Post-baccalaureate Reverse Transfer Students in Iowa: 2006 to 2008

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INTRODUCTION

This study explores the prevalence of post-baccalaureate reverse transfer students in Iowa. Post-baccalaureate reverse transfer students are "people who already have baccalaureate degrees or higher and enroll in two-year colleges" (Barbara Townsend, 2000a, p. 302).[1] Although Anthony Kuznik, E. James Maxey, and Duane Anderson (1974) looked at reverse transfer students in the 1969-1970 school year in Iowa's community colleges, post-baccalaureate reverse transfer students were not included in their study, and to date, have not been examined in Iowa. To address this lack of information about a population that has recently received attention in other states (e.g., Colorado [McHugh, 2003; Smith, 2008]; Florida [Becker, 2000; Windham and Perkins, 2000]; Illinois [Reusch, 2000]; Mississippi [Brand, 2005] and North Carolina [Quinley and Quinley, 1999], this descriptive, exploratory study investigates the number of students who hold a bachelor's degree or higher attending Iowa's fifteen community colleges. This study examines demographic characteristics including age, gender, race, and highest degree held along with one academic characteristic—the most popular career clusters pursued by this group of students in the 2006, 2007, and 2008 fiscal years. Only post-baccalaureate reverse transfer students enrolled in credit courses were included in the study.

The American Association of Community College's (AACC) most recent estimate of two-year students who hold a bachelor's degree or higher is 8% (Lum 2007), which is a decrease from their 1997 estimate of 10 to 20% (Gose, 1997). While the present study found much lower numbers of post-baccalaureate reverse transfer (PBRT) students in Iowa, 1.4 to 1.9% between fiscal years 2006 and 2008, Iowa's numbers are similar to the High School and Beyond study's finding of 1.8% PBRT students. Moreover, Iowa's lower numbers may reflect the fact that Iowa

[1] The terms "two-year colleges" and "community colleges" are used interchangeably in this paper.

is a less densely populated state with one of the highest percentages of elderly people in the country as the U.S. Census Bureau (2009e) estimated Iowa as the 30th most populated state in the U.S. with 2.5% of its population age 85 or older. Despite the lower numbers of post-baccalaureate reverse transfer student in Iowa compared to the AACC's estimates, the post-baccalaureate reverse transfer student population should be studied because they pose unique benefits and challenges to institutions accustomed to enrolling first-time students. First, I review the literature on this group of students to determine what is known about them and to ascertain models for studying the post-baccalaureate reverse transfer student population in Iowa.[2] In the second part of this paper, I provide demographic characteristics of Iowa's PBRT student population. I conclude with recommendations for further research.

[2] Categorical names cited (i.e., categories of reverse transfer students and the reasons why post-baccalaureate reverse transfer students return to school) are verbatim from the research reviewed for this study.

REVIEW OF THE LITERATURE

According to Barbara Townsend (1999), researchers first shifted their attention in the 1990s from undergraduate reverser transfer (URT) students to post-baccalaureate reverse transfer (PBRT) students. In 1976, Robert Rue observed that PBRT students were an under-investigated group of students in U.S. postsecondary education. This continues to be the case today with only six doctoral dissertations (Becker, 2000; Brand, 2005; McHugh, 2003; Reusch, 2000; Smith, 2008; Weaver, 1999) completed and eight research articles (Barnes and Robinson, 1999; Hagedorn and Castro, 1999; Townsend, 2000a; Townsend, 2003; Townsend and Lambert, 1999; Quinley and Quinley, 1999; Windham and Perkins, 2000; Winter and Harris, 1999; Winter, Harris, and Ziegler, 2001) published about PBRT students in the last decade. The majority of the research articles was published ten years ago, and most were studies of a single or small set of institutions similar to where the researchers completed their dissertations. Only one study, by Barbara Townsend and Rivkah Lambert (1999), brought together data about PBRT students from two different states, Maryland and Tennessee, and only three studies surveyed a state's entire community college system to determine the number of PBRT students in Kentucky (Winter, Harris, and Ziegler, 2001; Winter and Harris; 1999), in Florida (Windham and Perkins, 2000) and in Missouri (Barnes and Robinson, 1999). The other articles published in the last decade are reviews of prior studies and news articles about the phenomenon of post-baccalaureate reverse transfer (see Appendix, Table 1). All of the publications about PBRT students since 1976 provide information about post-baccalaureate reverse transfer students in 20 out of the 50 states including Arizona (Rooth, 1982); California (Chan and McIntyre, 1994; Berg, 1984; California Postsecondary Education Commission, 2006; Catanzaro, 1999; Hagedorn and Castro, 1999; Mitchell, 1984; Renkiewicz, Hirsch, and Drummond, 1982; Steenhoek, 1984); Colorado

(Anderson, 1982; McHugh, 2003; Smith, 2008); Connecticut (Rue, 1976); Florida (Becker; 2000; Windham and Perkins, 2000); Kentucky (Hogan, 1986; Winter and Harris, 1999; Winter, Harris, and Ziegler, 2001); Illinois (Bers, 1992; Kajstura and Keim, 1992; Reusch, 2000); Maryland (Lambert, 1993; Townsend and Lambert, 1999); Massachusetts (Delaney, 1995); Minnesota (Halvorson, 1997); Mississippi (Brand, 2005); Missouri (Barnes and Robinson, 1999); North Carolina (Bethune, 1977; Boyd, 1983; Quinley and Quinley, 1998; Quinley and Quinley, 1999); [3] Oklahoma (Pope, Tuner, Barker, 2001) Oregon (Rue, 1976); South Carolina (Weaver, 1999); Tennessee (Townsend and Lambert, 1999); Texas (Jackson, 1990); and Virginia (Klepper, 1990; Ross, 1982). Townsend (2003) conducted another study about post-baccalaureate reverse transfer students at a two-year institute in the Midsouth, but did not specify the state. Altogether, 60% of the states do not have information about their post-baccalaureate reverse transfer student population.

