3	4	2	3	
4-year college/university selection	0	0	2	4	3	3	
Subtotals:	*0*	*0*	*9*	*14*	*9*	*16*	*48*
ALL CATEGORIES TOTALS:	18	21	62	46	39	174	

K: Community College 2 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Helpfulness of Services

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me"; 5 = "critical to my success at college.")						Category Totals
	1	2	3	4	5	Not Applicable	
Pre-Enrollment Services:							
Accommodations Counseling	0	0	1	3	4	0	
Building/Facilities Tours	0	0	2	5	1	0	
Programs Descriptions/Requirements	0	0	3	3	2	0	
Placement Testing	0	0	2	2	4	0	
Pre-Enrollment Orientations/Mini-Courses	0	0	2	4	1	1	
Subtotals:	*0*	*0*	*10*	*17*	*12*	*1*	**40**
Academic Counseling:							
Time Management	0	0	1	4	2	1	
Test-taking strategies	0	0	1	5	1	1	
Study techniques	0	0	1	3	2	2	
Academic planning	0	1	0	3	3	1	
Liaison w/ Faculty re. Accommodations	0	0	0	5	2	1	
"Drop-in" tutoring	0	1	2	3	2	0	
Weekly-scheduled counseling	0	0	2	2	2	2	
Subtotals:	*0*	*2*	*7*	*25*	*14*	*8*	**56**

**Community College 2 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Helpfulness of Services (continued)**

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me", 5 = "critical to my success at college.")						Category Totals
	1	2	3	4	5	Not Applicable	
Personal Counseling:							
Personal counseling for anxiety/depression	0	1	0	2	0	5	
Family/relationship counseling	1	1	0	0	1	5	
Other personal counseling	0	1	1	1	1	4	
Subtotals:	1	3	1	3	2	14	24
Assistive Technology:							
Assistive technology assessments	1	0	1	1	3	2	
Assistive technology options at the college	0	0	2	1	4	1	
Funding sources for assistive technology	1	1	2	1	1	2	
Building/classroom/utilities/parking access	0	0	1	3	1	3	
Subtotals:	2	1	6	6	9	8	32
Financial Services Counseling:							
Financial options counseling/funding sources	1	0	1	2	1	3	
Financial applications assistance	1	0	1	2	1	3	
Subtotals:	2	0	2	4	2	6	16

Community College 2 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Helpfulness of Services (continued)

HELPFULNESS OF SERVICE/ SERVICE TYPE	Rating (1= "not helpful to me at all"; 2="slightly helpful to me"; 3 = "somewhat helpful to me"; 4 = "very helpful to me"; 5 = "critical to my success at college.")						Category Totals
	1	2	3	4	5	Not Applicable	
Career Counseling/Internships:							
Job Search Services	0	0	2	2	2	2	
Resume Writing	0	0	3	1	2	2	
Interview Counseling	0	1	2	1	1	3	
Job Postings	1	0	1	1	3	2	
Internship Opportunities	0	1	0	1	4	2	
Subtotals:	1	2	8	6	12	11	40
Transfer Counseling:							
Selecting a major	0	1	1	3	1	2	
Transfer articulation/dual degree counseling	0	0	2	0	4	2	
Transferrable course selection	0	0	2	0	5	1	
4-year college/university selection	1	0	1	0	5	1	
Subtotals:	1	1	6	3	15	6	32
ALL CATEGORIES TOTALS:	7	9	40	64	66	54	

L: Community College 2 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Quality of Services Used

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Pre-Enrollment Services:							
Accommodations Counseling	0	0	1	3	4	0	
Building/Facilities Tours	0	1	1	2	3	1	
Programs Descriptions/Requirements	0	1	2	3	2	0	
Placement Testing	0	0	1	4	3	0	
Pre-Enrollment Orientations/Mini-Courses	0	0	2	3	2	1	
Subtotals:	*0*	*2*	*7*	*15*	*14*	*2*	*40*
Academic Counseling:							
Time Management	0	0	1	2	3	2	
Test-taking strategies	0	0	1	3	2	2	
Study techniques	0	0	1	2	4	1	
Academic planning	0	0	1	2	4	1	
Liaison w/ Faculty re. Accommodations	0	0	1	3	3	1	
"Drop-in" tutoring	0	0	1	6	0	1	
Weekly-scheduled counseling	0	0	1	1	4	2	
Subtotals:	*0*	*0*	*7*	*19*	*20*	*10*	*56*

**Community College 2 Composite Student Responses to Likert Scale Ratings:
Students' Rating of the Quality of Services Used (continued)**

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Personal Counseling:							
Personal counseling for anxiety/depression	0	0	0	1	1	6	
Family/relationship counseling	0	0	1	1	0	6	
Other personal counseling	0	0	0	3	0	5	
Subtotals:	*0*	*0*	*1*	*5*	*1*	*17*	*24*
Assistive Technology:							
Assistive technology assessments	0	0	1	3	3	1	
Assistive technology options at the college	0	0	2	1	4	1	
Funding sources for assistive technology	0	0	3	1	2	2	
Building/classroom/utilities/parking access	0	0	2	1	2	3	
Subtotals:	*0*	*0*	*8*	*6*	*11*	*7*	*32*
Financial Services Counseling:							
Financial options counseling/funding sources	1	1	2	1	0	3	
Financial applications assistance	1	1	1	2	0	3	
Subtotals:	*2*	*2*	*3*	*3*	*0*	*6*	*16*

Community College 2 Composite Student Responses to Likert Scale Ratings: Students' Rating of the Quality of Services Used (continued)

QUALITY OF SERVICE/ SERVICE TYPE	Rating (1= "poor"; 2="fair"; 3 = "good"; 4 = "very good"; 5 = "excellent"; and N/A = Not Applicable)						Category Totals
	1	2	3	4	5	Not Applicable	
Career Counseling/Internships:							
Job Search Services	0	0	3	0	2	3	
Resume Writing	0	0	1	3	1	3	
Interview Counseling	0	0	2	2	0	4	
Job Postings	0	1	2	1	1	3	
Internship Opportunities	0	2	1	1	2	2	
Subtotals:	0	3	9	7	6	15	40
Transfer Counseling:							
Selecting a major	0	0	0	3	2	3	
Transfer articulation/dual degree counseling	0	0	2	1	1	4	
Transferrable course selection	0	0	2	2	1	3	
4-year college/university selection	1	0	1	0	4	2	
Subtotals:	1	0	5	6	8	12	32
ALL CATEGORIES TOTALS:	3	7	40	61	60	69	

Appendix M

M: Axial Coding and Analysis of Student Goal Movement

My axial coding review of students' prior and current educational and career goal responses

led me to establish the common criteria shown in Table M-1 to categorize the goals with respect to

levels (high, medium, or low) of aspiration. I set the criteria for the categorization of goals shown in

Table M-1 to be relevant to the population included in this research. Specifically, I defined "high,"

"medium," and "low" levels of aspiration within the context of that subset of differently-abled

students who are able to academically function (given the appropriate supports) at the college

curriculum level. Differently-abled persons whose disabilities are so severe that they may only be

capable of very concrete, routine work; who cannot successfully function academically at the college

level; and for whom work in "non-professional" positions would constitute *high* levels of self-

efficacy and drive/motivation, were not part of the student population included in this research. Thus,

whatever the criteria parameters for these more severely disabled person's levels of aspiration might

be, they are not relevant to the current study.