Number of Post-baccalaureate Reverse Transfer Students

National estimates for the number of post-baccalaureate reverse transfer (PBRT) students are difficult to calculate. The most recent national figures on the prevalence of PBRT students were reported by Lydia Lum in 2007 and Kent Phillippe and Michael Valiga in 2000 on behalf of the American Association of Community Colleges (AACC). Lum cited a 2007 AACC report that 8% of two-year students hold a bachelor's degree. More specifically, Phillippe and Valiga (2000) discovered that 8% of community college students aged 26 to 39, 15% aged 40 to 59, and 36% aged 60 or older holding a bachelor's degree or higher were enrolled in credit courses. Phillippe and Valiga further explained that 8% of part-time students and 2.5% of full-time students held a bachelor's degree or higher. This data, however, was current as of fall 1999,

[3] Quinley and Quinley (1998) and Quinley and Quinley (1999) are based on the same study.

making the most recent calculation of PBRT students' ages and enrollment patterns at two-year colleges 10 years old.

The only database known by this author to capture information about PBRT students is the High School and Beyond (HS&B) study. From this study, Cliff Adelman reported in 1998 that only "1.8% of students in the [High School and Beyond/Sophomore cohort (1980-1993)] database had earned eighteen or more credit hours at a community college after first receiving a baccalaureate degree" (as cited in Townsend and Dever, 1999, p.7). This statistic, however, may not represent all PBRT students because the HS&B database only follows students to age 29/30; the most recent literature states the average age of post-baccalaureate reverse transfer students to be 35 (McHugh, 2003), [4] 37 (Winter, Harris, and Ziegler, 2001), 43 (Becker, 2000), and 38.5 (Reusch, 2000). Before Phillippe and Valiga conducted their national study on behalf of the AACC, in 1997 the AACC estimated that 10 to 20% of students at community colleges had at least a bachelor's degree (Gose, 1997, A34). One possible explanation for the difference between Adelman's 1998 report of 1.8% and the AACC's 1997 estimation of 10 to 20% is that the High School and Beyond database tracked students between 1980-1993 and therefore is not as recent as the AACC's 1997 estimation. Another possible interpretation is that since the AACC's 1997 estimation is not based on "hard data," the 10 to 20% guess is simply inaccurate (Gose, A34). On the other hand, using the AACC's 2007 estimation of 8% as a valid indicator may be a good starting point since it is the most recent figure (Lum, 2007). In contrast, the information about PBRT student enrollment in noncredit classes is more consistent. The AACC (2006) discovered that 25% of noncredit students were post-baccalaureate reverse transfer students from 2004 to 2006 and Phillippe and Valiga (2000) found that as of fall 1999 28% were.

[4] McHugh's (2003) study only looked at PBRT students enrolled in nursing and two allied health programs, not the whole population of PBRT students.

A number of recent studies have ascertained the number of post-baccalaureate reverse transfer students in a small set of two-year colleges in a given state and state-wide. For instance, Becker (2000) found 0.9 and 0.2% of students were PBRT students at two Florida community colleges. A larger scale study conducted by Dianna Reusch (2000) surveyed six community colleges in Illinois and discovered only 2.1% of students enrolled held a bachelor's or master's degree while an earlier study in the same state by Alex Kajstura and Marybelle Keim (1992) determined that, "29% of all reverse transfer students were college or university graduates" (p. 40). Kajstura and Keim's (1992) was large scale as well; they surveyed 10 Illinois community colleges. Between the years of 1982 and 1991, John Quinley and Melissa Quinley (1998) learned that North Carolina PBRT students represented a total credit enrollment from 5 to 13%. The range of the number of post-baccalaureate reverse transfer students likely varies due to grouping both credit and noncredit PBRT student enrollments and geographic location.

Burton Clark first recognized the reverse transfer student phenomenon in 1960, but the first article specifically about post-baccalaureate reverse transfer students was not published until 1976. In this article, Robert Rue, a community college president and instructor, distinguished between students attending community colleges to change careers and those attending for personal enrichment. Michael Heinze and Jack Daniels published an article about reverse transfer students in 1970 but the authors did not differentiate between undergraduate reverse transfer students and post-baccalaureate reverse transfer students. A 1983 article by Edward Hudak did not distinguish the two specific groups of reverse transfer either (as cited in Barbara Townsend, 2000a).

Definitions and Categories of Reverse Transfer Students

The phrase "reverse transfer students" encompasses both undergraduate reverse transfer (URT) students and post-baccalaureate reverse transfer (PBRT) students. Townsend defined PBRT students as "those students who matriculated at four-year colleges and then transferred to two-year colleges" (2000a, p. 301). While, as previously stated, PBRT students are students who hold a baccalaureate degree or higher and attend a community college, URT students are students who "begin their education at a four-year school and then transfer to a two-year school" (Townsend & Dever, 1999, p. 6).

James Catanzaro (1999) discerned two types of undergraduate reverse transfer students: Special Purpose undergraduate reverse transfer students and Technical Degree undergraduate reverse transfer students. Special Purpose URT students are four-year college students who are currently attending a four-year college while enrolling at a community college to complete college credit to transfer to their home institution. Although Linda Serra Hagedorn and Consuelo Rey Castro (1999) also referred to these students as Summer Sessioners, Special Purpose undergraduate reverse transfer students can concurrently enroll at a community college anytime during the year. Technical Degree URT students are students who have earned college credit at a four-year institution and may already possess a baccalaureate or advanced degree but who transfer to a two-year institution to earn a technical degree or certificate. Catanzaro is the only researcher known to this author who groups baccalaureate-degree holders who attend community colleges for technical training into the undergraduate reverse transfer student category. Similar to the undergraduate reverse transfer student category, the literature addresses three types of PBRT students within the post-baccalaureate reverse transfer student category.

Catanzaro (1999) interviewed reverse transfer students and concluded that two sub-categories of post-baccalaureate reverse transfer students exist: Enrichment post-baccalaureate reverse transfer students and Specific Skills post-baccalaureate reverse transfer students. Enrichment PBRT students are students who enroll in credit or noncredit classes at community colleges to satisfy personal enrichment endeavors. Catanzaro noted that Enrichment PBRT students "often come first for the continuing education program the college offers, but in time they migrate to credit courses because they want depth of knowledge and intellectual challenge" (p. 30). Specific Skills PBRT students, on the other hand, are those students who attend community colleges for specific skill updates needed in their field. Catanzaro's distinctions are useful and consistent with previous literature recognizing different types of PBRT students (Renkiewicz et al., 1982; Rue, 1976).

Demographic and Academic Characteristics of Post-baccalaureate Reverse Transfer Students

According to the latest literature with demographic characteristics of post-baccalaureate reverse transfer students (Becker, 2000; Brand, 2005; Reusch, 2000; Townsend, 2003; Windham and Perkins, 2000; and Winter, Harris, and Ziegler, 2001), the average age, racial/ethnic composition, and gender of this group of students are consistent throughout the literature. Paul Winter, Michael Harris, and Craig Ziegler's 2001 state-wide survey found the average age of PBRT students to be 37. Similarly, Reusch (2000) found the average age of this group of students to be 38.5. Deborah Becker's 2000 finding was a little higher; she determined the average age of post-baccalaureate reverse transfer students was 43. Although Samuel Brand (2005) did not state the average age of PBRTs in his research, he explained that 50% of post-baccalaureate reverse transfer students were between the ages 18-30, suggesting that perhaps younger bachelor's degree holders are beginning to enroll in two-year colleges for career

training. Indeed, Scott Smith's (2008) recent study of instructors' experience teaching PBRT students revealed that some instructors perceived PBRT students as becoming younger.

Like age, the racial/ethnic and gender composition of post-baccalaureate reverse transfer students is consistent in the literature. Below, Table 1 lists the results of the prior research about the racial/ethnic makeup of post-baccalaureate reverse transfer students.

Table 1
Racial/Ethnic Composition of Post-baccalaureate Reverse Transfer Students

Author	Race/Ethnicity					
	Caucasian	African American	Hispanic	Asian	Native American	U and/or U
Brand (2005)	72%	25%				3%
Townsend (2003)	73%	27%				
Winter et al. (2001)	93.3%	2.7%		2.7%	1.3%	
Becker (2000)	92.4%	2.2%	2.2%	1.1%		2.2%
Reusch (2000)	84.1%	4.8%	2.4%	7.2%	1.4%	
Windham & Perkins (2000)	75%	Approx. 10%	Approx. 10%	Approx. 4%		

Note. Sources: Samuel Brand (2005); Barbara Townsend (2003); Paul Winter, Michael Harris, and Craig Ziegler (2001); Deborah Becker (2000); Dianna Reusch (2000); and Patricia Windham and George Perkins (2000)
"U and/or U" stands for unknown and/or unreported.
Table borders intentionally left.

The research shows that Caucasian post-baccalaureate reverse transfer students predominantly enroll in two-year colleges with possibly more people of color engaged in post-baccalaureate education in two-year colleges in states with more people of color. For instance, in Brand's (2000) study of a two-year college in Mississippi, 25% of the PBRT students were African American and 37.2% of Mississippi's population is African American (U.S. Census Bureau, 2009c). Likewise, in Patricia Windham and George Perkins' (2000) study of the community colleges in Florida, approximately 20% of the PBRT students were African American and Hispanic; 36.9% of Florida's population is comprised of both African American and Hispanic people (U.S. Census Bureau, 2009a). In terms of gender, the research almost always showed that

more female PBRT students than males enrolled in community colleges. Table 2, below, illustrates this finding.

Table 2
Gender of Post-baccalaureate Reverse Transfer Students

Author	Gender	
	Female	Male
Brand (2005)	83%	17%
Townsend (2003)	56%	44%
Winter et al. (2001)	60.4%	39.6%
Becker (2000)	68.5%	31.5%
Reusch (2000)	51.4%	48.6%

Note. Sources: Samuel Brand (2005); Barbara Townsend (2003); Paul Winter, Michael Harris, and Craig Ziegler (2001); Deborah Becker (2000); and Dianna Reusch (2000) Patricia Windham and George Perkins (2000) did not specify percentages of female and male post-baccalaureate reverse transfer students but stated that females outnumbered males in all groups studied.

Reusch's (2000) study is the only instance where there are about just as many male PBRT students as female PBRT students. The most recent research indicates that females who already earned a baccalaureate or graduate degree are likelier than male PBRT students to attend community colleges.

Some of the recent post-baccalaureate reverse transfer student literature inquired about PBRT students' marital status and number of dependents. The findings listed in Table 3 on the next page reveal most post-baccalaureate reverse transfer students are married, followed by single PBRT students.

Table 3
Marital Status of Post-baccalaureate Reverse Transfer Students

Author	Marital Status		
	Married	Single	Divorced
Brand (2005)	56%	36%	8%
Townsend (2003)	53%		
Winter et al. (2001)	48.3%	51.7%	
Becker (2000)	70%	15.6%	13.3%
Reusch (2000)	60.1%	29.3%	8.2%

Note. Sources: Samuel Brand (2005); Barbara Townsend (2003); Paul Winter, Michael Harris, and Craig Ziegler (2001); Deborah Becker (2000); and Dianna Reusch (2000)
Becker (2000) also found 1.1% of PBRT students were separated and Reusch (2000) found 1.0% of PBRT students were separated and 1.4% widowed.
Patricia Windham and George Perkins (2000) did not look at marital status.
Barbara Townsend (2003) did not explain how many post-baccalaureate reverse transfer students were single or divorced.

Becker (2000), Townsend (2003), and Winter, Harris, and Ziegler (2001) are the only authors to ask PBRT students about dependents. Becker discovered 43.1% have one or more children and Townsend found that 54% of PBRT students have one or more children. Winter, Harris and Craig found an average of 0.8 children. Since only three studies looked at the number of dependents PBRT students have and none of the studies' results reinforced the others' results, at this point in time it is not possible to state whether PBRT students are more likely or less likely to have dependents. Becker is the only author to break down marital status and dependents by gender. In Becker's study, female PBRT students were more likely than male PBRT students to be married; 75.4% of married PBRT students were female and 58.6% were male. Conversely, male PBRT students were more likely than female PBRT students to be single with 27.6% male and 9.8% female. While the majority of both female and male PBRT students had 0 dependents, males were a bit more likely to have no dependents at 61.5% compared to 55% of the females.