Prior goals were those goals CC1 and CC2 students held when they entered college; current

goals were goals they held at the time of the interview. Students who I interviewed generally had

experienced at least one semester of college at the time of our interviews. On average, they had

completed two to three semesters of college before our interviews. In my categorization of student

goals, I purposely did not address all the possible different permutations and combinations of

educational and career goals (e.g., high education with low career goals; medium education with high

career goals, etc.), to simplify the analysis, as the primary focus of this study is on the mediating

variables (the accommodations and support services provided at community colleges for differently-

abled students) that lead to academic success. Such detailed analysis of all the possible combinations
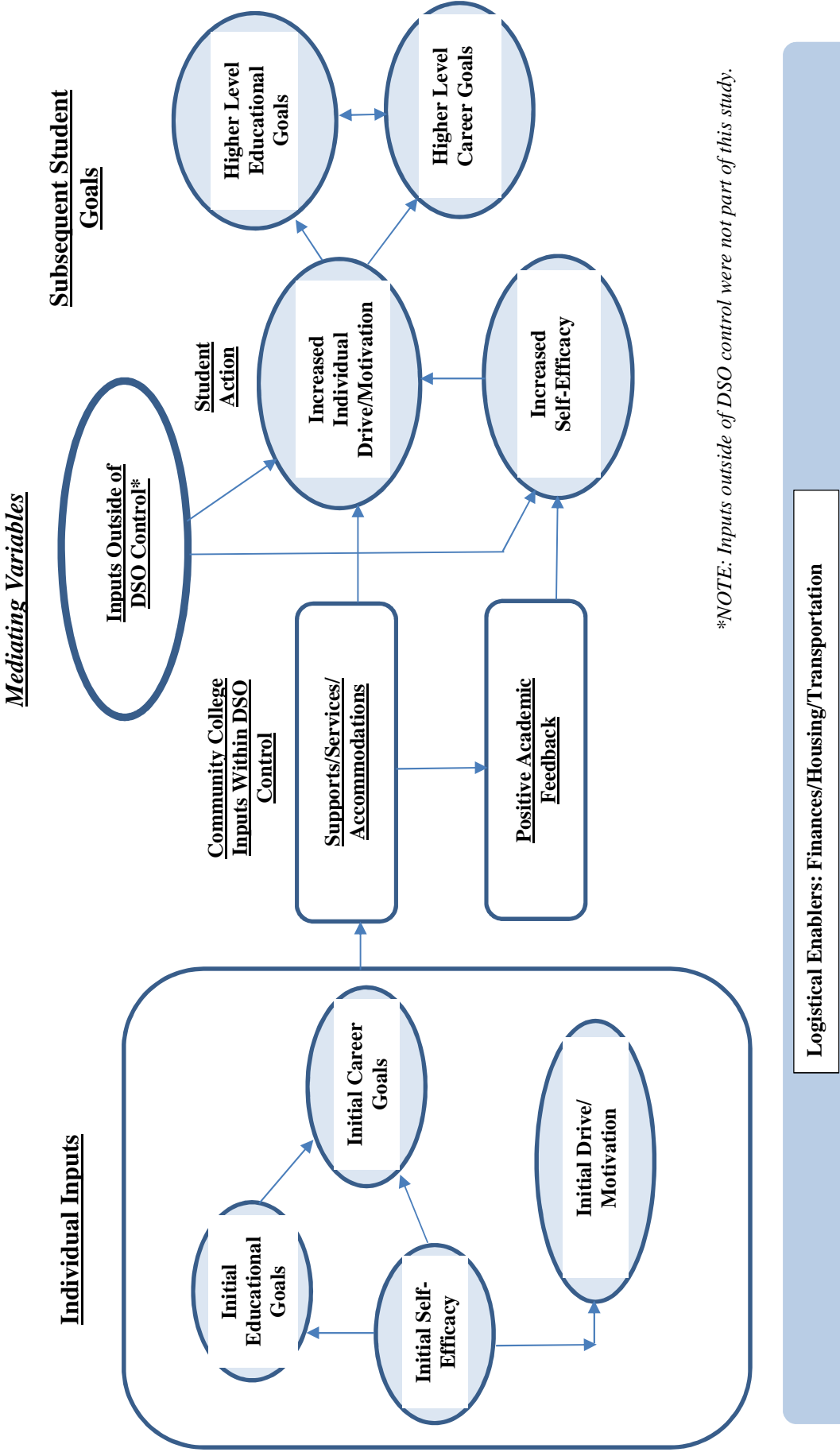
and permutations of high, medium, and low post-secondary educational and career goals is left for

future research.

Table M-1. *Students' Self-reported Goals: Categories and Criteria.*

Category	Criteria	
	Educational Goals	**Career Goals**
High	Earn an Associate's Degree; transfer to a 4-year college; earn a graduate degree.	***Professional:*** Such as Teacher, Detective, Librarian, Psychologist, Occupational Therapist, Social Worker, Forensic Technician, Nurse. Career goal requires education beyond the Associate's Degree.
Medium	Earn an Associate's Degree or Certificate; no goal to transfer to a 4-year college; no goal to earn a graduate degree.	***Semi-Professional***: entry-level Nurse/Lab Technician; Chemical Dependency Counselor. Has a specific career goal in mind, but the career goal does not require extensive education (beyond Associate's Degree or Certificate).
Low	Not interested in transferring to a 4-year college; not sure if they want to complete an Associate's Degree, or even if they want to stay in college.	No specific career goals yet.

The questions that emerged from this deeper analysis were, "Did differently-abled students'

academic and career goals change over time, and if so, how?" I also sought to see whether or not

there was any pattern in the goal changes that might relate to the students' positive academic

experiences while they were enrolled at their community college. I was finding goal movement in the

student data, and wanted to explore the relationship, if any, to the accommodations and services they

accessed at the college. The diagram of the inter- and intra-relationships between the lower level

concepts, the categories, and the core categories (shown in Table 3) that emerged from my analysis of

the detailed data, resulted in *Figure 1. Figure 1* depicts three major interactive action phases between

the student's educational and career goals at the time of their college entry, and the possible effects of

Figure M-1. *Axial Coding Diagram*

Mediating Variables

Student Action

Subsequent Student Goals

Higher Level Educational Goals

Higher Level Career Goals

Increased Individual Drive/Motivation

Increased Self-Efficacy

Inputs Outside of DSO Control*

Community College Inputs Within DSO Control

Supports/Services/Accommodations

Positive Academic Feedback

Individual Inputs

Initial Career Goals

Initial Educational Goals

Initial Self-Efficacy

Initial Drive/Motivation

NOTE: Inputs outside of DSO control were not part of this study.

Logistical Enablers: Finances/Housing/Transportation

the community college supports on these goals. The three phases of this action model shown in

Figure 1 are *Individual Input, Mediating Variables*, and *Subsequent Student Goals*.

Figure 1 begins on the left with the initial educational and career goals the individual brings

with him/her at the beginning of the community college journey (*Individual Input*). The supports and

enablers (accommodations and services) that the community college provides are the *Mediating*

Variables, and the individual's increased self-efficacy and higher level goals are the potential

Subsequent Student Goals. I intentionally looked at a limited range of mediating variables, as my

focus in this study is on the effect of academic variables (academic services and student

accommodations) that community colleges' DSOs can readily control; thereby contributing to the

literature on "what works" for differently-abled students pursuing post-secondary education at

community colleges. Consequently, I did not collect data on and did not analyze such variables as

socioeconomic status ("SES"),[47] family background, or religious affiliation. My findings touch

tangentially on "logistical enablers" such as parents providing transportation and housing, but my

study design did not include these variables.

The second phase of this action model is when the *Mediating Variables* come into play. There

are two categories of *Mediating Variables* presented in *Figure 1*. The category of *Mediating*

Variables are the factors that community colleges DSOs can control from and administrative

perspective (level and type of program and service offerings), given appropriate funding. These

"college inputs" – the services and accommodations that the college provides – interact with the

individual's original academic and career goals. The positive academic feedback (earning college

credit and seeing progression towards completion of the community college program) that the student

experiences as a result of the accommodations and services the college provides interacts with the

student's phase one characteristics (what the student brings with him/her). The second category of

Mediating Variables are inputs to the students that are not part of this study, but which, based on

prior research (Hong et al., 2007 and Hoy & Miskel, 2013) are factors that influence goal setting and

self-efficacy. These are factors such as a student's SES, a student's family expectations, and the

positive or negative feedback a student has experienced throughout his/her life with regard to prior

goal outcomes. With regard to the *Mediating Variables* that Community Colleges can control, and

consistent with prior research (Hong et al., 2007; Hoy & Miskel, 2013; and Prat-Sala & Redford,

2010), this middle phase interaction describes positive academic feedback on the student's original

academic and career goals that can lead to increased self-efficacy – a feeling that "I can do this – and

I can do even more." This in turn may lead to the student's motivation to strive for even higher levels

of achievement (more college education; higher levels of professional careers) and to take the

appropriate action towards these new educational and career goals. This goal movement on the part of

the individual represents the final phase of this action model. It is the *Subsequent Student Goals*

phase. Undergirding all three phases (individual input, mediating variables, subsequent student goals)

are the logistical enablers of finance, housing, and transportation, depicted at the bottom of *Figure 1*.

This was the action model I used to analyze the goal movement data that emerged from the axial

coding of the data.

Goal Level Categories.

A listing of all the twenty students' rankings of educational and career goals, using the criteria

from Table M-1, is given in Appendix M-1. The students' prior (at the time they entered community

college) and current (at the time of the interview) academic and career goals are shown. Also

included are each student's disability and their resultant goal categorizations (high, medium, or low),

after applying the criteria given in Table M-1. As shown in Table M-1, students ranked as having

high educational and career goals knew that the Associate's Degree that they were currently working

towards was a "stepping stone" towards their next level of educational pursuits: transfer to a four-year

college. Several of these students stated even higher levels of post-secondary educational goals, such

as their desire to pursue a Master's Degree and even a Ph.D. Their career goals were similarly lofty.

These students aspired to become teachers, detectives, librarians, psychologists, social workers,

occupational therapists, forensic technicians and registered nurses.

Students categorized as having medium levels of academic and career goals were sure that

they wanted to complete their Associate's Degree or Certificate that culminated their current program

of studies, but they had no post-secondary educational aspirations beyond that. These students hoped

to become nurse technicians, laboratory technicians, or chemical dependency counselors. Their career

goals did not require post-secondary educational certifications or degrees beyond their current

community college programs.

Students categorized as having low level academic and career goals were not interested in any

post-secondary education beyond their current community college program, and indeed, were not

even sure they wanted to complete the work required to earn an Associate's Degree or certificate.

Further, these students did not know specifically what careers they might be interested in, and in

some cases were not even sure what major they wanted to pursue. From my perspective, they were in

need of some extensive academic and career counseling, but they might not have had the self-

advocacy skills and/or initiative to pursue such counseling.

Student Goal Movement

Using the criteria to track students' educational and career goal movement as described in **Table M-

1**, I explored whether or not the students' academic and career goals changed and if so, how (research

question #4); then I analyzed the data to see if they suggested any association between the different

levels of support at the two colleges. The findings for goal movement emerged from CC1 and CC2

students' interview responses to *Student Protocol* questions IVA 1 & 2; VI A; VI B 4 & 5[48]. I

explored whether students' self-described goals had changed from the time they entered community

college, to the time when I interviewed them. I wondered if more intensive levels of academic support

had any bearing on students' successful experiences at community college (i.e., they were able to

move beyond any required remedial courses; earn college credit; and make progress in completing

their programs of study); and whether or not their academic success at college may have contributed

to higher levels of self-efficacy. I wanted to investigate the concept of whether or not these successes

may have given them increased confidence in their own abilities, to the point where they felt their

new, higher goals, were indeed within the realm of possibility. I looked for evidence of this in the

goal movement data. In these findings, students' self-reported original and current academic and

career goals were ranked into one of the three categories given in Table M-1: *High, Medium*, or *Low*.

Goal movement between categories, from the time of students' initial entry into college to the time of

the interview for this study was analyzed and rated. I first determined whether there was movement

between levels of each student's prior and current academic and career goals separately; then I

analyzed movement between their prior and current combined academic and career goals. For these

analyses, I established three levels of movement: "+" for movement showing a change to student

goals that required increased levels of postsecondary education beyond the Associate's Degree and

from "semi-professional" to "professional" career types; "0" for student maintenance of the same

level of goals; and "-" for student decreases in goal levels (for students who are questioning whether

or not they should complete their current community college program, and who have not yet targeted

a specific career goal). This movement tracking criteria is shown in **Table M-2**.

Table M-2

Criteria for Mapping Student Goal Movement.

Movement Category	Criteria		
	Educational Goals	**Career Goals**	**Movement Tracking: Education & Career**
High = *"Increased Educational and/or Career Goals"*	Earn an Associate's Degree; transfer to a 4-year college; earn a graduate degree.	*Professional:* Such as Teacher, Detective, Librarian, Psychologist, Occupational Therapist, Social Worker, Forensic Technician, Nurse. Career goal requires education beyond the Associate's Degree.	**"+" and "+"**
Medium = *"Maintained Educational and/or Career Goals"*	Earn an Associate's Degree or Certificate; no goal to transfer to a 4-year college; no goal to earn a graduate degree.	*Semi-Professional*: entry-level Nurse/Lab Technician; Chemical Dependency Counselor. Has a specific career goal in mind, but the career goal does not require extensive education (beyond Associate's Degree or Certificate).	**"+" and 0** **"0" and "+"** **"0" and "0"**
Low = *"Decreased Educational and/or Career Goals"*	Not interested in transferring to a 4-year college; not sure if they want to complete an Associate's Degree, or even if they want to stay in college.	No specific career goals yet.	**"-" and 0** **"0" and "-"** **"+" and "-"** **"-" and "-"**

I then entered each student's information in an Excel spreadsheet; assigned a movement

category for the education goal movement and the career goal movement independently; then

combined education and career goal movement for each student. The findings for this analysis are

given in Appendix O. These findings indicated that 6 of the 12 CC1 students' responses indicated

High combined academic and career goal movement; and 2 of the 8 CC2 student responses indicated

this same level of *High* combined goal movement (40% total). For *Medium* levels of combined

academic and career goal movement, 4 of the 12 CC1 student responses were categorized as *Medium*

levels and 6 of the 8 CC2 student responses indicated *Medium* levels of movement (50% total).