According to Tables 4 and 5, post-baccalaureate reverse transfer students are predominantly employed three-fourth time and attend school fulltime. In comparing employment status and student status in Tables 4 and 5, the studies with the highest number of

PBRT students attending school fulltime, Brand (2005) and Reusch (2000), also found students the least likely to work fulltime. Becker (2000) also presented information about employment status by gender. Becker found more male PBRT students than females worked fulltime, 86.2 versus 68.3% and found more female PBRT students worked part-time than males, 18.3 and 13.8%, respectively.

Table 4
Employment Status of Post-baccalaureate Reverse Transfer Students

Author	Employment Status			
	Full-time	Part-time	Unemployed	Retired
Brand (2005)	33%	36%	31%	
Townsend (2003)	71%			
Winter et al. (2001)	58.1%	27%		
Becker (2000)	74.2%	16.9%	8%	
Reusch (2000)	59.1%	19.5%	16.8%	4.5%

Note. Source: Samuel Brand (2005); Barbara Townsend (2003); Paul Winter, Michael Harris, and Craig Ziegler (2001); Deborah Becker (2000); and Dianna Reusch (2000)
Barbara Townsend (2003) did not list the percentage of PBRTS students employed part-time, unemployed, or retired.
Patricia Windham and George Perkins (2000) did not address employment status of PBRT students.
Paul Winter, Michael Harris, and Craig Ziegler (2001) did not state the number of PBRT student unemployed or retired.

Table 5
Student Status of Post-baccalaureate Reverse Transfer Students

Author	Student Status	
	Full-time	Part-time
Brand (2005)	75%	25%
Becker (2000)	3.6%	96.4%
Reusch (2000)	75.5%	24.5%

Note. Sources: Samuel Brand (2005); Paul Winter, Michael Harris, and Craig Ziegler (2001); Deborah Becker (2000); and Dianna Reusch (2000)
Barbara Townsend (2003) and Patricia Windham and George Perkins (2000) did not address the student status of PBRT students.
Paul Winter, Michael Harris, and Craig Ziegler (2001) stated the average credit hours enrolled is 5.5 but did not list the percentage of full- and part-time student status.

Some of the recent studies investigated the highest degree held by post-baccalaureate reverse transfer students (Becker 2000; Quinley and Quinley, 1998; Reusch 2000; Townsend, 2003; Windham and Perkins, 2000) and the educational background of PBRT students (Dianna Reusch 2000; Quinley and Quinley, 1998). The most recent research about PBRT students,

Brand (2005) and Evan McHugh (2003), however, did not include information about the PBRT students' highest degree held and educational background. McHugh's (2003) study, though, was specifically about PBRT students applying to nursing and two allied health programs. As Table 6 indicates, the majority of post-baccalaureate reverse transfer students' highest degree earned is a bachelor's degree with 2.7 to 39% of PBRT students holding an advanced degree. Townsend's (2003) finding is particularly noteworthy since she only included degree-seeking students in her survey of PBRT students in a two-year school in a Midsouth state and found that 25% of PBRT students held an advanced degree. Given that not all PBRT students enroll in a two-year college to earn a degree, 25% is a significant finding compared to most of the other studies' results in the table below.

Table 6
Highest Degree Held by Post-baccalaureate Reverse Transfer Students

Author	Highest Degree Held				
	Bachelor's	Master's	Advanced	Professional	More than Bachelor's
Townsend (2003)	75%		25%		
Becker (2000)	61%	39%			
Reusch (2000)	81.9%	18.1%			
Windham and Perkins (2000)	83.0%	16.2%			
Winter and Harris (1999)	70.3%	23.6%		2.7%	
Quinley and Quinley (1998)	77%				23%

Note. Sources: Barbara Townsend (2003); Deborah Becker (2000); Dianna Reusch; Patricia Windham and George Perkins (2000)
Barbara Townsend (2003) did not specify what types of advanced degrees 25% of PBRT students had earned and did not specifically state 75% of PBRT students had a baccalaureate degree; 75% is inferred by purpose of her article.
Deborah Becker (2000)'s Highest Degree Held results are from Phase II of the study.
Patricia Windham and George Perkins (2000) found 0.9% of PBRT students had a doctoral degree 2.2% held a law, medical or other professional degrees.
Paul Winter and Michael Harris (1999) noted that 3.4% of their study's PBRT students held an associate's degree as a second college degree.
Advanced means more than a bachelor's degree but not specified (e.g. master's, doctorate, etc.)
John Quinley and Melissa Quinley (1998) did not specify what "More than bachelor's" means.

Reusch (2000) and Quinley and Quinley (1999) found nearly the same percentages of post-baccalaureate reverse transfer students who completed their undergraduate degree in the liberal arts. Reusch's (2000) finding was 44.8% and Quinley and Quinley's (1999) finding was 44%. Similarly, 55.1 and 54% of PBRT students majored in career-oriented fields as undergraduate

students in Reusch's and Quinley and Quinley's study.[5] Although informative, the studies reviewed in this section are based on a single college (Townsend, 2003; Quinley and Quinley, 1999), a small set of institutions within a state (Becker, 2000; Reusch, 2000), and state-wide studies (Windham and Perkins, 2000; Winter and Harris (1999); subsequently, the demographic and academic characteristics may or may not be generalizable to other areas of the country.

Why do post-baccalaureate reverse transfer students return to school?

Why do they choose to attend a two-year college instead of a four-year college or university?

And what do students enroll in once there?

There is ample inquiry explaining why post-baccalaureate reverse transfer students choose to return to school and to enroll in a two-year college rather than a four-year college or university. In reviewing the latest research about PBRT students, similar reasons overlapped amongst the studies but ranked in different orders of importance. For instance, Brand (2005) found one-third of PBRT students returned to school because they were not earning enough money. On the other hand, Townsend (2003) found that 62% sought a two-year degree to change careers, 48% enrolled for personal development, and 34% enrolled to advance in their current field of employment.[6] Likewise, 63.7% of PBRT students in Reusch's (2000) study selected learning a new skill, 48.4% selected personal growth and interests, and 53.8% selected change job fields as all very important reasons for enrolling in a two-year degree or certificate program.[7] Quinley and Quinley (1999) discovered 56% of PBRT students in their study sought to start a new career but observed that these students had different intentions and circumstances in their desire to change careers. For instance, some students had no intention of relating their

[5] Due to rounding error, Reusch's total percentage is 99.9%.
[6] In Townsend's (2003) study, students had six choices to choose from and could check off as many as they liked; therefore the percentages do not add up to 100.
[7] In Reusch's (2000) study, students had 15 choices to choose from and could check off more than one choice.

four-year degree to their career before beginning any post-baccalaureate education or training. A second group of students only worked a short time after completion of their four-year degree before returning to school. Another group of students sought new careers due to job displacement. Finally, some students just wanted to change careers. Quinley and Quinley (1999) also found 23% of students returned to school for personal interest reasons in which they observed two trends: "those interested in self-enrichment only and those whose interests may have career implications" (p. 42). Cumulatively, the research shows that post-baccalaureate reverse transfer students return to school to change careers and for personal development, but oftentimes these two reasons are connected. Indeed, as Barbara Townsend (2003) stated in a study she conducted of only degree-seeking PBRT student at a two-year technical institute, "it may be that some individuals consider further study in career-related areas is a form of personal, as well as professional, development" (p. 286).

The reasons why post-baccalaureate reverse transfer students specifically chose a two-year institution to accomplish their educational and personal goals instead of a four-year institution are consistent in the research but vary somewhat in order of importance. 61% of the students in Brand's (2005) study and 79% in Townsend's (2003) responded that the two-year college had their desired program. In Brand's (2005) study, 17% of students chose the two-year college because of convenience to residence, 14% because of the cost of the educational program hour, and 8% because of flexible scheduling. In Townsend's (2003) study, students could select more than one option out of ten reasons provided; 50% of students responded that they chose a two-year college because of low cost, 44% because of the academic reputation of program in which enrolled, 35% because of college location, 34% because of the quality of the faculty.

Some of the research about post-baccalaureate reverse transfer students investigated how many PBRT students attended a community during their undergraduate education. The assumption was that these students were more knowledgeable about community colleges as organizations and their diverse course offerings (i.e., academic and vocational courses offered for credit or noncredit), and that familiarity may predispose students to attend a two-year institution rather than a four-year college for post-baccalaureate education and training. While Brand (2005) found 64% of PBRT students previously attended a community college, Reusch (2000) only found 38.9% had. Since only two articles in the most recent research addressed this variable and the findings contradict one another, it is impossible to say which study reflects broader trends.

The program of study most frequently cited in the most recent research is health, specifically nursing and allied health fields.[8] Brand (2005) determined that 59% of post-baccalaureate reverse transfer students were enrolled in the community college's nursing degree program and 17% enrolled in its allied health programs in a study of PBRT students attending a two-year college in Mississippi. Reusch (2000) found 35.2% of PBRT students enrolled in health-related programs in a study of six community colleges in Illinois. After health careers, PBRT students most frequently pursued computers in Reusch's (2000) study. Quinley and Quinley (1999) reported PBRT students at an urban North Carolina community college were mainly enrolled in technology area fields; health-related fields were the third most popular area of interest. By far, preparing for careers in the health care services and updating technology skills dominate the interests of post-baccalaureate reverse transfer students enrolled in credit coursework.

[8] According to the American Dental Education Association, "nursing is not part of allied health but frequently offered at schools that also train allied health providers." http://www.explorehealthcareers.org//en/Field.1.aspx

McHugh (2003) investigated whether post-baccalaureate reverse transfer students were applying to nursing, dental hygiene, and radiological technology programs in Colorado's community colleges and if so, did they stand a better chance of being admitted than students without a four-year degree applying to the same programs. McHugh (2003) explained this is important to examine because as the PBRT population is growing, community college leaders and state lawmakers will need to understand not only the needs of PBRT students but also all populations the two-year college serves. As a result, this knowledge will help leaders and elected officials make more informed decisions. Through comparing prerequisite coursework, grade point averages, and pre-entrance exams of PBRT students and students without bachelor's degrees, McHugh (2003) found no statistical difference in acceptance rates between the two groups of students into nursing and the two allied health programs in the eleven programs for which data was available. Rhona Lambert (1993) found, though, that PBRT students in two community colleges in Baltimore were more likely to be admitted to two selective community college programs than students without bachelor's degrees (as cited by Townsend, 2001).

Profile: Post-baccalaureate Reverse Transfer Students and Nursing Education

McHugh (2003) noted that in a weak economy, post-baccalaureate reverse transfer students accessing competitive nursing and allied health programs at two-year colleges could potentially displace those students without a four-year degree seeking the same education at the community college. The U.S. Bureau of Labor Statistics (2009c) reported that the "employment of registered nurses is expected to grow 23% from 2006 to 2016, much faster than the average for all occupations" and that registered nurses are "among the largest number of new jobs for any occupation." Given the 7.3 million jobs lost since the recession began in December 2007 and the total number of unemployed people in the U.S., 15.7 million as of December 2, 2009, it is

understandable people would pursue a career in nursing given the promising job outlook (U.S. Bureau of Labor Statistics, 2009b; U.S. Bureau of Labor Statistics, 2009a).

A post-baccalaureate reverse transfer student with a bachelor's degree in a non-nursing area who is interested in beginning a career in nursing can complete their nursing education at either a two-year or four-year college. For instance, a PBRT student in Cedar Rapids or Iowa City, Iowa, investigating beginning a nursing program has two public college options--Kirkwood Community College and The University of Iowa--and three degree options. The three degree options are an Associate of Applied Degree in Nursing (ADN), a Bachelor of Science in Nursing (BSN), and a Master of Science-Clinical Nurse Leader (MSN-CNL). According to The University of Iowa College of Nursing (2009), the MSN-CNL is an "emerging nursing role being developed by the American Association of Colleges of Nursing in collaboration with leaders from the education and practice arenas." The cost, though, for three credit hours, or one course, in the first semester of nursing across the three degree options for a resident of Iowa varies widely as shown in Table 7 on the next page. For example, the cost of tuition is nearly six and half times more in the MSN-CNL program than in the ADN program.