Findings for the *Low* level of goal movement indicated that 2 CC1 students and no CC2 students met

the criteria for *Low* goal movement, given in Table 12 (10% total). Contrary to expectations, large

differences were *not* found between the two colleges in this analysis, despite the greater levels of

supports and services available to CC2 students, compared with CC1 students. 50% of CC1 students

were in the *High* category, compared with 25% of CC2 students; 33% of CC1 students were in the

Medium category (no goal movement), compared with 75% of CC2 students; and 17% of CC1

students were in the *Low* category of goal movement, compared with 0% of CC2 students.

I further looked at whether or not using a different tracking assessment methodology would

result in any perceptible patterns to indicate that students' increased goal levels might be attributable

to high quality, intensive community college academic and career counselling and tutoring. The

second tracking methodology assigned scores to the levels of movement, as shown in Table M-3.

These scores were then totaled, averaged, and an average improvement score was calculated from the

assigned scores, as shown in Table M-4.

Table M-3. *Assessing Student Goal Movement.*

Combined Educational/Career Movement Rank	Score
High/High	5
High/Medium	4
Medium/High	4
Medium/Medium	4
Medium/Low	2
Low/Medium	2
Low/Low	1

Table M-4. *Calculating Average Improvement in Student Goal Movement.*

College	# Students	Prior Total Score	Average Student Prior Score (A)	Post Total Score	Average Student Post Score (B)	Average Improvement (B) – (A)
CC1	12	33	2.75	44	3.67	**0.92**
CC2	8	24	3.00	33	4.13	**1.13**

The results of these analyses are indicated in the findings below.

- Students did report changes in their academic and career goals from the time of their initial entry into community college until the time of their interviews for this research. Overall, for the two colleges combined, 8 of the 20 students (40%) reported an *increase* in their combined levels of academic and career goal movement; 10 of the 20 students (50%) reported *no change* in their combined levels of goal movement; and 2 of the 20 students (10%) reported movement to a *lower* level of combined academic and career goals.

- Findings for the comparison of the goal movement data between the two colleges, indicated no detectible pattern of associating higher levels of community college services and accommodations with students' increase in educational and career goals, despite the higher levels of services provided by the Federally-funded CC2-I program.

- The use of student-reported "current and prior academic and career goals" as an indirect indicator of "academic success" for differently-abled students does not yield conclusive findings. There are likely other factors at play (such as their SES; family expectations; and/or individual drive/motivational factors) that were not included in this research, and are left to future research.

Discussion of Students' Educational and Career Goal Movement Analysis and Findings

For the question that emerged from my axial coding process: "Do students' academic and career goals change over time and if so, how?" my findings indicated that they do change, and for the vast majority of students they either maintain their initial levels of academic and career goals (50%) or increase them (40%). Only 10% of respondents' goal movement data indicated a decrease in levels of academic and career goals, using the criteria given in Table M-2.

Findings from this study were inconclusive with regard to any connection between goal

movement and its possible association with increased levels of postsecondary accommodations and

services. Despite several approaches to analyzing students' responses to the structured interview

questions about their academic and career goals, no conclusive pattern of association was found in the

aggregated responses. I attribute this to my small sample size and external factors outside DSOs'

spheres of control (e.g., students' SES, family motivating factors, and the students' own levels of

drive/motivation and self-efficacy) that were not directly researched in this study. Further research

directly addressing this possible connection is needed. Findings were also inconclusive with regard to

connecting goal movement with prior research on *self-efficacy* and *drive/motivation* (Bandura, 1997;

Hong et al., 2007; Hoy & Miskel, 2013; Pratt-Scala & Redford, 2010; and Tagayuna et al., 2005).

Further research is needed to determine whether or not the direct instruction and individualized

tutoring and counseling that CC2 provides through its Federally-funded, CC2-I program does

increase students' levels of self-efficacy and drive/motivation, and if these higher levels of support

are more effective at helping differently-abled students reach their educational and career goals than

the levels of support provided at non-grant-funded DSOs, such as CC1's DSO.

While I did not find strong patterns of data association that support the action model shown in

Figure 1, anecdotal evidence from this study seems to corroborate the idea that community college

support services can be influential (CC2-Administrator-2, lines 379-396). As we saw in Chapter 4

from the CC1 and CC2 administrator responses, initial educational and career goals are rarely

crystalized when the student starts college, and may not even be the student's own goals; rather, they

may be goals thrust upon the student by well-meaning family members, close friends, or mentors.

The CC1 and CC2 administrators stated that a big part of their job is to help students find what

educational and career goals are right for them; for the students to take ownership of these goals; and

to help the students learn how to self-advocate for their new goals that may be a better match for their

skills and interests than what their well-meaning family, friends, and mentors had encouraged them to

pursue. Many of the support services (such as the academic and career counseling provided by CC1

and CC2, and the career explorations course provided by CC2-I) are examples of mediating variables

shown in *Figure 1*. These supports are intended to facilitate this process of helping students analyze

their career goals in the context of their academic strengths and interests; bring their career goals into

clear focus; and provide them with the academic map to move them forward towards those goals.

For example, CC1-Student-2, who initially thought that all she could do was to study liberal

arts and maybe get an Associate's Degree has now revised her educational and career goals upward

and (1) wants to transfer to a four-year college after she completes her Associate's Degree, and (2)

wants to become an Occupational Therapist (that requires post graduate studies). What happened to

this student to change her goals? And, why didn't all the students experience this kind of growth?

Why are there variable effects across students, both within and across institutions? Of course there are

many possible answers to these questions –we do not know whether it was the counseling a

community college counselor provided to CC1-Student-2; some life-changing experience; or merely

the fact that she learned how to effectively use her academic accommodations and college services to

succeed in her college classes. It could be factors outside the DSO's control, such as encouragement

and support from parents or relatives; or a student's own, long-standing internal drive/motivation that

has characterized their approach to challenges throughout their lives. It may be some combination of

all these variables.

Self-efficacy and drive/motivation theories (Bandura, 1997; Hoy & Miskel, 2013) suggest that

it is the interaction of both external and internal factors that affect self-efficacy and drive/motivation.

Applied to this study, these theories would support the concept that positive academic feedback

(earning college credit and seeing progression towards completion of the community college

program) could be one external mediating variable that can lead to increased self-efficacy – a feeling

that "I can do this – and I can do even more." This in turn may lead to the student's motivation to

strive for even higher levels of achievement (more college education; higher levels of professional

careers) and to take the appropriate action towards these new educational and career goals.

Alternatively, if the student does not have sufficient academic skill levels and tools to help him/her

succeed in his/her college courses, s/he will experience failure. Given enough of this negative

reinforcement, the student is likely to give up and drop out of college. The failures will have a

negative impact on the student's self-esteem and will result in a lowering of the student's feelings of

self-efficacy; consequently causing him/her to re-evaluate his/her career and educational goals to

lower levels of achievement.

If the college's "supports/enablers" of services and accommodations are effective, the students

can keep moving towards their educational and career goals. With each successful experience in

passing courses and earning college credits (or, even before that, completing the remedial classes that

enabled them to go on to qualify for college-level, credit-bearing courses) these students' self-esteem

can rise. All student participants in this study described their commitment to continuing their studies

and achieving their academic and career goals. Some even described very long-term goals of going on

for their Master's degrees and Doctorates, after transferring to a 4-year college and succeeding there.

What *Figure M-1* depicts is that once a student's initial initiative and career aspirations enable them

to start their progression in a community college degree- or certificate-bearing program, the nature of

the services and accommodations that the community college provides may keep them squarely

planted on their path forward, and carry them to higher levels of self-efficacy and drive/motivation, as

they experience academic success. Theoretically, having successfully passed their courses and

knowing that they can do the work for which they trained, these differently-abled students, with

associates degrees, work-ready skills, and buoyed self-esteem in hand, can be better prepared for their

next phase – whether that be a successful transfer to a 4-year college or applying for employment in

their field of study. Once they reach their goals, they will have the skills they need to successfully

compete for living-wage jobs that will enhance their abilities to live independently.

M-1: Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

Student	Disability	Prior Career Goals	Current Career Goals	Prior Academic Goals	Current Academic Goals	Current Academic & Career Goal Rank
CC1-Student 2	TBI & Bi-Polar	Undecided	Become an Occupational Therapist.	Liberal Arts	Transfer to 4-year college; then get her Masters in Occupational Therapy.	High
CC1-Student 4	Bi-Polar, ANX, ADHD	Elementary school teacher	Work in a psychiatric hospital as a Social Worker.	Early Childhood Education	Complete Associate's degree in Social Work; Transfer to 4-year College.	High
CC1-Student 5	SLD - R/W	Undetermined.	Become a Nurse.	Political Science Major	Study nursing & obtain an Associate's Degree; transfer to 4-year college & obtain his Bachelors of Science in Nursing.	High
CC1-Student 6	SLD - M	Become a Psychologist	Become a clinical Psychologist - with possible back-up minor in industrial organization.	Liberal Arts & Social Science-Earn Associate's Degree	Earn Associate's Degree; Transfer to 4-year college; earn her Master's Degree; earn a Ph.D. in Psychology.	High
CC1-Student 7	OI (Wheel-chair required)	a career in science	Work in a science laboratory - animal, biology, or genetics lab.	Associate's Degree - Major in Physics	Associate's Degree; then transfer to 4-year college & major in some science.	High
CC1-Student 9	CI/VI, & ADHD	Elementary school teacher	Become a Special Education Teacher	Early Childhood Education	Associate's Degree; then transfer to 4-year college & major in Special Education.	High

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

Student	Disability	Prior Career Goals	Current Career Goals	Prior Academic Goals	Current Academic Goals	Current Academic & Career Goal Rank
CC2-Student 1	SLD - R	Something in the Army	Teacher of the Hearing Impaired; special ed. Students, aged 8 years through middle school.	Liberal Arts - Associate's Degree	Associate's Degree in Liberal Arts; transfer to 4-year college & study Special Education.	**High**
CC2-Student 2	SLD - R/W	Forensic Technician	Become a Forensic Technician.	Forensic Technology; Associate's Degree	Associate's Degree in Forensic Technology; transfer to 4-year college & study Sociology, Psychology, & Criminology.	**High**
CC2-Student 4	SLD - M	Become a detective.	Become a detective.	Study Psychology; Associate's Degree	Associate's Degree in Psychology; Enter National Guard after Associate's Degree; transfer to 4-year college after National Guard; Earn her Bachelor's Degree in Psychology & Criminal Justice.	**High**
CC2-Student 6	Spastic Quadri-plegic (CP)	Become a screen-writer; become an elementary education teacher.	Become a librarian.	Associate's Degree - screen writing; elementary education.	Complete Associate's Degree; transfer to 4-year College; get her Master's Degree after her Bachelor's Degree.	**High**

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

Student	Disability	Prior Career Goals	Current Career Goals	Prior Academic Goals	Current Academic Goals	Current Academic & Career Goal Rank
CC1-Student 1	CI	Run his own IT company	Run his own IT company	Study Business – get an Associate's Degree.	May study Business - may not complete Associate's Degree; may not transfer to 4-yr. college.	Medium
CC1-Student 10	SLD - M	Nursing	Human Services Counselor for Chemical Dependency [18 credit certificate program]	Nursing Certificate [already has a Bachelor's degree in Psychology & Religious Studies].	Certificate for Chemical Dependency Counseling	Medium
CC1-Student 3	SLD - R/W, M	Animation for Video Game Design	Animation for Video Game Design	Animation for Video Game Design-Associate's Degree	Associate's Degree - Animation for Video Game Design - wants to transfer to 4-year School of Visual Arts in NYC	Medium
CC1-Student 8	Dyslexia & Mobility	Paralegal	Human Services Counselor for Chemical Dependency [18 credit certificate program]	Business Management; Legal Assistant [already has 2 Associate's Degrees].	Obtain certificate in Chemical Dependency & Human Services Counselor.	Medium

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

Student	Disability	Prior Career Goals	Current Career Goals	Prior Academic Goals	Current Academic Goals	Current Academic & Career Goal Rank
CC2-Student 3	SLD - R/W	Become a chef/cook.	Chef/Cook	Culinary Arts Management; Associate's Degree	Associate's Degree in Culinary Arts Management; Transfer to 4-year college & continue majoring in Culinary Arts.	Medium
CC2-Student 7	ADD	Actor	Uncertain - wants to study criminal psychology/forensic science.	Associate's Degree	Uncertain - may not transfer to a 4-year college right away. If he does, he's considering transferring to John Jay or Rutgers Criminal Psychology program.	Medium
CC2-Student 8	ADHD	Film/Animation/ Cinematography	A career in the film industry - start out as a camera person.	Associate's Degree	Get Associate's Degree; transfer to 4 year college; study Film/ Animation/Cinematography.	Medium
CC2-Student 9	Dyslexia, SLD - R/W	Law enforcement/ State Trooper	A career in law enforcement, ultimately leading to becoming a NJ State Trooper.	Credits to be accepted at Police Academy	May not complete his Associate's Degree. Will continue to pursue law enforcement, but may use military as route to become a State Trooper.	Medium

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

Student	Disability	Prior Career Goals	Current Career Goals	Prior Academic Goals	Current Academic Goals	Current Academic & Career Goal Rank
CC1-Student 11	SLD - R	Something in Technology	Computer programming.	Associate's Degree - Major in Computer Programming	Uncertain - may not do an Associate's Degree now - credits might not transfer to 4-year college.	Low
CC1-Student 12	SLD - R/W, S/L	Something in Law Enforcement.	Uncertain - may want to study history.	Criminal Justice	Uncertain - may not do an Associate's Degree now - may transfer to another college before getting his degree.	Low

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

APPENDIX M-1 NOTES:

Disability Names & Codes:

Name of Disability	Disability Code Used in Appendix M
Cognitive Intellectual Disability	CI
Hearing Impairment	HI
Speech/Lang Impairment	S/L
Visual Impairment	VI
Emotional Disturbance	ED
Orthopedic Impairment	OI
Other Health Impairment	OHI
Specific Learning Disability-Reading	SLD-R
Specific Learning Disability-Math	SLD-M
Specific Learning Disability--Writing	SLD-W
Specific Learning Disability--Oral Lang	SLD-OL
Deaf/Blindness	D/B
Multiple Disabilities	MD
Autism	AUT
Traumatic Brain Injury	TBI

Categorization of CC1 & CC2 Students' Self-Reported Prior and Current Academic and Career Goals

APPENDIX M-1 NOTES:

Categorization Criteria [Using Student's Current (at Time of Interview) Academic & Career Goals]:

<u>Career</u>	<u>Academic</u>	<u>Resultant Rank</u>
Professional: Teacher, Detective, Librarian, Psychologist, Occupational Therapist, Forensic Technician, Nurse	Associate's Degree; Transfer to 4-Year; Wants to Pursue Graduate Degree.	**High**
Semi-Professional: entry-level Nurse/Lab Technician, Chemical Dependency Counselor - Has a specific career goal in mind.	Associate's Degree; No Transfer to 4-Year College.	**Medium**
No specific career goals yet.	Not interested in Transfer to 4-year college; Not sure if wants to complete Associate's Degree or stay in college.	**Low**

M-2: Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC1- Student 2	TBI & Bi-Polar	Liberal Arts	Transfer to 4-year college; then get her Masters in Occupational Therapy.	+	Undecided	Become an Occupational Therapist.	+	M/L = Medium	H/H = High	High
CC1- Student 4	Bi-Polar, ANX, ADHD	Early Childhood Education	Complete Associate's degree in Social Work; Transfer to 4-year College.	+	Elementary school teacher	Work in a psychiatric hospital as a Social Worker.	+	M/H = Medium	H/H = High	High
CC1- Student 5	SLD - R/W	Political Science Major	Study nursing & obtain an Associate's Degree; transfer to 4-year college & obtain his Bachelors of Science in Nursing.	+	Undetermined.	Become a Nurse.	+	L/L = Low	H/H = High	High
CC1- Student 6	SLD - M	Liberal Arts & Social Science- Earn Associate's Degree	Earn Associate's Degree; Transfer to 4-year college; earn her Master's Degree; earn a Ph.D. in Psychology.	+	Become a Psychologist	Become a clinical Psychologist - with possible back-up minor in industrial organization.	+	M/H = Medium	H/H = High	High

Appendix M-2

Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC1- Student 9	CI/VI, & ADHD	Early Childhood Education	Associate's Degree; then transfer to 4-year college & major in Special Education.	+	Elementary school teacher	Become a Special Education Teacher	+	M/H = Medium	H/H = High	High
CC1- Student 7	OI (Wheel-chair required)	Associate's Degree - Major in Physics	Associate's Degree; then transfer to 4-year college & major in some science.	+	a career in science	Work in a science laboratory - animal, biology, or genetics lab.	+	M/L = Medium	H/H = High	High
CC1- Student 10	SLD - M	Nursing Certificate [already has a Bachelor's degree in Psychology & Religious Studies].	Certificate for Chemical Dependency Counseling	0	Nursing	Human Services Counselor for Chemical Dependency [18 credit certificate program]	0	M/M = Medium	L/M = Medium	Medium
CC1- Student 3	SLD - R/W, M	Animation for Video Game Design-Associate's Degree	Associate's Degree - Animation for Video Game Design - wants to transfer to 4-year School of Visual Arts in NYC	+	Animation for Video Game Design	Animation for Video Game Design	0	M/M = Medium	H/M = Medium	Medium

Appendix M-2

Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC1-Student 8	Dyslexia & Mobility	Business Management; Legal Assistant [already has 2 Associate's Degrees].	Obtain certificate in Chemical Dependency & Human Services Counselor.	0	Paralegal	Human Services Counselor for Chemical Dependency [18 credit certificate program]	0	L/M = Medium	M/M = Medium	Medium
CC1-Student 1	CI	Study Business	Study Business - may not complete Associate's Degree; may not transfer to 4-yr. college.	-	IT Technician- Run his own IT company	IT Technician- Run his own IT company	0	L/M = Medium	L/M = Medium	Medium
CC1-Student 11	SLD - R	Associate's Degree - Major in Computer Programming	Uncertain - may not do an Associate's Degree now - credits might not transfer to 4-year college.	-	Something in Technology	Something in computer programming.	+	M/L = Medium	L/L = Low	Low
CC1-Student 12	SLD - R/W, S/L	Criminal Justice	Uncertain - may not do an Associate's Degree now - may transfer to another college before getting his degree.	-	Something in Law Enforcement.	Uncertain - may want to study history.	-	M/L = Medium	L/L = Low	Low

Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC2-Student 1	SLD - R	Liberal Arts - Associate's Degree	Associate's Degree in Liberal Arts; transfer to 4-year college & study Special Education.	+	Something in the Army	Teacher of the Hearing Impaired; special ed. Students, aged 8 years through middle school.	+	M/L = Medium	H/H = High	High
CC2-Student 6	Spastic Quadri-plegic (CP)	Associate's Degree - screen writing; elementary education.	Complete Associate's Degree; transfer to 4-year College; get her Master's Degree after her Bachelor's Degree.	+	Become a screen-writer; become an elementary education teacher.	Become a librarian.	+	M/M = Medium	H/H = High	High
CC2-Student 4	SLD - M	Study Psychology; Associate's Degree	Associate's Degree in Psychology; Enter National Guard after Associate's Degree; transfer to 4-year college after National Guard; Earn her Bachelor's Degree in Psychology & Criminal Justice.	+	Become a detective.	Become a detective.	0	M/H = Medium	H/H = High	High

Appendix M-2

Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC2-Student 2	SLD - R/W	Forensic Technology; Associate's Degree	Associate's Degree in Forensic Technology; transfer to 4-year college & study Sociology, Psychology, & Criminology.	+	Forensic Technician	Become a Forensic Technician.	0	M/M = Medium	H/M = High	High
CC2-Student 3	SLD - R/W	Culinary Arts Management; Associate's Degree	Associate's Degree in Culinary Arts Management; Transfer to 4-year college & continue majoring in Culinary Arts.	+	Become a chef/cook.	Chef/Cook	0	M/M = Medium	H/M = Medium	Medium
CC2-Student 8	ADHD	Associate's Degree	Get Associate's Degree; transfer to 4 year college; study Film/ Animation/Cinemat ography.	+	Film/Animation/ Cinematogra phy	A career in the film industry - start out as a camera person.	0	M/L = Medium	H/M = Medium	Medium

Appendix M-2

Tracking of Student Goal Movement

Student	Disability	Prior Academic Goals	Current Academic Goals	Academic Goal Movement/ Change?	Prior Career Goals	Current Career Goals	Career Goal Movement/ Change?	Prior Combined Academic/ Career Rank	Current Combined Academic/ Career Rank	Combined Rank Movement: Prior to Current
CC2-Student 7	ADD	Associate's Degree	Associate's Degree - may not transfer to a 4-year college right away. If he does, he's considering transferring to John Jay or Rutgers Criminal Psychology program.	0	Actor	Wants to study criminal psychology/ forensic science.	+	M/L = Medium	M/M = Medium	Medium
CC2-Student 9	Dyslexia, SLD - R/W	Credits to be accepted at Police Academy	Uncertain - may not complete his Associate's Degree - may join the military instead and use that route to enter field of law enforcement.	0	Law enforcement/ State Trooper	A career in law enforcement, ultimately leading to becoming a NJ State Trooper.	0	L/M = Medium	L/M = Medium	Medium

M-3: Sample Dialogue about Catalyst for Goals: CC2-Student-1

Interviewer: I'm interested in learning about your personal goals for attending community college: What did you hope to gain by attending community college? You could talk a little bit about that. (lines 101-103)