The U.S. Bureau of Health Professions (2006b) reported that for those with an associate's degree in nursing, the average salary is $52,610 and for those with a bachelor's degree in nursing, the average salary is $57,081. Since the difference in the average salary is 7.8%, from the student's perspective, it may make more economic sense for them to initially complete an associate's degree program to obtain nursing licensure than a bachelor's or MSN-CNL degree. The salary differential may not justify the financial investment for a BSN or MSN-CNL education for a PBRT student who, by definition, has already invested at least four years of time and money in higher education. In the case of post-baccalaureate reverse transfer students

seeking a career in nursing, it might be in their best interest to not vertically climb the educational hierarchy and earn a MSN-CNL to enter the field of nursing.

Table 7
Comparison of Nursing Tuition by Degree at Kirkwood Community College and The University of Iowa

College and Degree	Fall 2009 Cost for 3 Credit Hours*
Kirkwood Community College *Associate Degree in Nursing (ADN)*	$333
The University of Iowa *Bachelor of Science in Nursing (BSN)*	$723
The University of Iowa *Master of Science in Nursing: Clinical Nurse Leader (MSN:CNL)*	$2,034

Note. Sources: Kirkwood Community College: http://www.kirkwood.edu/pdf/uploaded/491/nurs_cost_sheet_09-10.pdf
The University of Iowa: http://www.registrar.uiowa.edu/LinkClick.aspx?fileticket=alh81zsKadc%3d&tabid=95
*Resident tuition
Approximately thirty miles separate Kirkwood Community College and The University of Iowa

Mission Expansion

In an analysis of reverse transfer and the multiple missions of two-year colleges, Po Yang (2006) concluded that community colleges have vertically expanded their mission by accepting, recruiting, and accommodating undergraduate and post-baccalaureate reverse transfer students. Thomas Bailey and Vanessa Morest (2004) explained the vertical missions of community colleges include "reaching up and down into the traditional educational system" (p. 8) and that, "vertical expansion can be used to improve the flow and quality of incoming students and ensure that college outputs in the form of transfer students and workers are in demand" (p. 7). Bailey and Morest (2004) described the vertical expansion of community colleges into high schools through dual and concurrent enrollment programs, and Yang (2006) expanded on their description by including colleges and universities. Yang's (2006) expansion's appropriately

broadens Bailey and Morest's definition of the vertical missions of community colleges noted above.

While it is accurate that the community college's embrace of post-baccalaureate reverse transfer students is mission expansion, specifically vertical mission expansion, Yang's (2006) assertion that, "mission expansion might very well be an overlooked *cause* (italics mine) of reverse transfer" in the case of PBRT students is unsubstantiated by research. Rather, it could be the other way around – upward vertical mission expansion may be an *effect* of reverse transfer students seeking education and training at two-year colleges. Regardless, the implications of PBRT students have received extensive attention (Townsend, 2000a, 2000b, 2001; 2003; Townsend & Dever, 1999; Townsend & Lambert, 1999).

The main contention about post-baccalaureate reverse transfer students is their potential displacement of students without bachelor's degrees in programs with limited admission slots, such as nursing, allied health, computer technology and engineering programs (Townsend, 2000a, 2000b, 2003). Moreover, for those students from academically and economically disadvantaged backgrounds who have not had the opportunity yet to earn a college degree, their chances for being admitted into selective community college programs might be hindered if they have to also compete with "college-wise"[9] PBRT students. Yang (2006) stated, however, that, "data supporting a 'crowding out' theory is limited" (p. 65). Likewise, McHugh (2003) did not find evidence supporting bias or crowding out.

Barbara Townsend's (2000b) quality and equity analysis of the admittance of post-baccalaureate reverse transfer students into competitive two-year program provides insight into the challenges community college leaders and admission committees may face. Townsend (2000b) pointed out that PBRT students can "enhance the quality" of these competitive programs

[9] "College-wise" is Rhona Lambert's (1993) term for PBRT students' proficiency with how colleges work.

but that equity concerns might arise if students without baccalaureate degrees are cannot gain admission into selective programs (p. 5). The same argument, however, could be made for associate degree holders who want to earn a second associate's degree in one of the same selective programs. The potential conflict for community college leaders is choosing who to answer to since any student applying to any competitive program at any community college is a member of the local community. For the admission committees, the challenge will not be to create an application process that is fair to all students of any educational background, but to create and maintain a reputation that the program considers only the variables that are truly relevant to success in the program (e.g., prerequisite course grades, exam scores and other factors deemed important by the profession). Without a doubt, though, more research needs to be conducted since only two studies (Lambert, 1993; McHugh 2003) addressed the admission of PBRT student into competitive two-year programs.

George Boggs, President of the American Association of Community Colleges, stated in 2006 before the National Conference of State Legislature's Blue Ribbon Commission on Higher Education that, "we are experiencing a growing need for lifelong learning and retraining; today's economy requires people to upgrade skills periodically and to learn continually" (n.p). In December 2009 this is truer than ever before. Even before the current recession, which began in December 2007, Peg Tyre reported in June 2006 that, "about 1 million boomers are retooling at community colleges around the country" (p. 53). Community colleges have long provided a second chance for students not academically qualified for admission to four-year colleges and universities. Although, as Townsend (2003) mentioned, post-baccalaureate reverse transfer students have many more post-baccalaureate options than students without degrees (e.g. a second

bachelor's or graduate degree), the community college might be a growing venue for a second chance, too, for post-baccalaureate reverse transfer students.

DESCRIPTION OF THE STUY

Purpose of the Study

The purpose of this exploratory, descriptive study is to survey post-baccalaureate reverse transfer students in Iowa. Barbara Townsend (2000a) defines this group of students as "people who already have baccalaureate degrees or higher and enroll in two-year colleges" (p. 302). This study is limited to PBRT students who are enrolled in credit courses and does not extend to noncredit enrollment. Nationally, post-baccalaureate reverse transfer students are considered to be an under-investigated group of students in postsecondary education; in Iowa, PBRT students have never been studied. This study answers the following research questions about post-baccalaureate reverse transfer students in Iowa.

Research Questions

1. How many PBRT students enrolled in each community college in the 2006, 2007, and 2008 fiscal years? What percent of the total enrollment at each college do PBRT students make up for the 2006, 2007, and 2008 fiscal years?
2. What is the demographic profile (age, gender, and race) of PBRT students at each community college for the 2006, 2007, and 2008 fiscal years?
3. What are the most notable PBRT demographic differences and similarities amongst the community colleges for the 2006, 2007, and 2008 fiscal years?
4. What is the highest degree held by PBRT students at each community college for the 2006, 2007, and 2008 fiscal years?
5. What career clusters do PBRT students mostly enroll in at each community college for the 2006, 2007, and 2008 fiscal years?

6. What are the most notable differences and similarities amongst the career cluster data for the fifteen community colleges for the 2006, 2007, and 2008 fiscal years?

Altogether, this information will form a baseline level of knowledge about a growing student population in community colleges.

METHODS AND PROCEDURES

The quantitative data used for this study was obtained from Tom Schenk, Jr., consultant for Institutional Effectiveness and Accountability, Division of Community Colleges and Workforce Development at the Iowa Department of Education, in October and November 2009. This data includes information about the age, race, gender, highest degree held, and career cluster information of post-baccalaureate reverse transfer students in Iowa's fifteen community colleges for the last three fiscal years for which data are available: 2006, 2007, and 2008. The 2006 fiscal year is July 1, 2005, to June 30, 2006; the 2007 fiscal year is July 1, 2006 to June 30, 2007; and the 2008 fiscal year is July 1, 2007, to June 30, 2008. Counts were conducted to determine the total number of PBRT students in Iowa for the last three fiscal years and by college and year, the total number of PBRT students by gender and college, the racial makeup of PBRT students including American Indian / Alaskan Native, Asian / Pacific Islander, Black, Hispanic, and White for each college and year, and the top three career clusters by year. The career cluster data only contains credit enrollment in order to examine trends in career education and training, not personal enrichment. Tom Schenk provided the counts and the average age of PBRT students; the author computed the descriptive statistics (percentages). Demographic and academic characteristics were not available for North Iowa and Southeastern community colleges for the 2006 and 2007 fiscal years. The identification of each student's information was assigned a generic number before given to this author.

FINDINGS OF THE STUDY AND ANALYSIS

Number of Post-baccalaureate Reverse Transfer Students

According to the data in Table 8 on the next page, the majority of post-baccalaureate reverse transfer students enrolled at Kirkwood and Des Moines community colleges. This is unsurprising as Kirkwood Community College is located in Cedar Rapids and Des Moines Community College is located in Des Moines, the two largest cities in Iowa. Two demographic characteristics likely account for the largest PBRT enrollments in the state. Kirkwood and Des Moines community colleges are located in the most densely populated areas (U.S. Census Bureau, [2009d]) and both are located in areas with bachelor-level or higher educated populations. Kirkwood Community College is located in Cedar Rapids, a city with two four-year non-profit colleges each of which has a teaching site in the city, Cornell College and Upper Iowa University, and a for-profit college, Kaplan University, which offers on-campus degrees at its Cedar Rapids location (Wikipedia, 2009a). The University of Iowa, one of the three Board of Regents' public universities in the state of Iowa, is located approximately 25 miles from Kirkwood Community College. Des Moines Community College is located in the state capital of the state, Des Moines, and has several private, non-profit and for-profit universities in the area (Wikipedia, 2009b). Notably, Des Moines Community College is the only public college in the Des Moines area. Undoubtedly, population density and college-educated dense populations contribute to PBRT student enrollments at Kirkwood and Des Moines community colleges. Currently, these two institutions could be enrolling more PBRT students since Kirkwood experienced a 17% increase in enrollment and Des Moines saw a nearly 20% increase as reported by Iowa Public Radio on September 16, 2009.

Table 8
Enrollment of Post-baccalaureate Reverse Transfer Students by Community College and Fiscal Year

Community College[10]	Number of PBRT Enrollment and % of Total Enrollment						
	2006 FY	%	2007 FY	%	2008 FY	%	***Grand Total***
1. Northeast	106	1.5%	129	1.9%	77	1.1%	312
2. North Iowa					11	0.2%	11
3. Iowa Lakes	122	2.7%	397	8.7%	49	1.1%	568
4. Northwest	7	0.4%	6	0.3%	4	0.2%	17
5. Iowa Central	38	0.5%	34	0.5%	34	0.4%	106
6. Iowa Valley	32	0.8%	32	0.8%	30	0.8%	94
7. Iowa Hawkeye	49	0.6%	75	0.9%	51	0.6%	175
9. Eastern Iowa	42	0.4%	311	2.8%	308	2.7%	661
10. Kirkwood	737	3.6%	714	3.3%	799	3.7%	2,250
11. Des Moines	453	1.7%	495	1.8%	705	2.4%	1,653
12. Western Iowa Tech	144	1.8%	103	1.3%	72	1.0%	319
13. Iowa Western	29	0.4%	38	0.6%	30	0.4%	97
14. Southwestern	5	0.3%	4	0.2%	2	0.1%	11
15. Indian Hills	85	1.4%	78	1.2%	92	1.4%	255
16. Southeastern					18	0.4%	18
Yearly Total PBRT Enrollment [a]	***1,849***	***1.4%***	***2,416***	***1.9%***	***2,282***	***1.8%***	***6,547***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
Yearly % of Total Enrollment based on year 2008 total enrollment figures from Table 3-1 in The Annual Condition of Iowa's Community Colleges 2008 report.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable was created for Indian Hills 2006 data because the data was clearly inconsistent with its 2007 and 2008 data. A dummy variable was created by averaging the numbers for the following two years, then re-computing applicable totals and percents that reflect the summary data for the table.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.
[a]Yearly Total PBRT Enrollment will be used as denominators in upcoming tables.
Blank cells indicate true zero or data omission.
"PBRT" stands for Post-baccalaureate Reverse Transfer Student.
If applicable, all whole numbers rounded to nearest whole.
All % numbers are rounded to nearest tenth.
Table borders intentionally left.

In Table 8 above, four community colleges' post-baccalaureate reverse transfer student enrollments stand out. For instance, Iowa Lakes Community College's PBRT student enrollment grew 5% from the 2006 to the 2007 fiscal year, but declined by 7.6% by the 2008 fiscal year. This drop cannot be explained by the current recession as it began in December 2007, which would have begun midway through the 2008 fiscal year. Iowa Lakes Community College may

[10] See Appendix Table 2 for full name of Iowa's fifteen community colleges.

have experienced only a temporary influx of PBRT students in the spring and summer 2007 semesters for reasons presently unknown to this author. Eastern Iowa Community College likewise experienced a sizeable increase of PBRT students from the 2006 to the 2007 fiscal years with 2.4% more enrolled in the 2007 fiscal year; however, unlike Iowa Lakes, Eastern Iowa saw a very minor decrease in PBRT students attending their institution during the 2008 fiscal year, a 0.1% decrease.