Student: All right. Well, I was planning, originally, to go into the Army; but when I heard that [CC2] was offering [Intensive Program], I decided to come here because of my accommodations; and it was going to be beneficial for me for my tests. We have adaptive testing center to take our tests. It was stuff to prepare me for when I transfer. (lines 109-113)

Interviewer: Okay. And do you find that that your goals have changed over time, or have they sort of stayed the same? (lines 115-116)

Student: No, they stayed the same. After high school I wanted to make sure that, in college, I was going to do much better; and with [Intensive Program], the tutoring session has been amazing. So I've been doing excellent in my classes. (lines 118-120)

Interviewer: And can you think of any way that the community college might have better assisted you to meet your personal goals? If yes, describe. (lines 135-136)

Student: As in this program, or just community college? (line 138)

Interviewer: Your experience at this community college in general. (line 140)

Student: To make it better? No, I don't think so. I think it just depends on you, how involved you become. (lines 142-143)

Interviewer: And after college – so you said you're employed now, and you work in preschool education. . . . At the daycare, do you have a position title? (lines 411-413)

Student: Teacher assistant. (line 415)

Interviewer: Okay. Is your current job related to your community college studies? (line 417)

Student: Yes. Well, I'm heading right now into education, kind of, because I would like to work with kids that are deaf; but as in teaching or speech. I find speech pathology also to be teaching. During the summer I actually worked with a little kid named Neil, and he was autistic; and it was something – I found it nice, because I would like to do that. I would like to work with kids like that. (lines 419-427)

Interviewer: And so, what age group? Do you want to stay with preschool, or do you have a particular age group in mind? (lines 429-430)

Student: No. I want to stay with eight and up. (line 432)

Interviewer: All the way through high school, or …? (line 438)

Student: Middle school. (line 440)

(CC2-Student-1, September 23, 2015, selections from transcript lines 101 – 440)

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[1] Throughout this paper, the terms "special needs," "disabled," "handicapped," and "differently-abled" are used interchangeably and refer to that population of people who meet the educational and/or *Americans with Disabilities Act* criteria for being disabled and are eligible to receive local, state, or national services to address their disability. The term "differently-abled" is the preferred term; however, government statistics most commonly refer to these individuals as "disabled" or people with "special needs."

[2] A historical synopsis of special education legislation and some key provisions of the legislation is provided in Appendix A.

[3] IDEIA protections extend from birth to age 21, or until the student graduates from high school, whichever comes first.

[4] Early Intervention Programs, or "EIPs," are funded by the State; are generally provided in the disabled child's home; and are available from birth through age 3.

[5] Preschool intervention programs are provided by the disabled child's local school district, for those children age 3 through 5 years, who qualify based on *New Jersey Administrative Code: Special Education* (2015), and are generally provided within the child's local school district, or the child is placed in an out-of-District program, depending on the nature and severity of the child's disability.

[6] Kindergarten through high school intervention programs are provided by the disabled child's local school district, for those children age 5 through 21 or age at time of child's high school graduation, whichever comes first.

[7] Throughout this paper, the term "community college" will represent two-year public colleges, also called "county colleges."

[8] SAT (*Scholastic Aptitude Test*) and ACT (*American College Testing* program) are college entrance examinations.

[9] This informal assessment of these community colleges' reputations for good support of students with disabilities is based on my twelve years of professional interaction with high school guidance counselors responsible for assisting high school students (both with and without disabilities) in appropriate postsecondary educational placements.

[10] These requirements include: classification as having a "specific learning disability;" high school teacher and/or counselor/case manager recommendations; current documentation of their disability; and cognitive abilities scores on a current, standardized, nationally normed cognitive assessment [typically the *Wechsler Adult Intelligence Scale*, or *WAIS*] typically within a full scale IQ range generally >/= 90. (CC2-Administrator-1, personal communication, August 27, 2015)

[11] This provision is significant, because the provision of free, public education is the US Constitutional responsibility of each individual state (the 10th Amendment stipulates that whatever Constitutional rights are not provided by the Federal government, are the responsibility of the individual states). By stipulating that **all** states must comply with the FAPE mandates of PL 94-192, a baseline level of standards for educating disabled students was established throughout the United States.

[12] The "discrepancy model" compares a student's scores on standardized cognitive skills (psychological) testing with their scores on standardize achievement (educational) testing, to see if there is a significant difference between their cognitive abilities and achievement skills. In New Jersey, the state provides the program that compares these scores, using the State's algorithm to determine eligibility for special education and related services, based on a learning disability.

[13] Graduation rate is defined as students who completed a certificate or degree credential within 150% of the normal time for certificate or degree completion. (National Center for Education Statistics, *Digest of Education Statistics*, retrieved from http://nces.ed.gov/programs/digest/d12/tables/dt12_377.asp, viewed July 30, 2016). The 150% standard is based on the *Student Right-to-Know and Campus Security Act of 1990*; however, the American Association of Community Colleges challenges this standard, and suggests it should be longer (e.g., 300% of normal time for certificate or degree completion), to better reflect the part-time status of a majority of community college students (Bailey et al., 2005; Juszkiewicz, J., 2016; Phillippe & Sullivan, 2005).

[14] Table 1 takes this factor somewhat into account, by using US Department of Labor unemployment/participation rates for persons aged 16 – 64 years (excluding those aged 65 years or older).

[15] NJ State Department of Education's Office of Special Education Programs statistics indicate that 232,401 students were classified as special education students as of October 15, 2015. This represents 16.47 percent of the total enrollment of students in public school settings. (New Jersey Department of Special Education Office of Special Education Programs (2016). *Statewide Numbers and Percents, Ages 3-21 (Districts, Charter Schools, and State Agencies, 2002-2015)* Retrieved from http://www.state.nj.us/education/specialed/data/2015.htm, viewed July 30, 2016).

[16] In August of 2002, the Center for Special Education Finance submitted a report to the NJ Department of Education's Office of Special Education Programs titled *New Jersey Special Education Expenditure Project (SEEP)*. At that time, they calculated the average cost of special education for all special education students (based on school year 1999-2000 data) to be $21,136 per student per year. If we multiply that number by the current NJ DoE OSEP enrollment figures as of October 2015 (232,401), we arrive at a conservative estimate of $4.912 billion dollars annual expenditures for special education students in NJ, *not* adjusted for inflation.

[17] Additionally, those high school students who have successfully passed Advanced Placement ("AP") courses in high school and have already started to earn college credit while in high school, have an even longer "head start" than their differently-abled peers when they first enter college.

[18] They may be less persistent for many reasons, including a lack of funds to pay tuition; family obligations and the need to work full time; and/or frustration at not being able to demonstrate college-level academic skills to pass their courses, resulting in lower levels of self-esteem and self-efficacy; then, ultimately, giving up and dropping out of postsecondary programs.

[19] Developmental education can be defined as instruction required to bring college student academic skill levels up to the level where they can perform college-level academic tasks and earn college credit.

[20] In this study, such "student success courses" were mandatory as part of the CC2 program, and optional at CC1.

[21] Asperger's Disorder was previously classified by the American Psychiatric Association ("APA") as a separate disorder from Autism Spectrum Disorders (ASDs), under the *Diagnostic & Statistical Manual of Mental Disorders-IV-TR*. In 2013, the APA issued new diagnostic guidelines and published the *Diagnostic & Statistical Manual of Mental Disorders-V,* or "DSM-V™." Under the DSM-V™ guidelines, Asperger's Disorder is now classified as a subset of ASDs.

[22] Culp (2005) advocates the implementation of specific "student support service plans" for "at risk" students and/or students with extensive disability support requirements.

[23] CC1's 10 departments are: Business & Public Service; Communication & Languages; Computer Science; English; Health Science Education; Humanities, Social Science, & Education; Mathematics; Veterinary Technology; Science & Engineering; and the Visual and Performing Arts. Both associate degrees and certification programs are offered in each department (CC1 website, viewed July 28, 2016).

[24] Throughout this paper, the websites of the two community colleges are not given, to protect the anonymity of the colleges.

[25] CC2's departments are divided into two divisions: the Division of Arts & Sciences and the Division of Professional Studies. The Division of Arts & Sciences includes the following departments: English, ESL, Languages, & Culture; Physical Education, Recreation, & Dance; Mathematics; Visual, Performing, & Media Arts; History & Social Sciences; and the Natural Sciences. The Division of Professional Studies includes the following departments: Accounting, Business, & Legal Studies; Dental Hygiene; Hospitality, Culinary Arts, & Dietetics; Nursing; Allied Health & Related Programs; Computer Science & Information Technology; Engineering Technologies; Medical Laboratory Technology; and Radiography (CC2 website, viewed July 29, 2016).

[26] Although one additional CC2 student participated in this study, her results are not included in the findings, as she was only eligible for CC2's general DSO services, and was not a CC2-I program participant. Her pseudonym was "CC2-Student-5" and consequently, the CC2-I students whose results are included in this study are: CC2-Students-1 through -4; then, CC2-Students-6 through-9, for a total of 8 CC2 student participants whose data are included in this study's findings and discussion.

[27] I had to turn away CC1 student volunteers, after more than twelve CC1 students volunteered for the interviews.

[28] The reader is referred to Appendix H for a breakout of the demographics of the student participants. For the administrators, one of CC1's administrators was a White female and the other was a Black female. Both of CC2's administrators were White females.

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[29] For the **helpfulness** ratings, available ratings for the student responses ranged from "1" which indicated that the services were not helpful at all to the student, to "5" which indicated that the services were critical to the student's success at college. A response category of "not applicable" was also provided for students to indicate that the service being rated was not applicable to their individual situation. For the **quality** ratings, available ratings were "1" for "poor," "2" for "fair," "3" for "good," "4" for "very good," "5" for "excellent," and "N/A" for "not applicable."

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[30] For example, CC2-Student-1 talked about how her experience working in a summer camp as a counselor, gave her the chance to work with a preschool student with autism. This experience was the catalyst for her goal to pursue education to become a special education teacher (see the dialogue below between myself and CC2-Student 1 in Appendix N).

[31] Question IV A 1 was: "I'm interested in learning about your personal goals for attending a community college. What did you hope to gain by attending community college? Would you please talk a little bit about this?"
Question IV A 2 was: "Did you find that your personal goals for attending a community college changed over time [Yes/No]? Please explain."
Question VI A was: "Did you/do you work while enrolled in your community college? [Yes/No] If yes, what did/do you do?"
Questions VI B 4 & 5 were: "Now I'd like to shift topics a bit and talk about your employment after community college. . . . Is your current job related to your Community College studies? [Yes/No] If yes, please describe. Is there anything else you'd like to say about your employment after community college?"

[32] Evidence for these findings comes from: (1) *Administrator Protocol* questions II A, B, C, and E; (2) questions IV 2, V, and the Likert Scale ratings of the *Student Protocol*; and (3) CC1 and CC2 websites.

[33] The different types of disabilities represented in this study are shown in Appendix M.

[34] "The student must present comprehensive documentation of a disability from a physician/evaluator, psychologist, and/or learning specialist as appropriate for that disability. Documentation must provide a diagnosis and explanation for how the condition may manifest itself in an academic setting. Empirical data, when appropriate should be provided. Recommendations for academic accommodations should be included in the documentation." (CC1's webpage, viewed September 11, 2016).

[35] At CC1, students described the process of obtaining class notes from other students as follows (to preserve anonymity): the professor requests a volunteer to take notes for an unnamed fellow classmate at the beginning of class; the volunteer drops off the notes at the Disability Services Office ("DSO") which makes a copy; and later the student who is to receive the notes stops at the DSO and obtains a copy of the notes. Students generally do not know who the volunteer is, nor the recipient.

[36] CC2-Administrator-2 described the different assistive technology offerings in detail – both software (*Kurzweil*, *Read & Write Gold*, *Inspiration*, and *Snap & Read*) and hardware (computers, iPads, and scanners).

™ LiveScribe is a trademark of Livescribe, Inc. It is a recorder pen that records audio sound (so, the professor's lecture) and writes as a normal pen. When used in conjunction with the special paper that comes with the pen, the student can place the pen at the point on the paper where s/he was taking a note, and play back what was being said at that point in the lecture, in the event the student missed something in their hand-written notes.

[37] At CC1, the professor asks for student volunteers to take notes without disclosing who they are for. The note-taker goes to the DSO secretary who makes a copy of the notes, and holds them for the differently-abled student to pick up anonymously. Neither student knows who took the notes or who picked them up, thereby maintaining the required HIPPA confidentiality standards.

[38] The 44 year old student did indicate that she owns her own home and drives herself to college from her home.

[39] CC2-Administrator-2 indicated that some of their counselors are retired Child Study Team members, Learning Consultants, and/or Guidance Counselors; as well as sharing the certified counselors who work full-time in CC2's DSO (personal communication, September 28, 2016).

[40] The academic counseling category of services in the survey included, along with the standard academic counseling for advising students about course selection and course registration, mini-courses on time management, test-taking strategies, study techniques, as well as academic program planning, liaison with faculty about student accommodations, and tutoring.

[41] I refer here to CC2-I's dedicated department of assistive technology, led by a full-time professional, funded by their Federal grant, versus the absence of this at CC1.

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[42] CC1 student ages ranged from 18 years and 9 months to 44 years and 9 months, with a median age of 21 years and 1 month. CC2 student ages ranged from 18 years and 4 months to 21 years and 7 months, with a median age of 20 years and 10 months.

[43] Quantifications such as numbers of students per counselor; counseling hours per week per student; tutoring hours per week; and service costs.

[44] Student accommodations must be "reasonable" and may not "fundamentally alter the program of study" (Shaw & Dukes, 2006, pp. 16-23).

[45] Based on Rowe (2004). High school exit exams meet IDEA – An examination of the history, legal ramifications, and implications for local school administrators and teachers. *Brigham Young University Education & Law Journal*, Issue 1, pp. 75-137.

[46] The services listed are adapted from CC2's 2014/2015 pamphlet describing the services offered.

[47] SES is frequently correlated with academic success in education; however, I was specifically looking at what community college services and accommodations differently-abled students perceive as contributing to their post-secondary educational success.

[48] *Student Protocol* questions IV A 1, 2, & 3 are, respectively: 1. I'm interested in learning about your personal goals for attending a community college. What did you hope to gain by attending community college? Would you please talk a little bit about this? 2. Did you find that your personal goals for attending a community college changed over time? 3. On a scale of 1 to 5, with 5 being the best match of your community college experience with your personal goals for education/training after high school, how well do you think your personal goals have been met?