The other two noticeable community colleges, both of which are located in the most urban areas of Iowa's community colleges, Kirkwood and Des Moines, saw consistent numbers of PBRT students enrolling in their institutions between the 2006, 2007 and 2008 fiscal years. Although Kirkwood Community College's PBRT enrollment declined by 0.3% from the 2006 to the 2007 fiscal year, its PBRT enrollment rebounded with an increase of 0.4% in the 2008 fiscal year possibly attributable to the current recession. Des Moines Community College's 2006 and 2007 PBRT enrollment numbers were nearly the same at 1.7 and 1.8%. In the 2008 fiscal year, however, Des Moines' PBRT student population increased by 0.6% for possibly the same reason as Kirkwood's increase in the 2008 fiscal year.

In looking at all 15 community colleges, the percentage of PBRT student enrollments ranges from a low of 0.1% at Southwestern Community College in the 2008 fiscal year to a high of 8.7% at Iowa Lakes Community College in the 2007 fiscal year. The total PBRT enrollment for the 2006, 2007 and 2008 fiscal years, 1.4, 1.9 and 1.8%, respectively, shows consistency year to year, especially between 2007 and 2008, but since only three years are represented by these figures, the total PBRT enrollment in future years should be looked at to determine if about 2% of the Iowan community college population are those who hold a bachelor's degree or higher.

Average Age

As Table 9 shows on the next page, the overall average age of postbaccalaurate reverse transfer students in Iowa is 35 for the three fiscal years studied in this investigation. Table 9 also reveals that the yearly total average age of PBRT students in Iowa's community colleges was very consistent from the 2006 to the 2008 fiscal year. Looking at the overall average age data again, all but four of Iowa's fifteen community colleges enrolled PBRT students younger than 31. This is consistent with the research noted earlier in this paper, which pointed to that PBRT students are typically between 37 and 43 years of age but are becoming younger. Out of the thirteen colleges with data for 2007 and 2008, five of them experienced an increase in average age suggesting that older people, although only by a slight increase in age, are returning to school. This may not be surprising considering the current recession began in December 2007 and the 2008 fiscal year ended June 30, 2008.

By individual college, the most significant increases in average age of PBRT students occurred between the same years. In 2007, the average age of a PBRT student at Northwest was 40 and the next year it was 50.5, while Iowa Lakes increased from 28 to 35. The largest decrease in average age was at Southwestern Community College where, in 2006, the average age of PBRT students was 39 and the next year it declined to 32 years.

Table 9
Average Age of Post-baccalaureate Reverse Transfer Students by Community College and Fiscal Year

Community College	Average Age[a] by Fiscal Year			
	2006 Fiscal Year	2007 Fiscal Year	2008 Fiscal Year	***Overall Average Age*** [a]
1. Northeast	35.5	36	31	35
2. North Iowa			32	32
3. Iowa Lakes	26	28	35	28.5
4. Northwest	36	40	50.5	41
5. Iowa Central	35	36.5	34	35
6. Iowa Valley	37	34	37.5	36
7. Iowa Hawkeye	34	35	34	35
9. Eastern Iowa	38	34	33.5	34
10. Kirkwood	28	28	30	29
11. Des Moines	30.5	31.5	29	30
12. Western Iowa Tech	38	37.5	36	37
13. Iowa Western	43	38	37	39
14. Southwestern	39	32	30.5	35
15. Indian Hills	40.5	40	41	40.5
16. Southeastern			26	26
Yearly Total Average Age [a] [b]	***35***	***35***	***34.5***	***35***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable was created for Indian Hills 2006 data because the data was clearly inconsistent with its 2007 and 2008 data. A dummy variable was created by averaging the numbers for the following two years, then re-computing applicable totals that reflect the summary data for the table.
[a]Overall Average Age and Yearly Total Average Age are rounded to the nearest whole number except when the tenth place equals .5 or is able to be rounded to .5
[b]Yearly Total Average Age based on Average Age in Table 9 above. The 2006 and 2007 Yearly Total Average Age denominator is 13.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.
Blank cells indicate true zero or data omission.
Table borders intentionally left.

Gender

In contrast to prior research about the typical gender composition of post-baccalaureate reverse transfer students listed in Table 2, male post-baccalaureate reverse transfer students outnumber females students in Iowa across the three years examined in this study as illustrated in Table 10 on the next page. In 2006, 2007 and 2008, approximately two-thirds of PBRT students were male and one-third were female. With the exception of three instances, for every college in the last three fiscal years for which data is available, more males with a bachelor's degree or

higher enrolled in a two-year public college than female PBRT students. Interestingly, all of those three instances occurred at the same college, Northwest.

Table 10
Gender of Post-baccalaureate Reverse Transfer Students by Community College and Fiscal Year

Community College	Gender by Fiscal Year						
	2006 Fiscal Year			2007 Fiscal Year		2008 Fiscal Year	
	Female	Male	Unknown	Female	Male	Female	Male
1. Northeast	36	70		50	79	22	55
2. North Iowa						6	5
3. Iowa Lakes	39	83		108	289	11	38
4. Northwest	4	3		4	2	2	2
5. Iowa Central	15	23		11	23	14	20
6. Iowa Valley	7	25		9	23	5	25
7. Iowa Hawkeye	14	35		21	54	12	39
9. Eastern Iowa	15	26	1	137	174	136	172
10. Kirkwood	270	467		243	471	278	521
11. Des Moines	149	304		143	352	244	461
12. Western Iowa Tech	48	96		28	75	30	42
13. Iowa Western	13	16		14	24	7	23
14. Southwestern	2	3		1	3		2
15. Indian Hills	23	62	133	23	55	23	69
16. Southeastern						5	13
Yearly Total PBRT Enrollment	***635***	***1,213***	***134***	***792***	***1,624***	***795***	***1,487***
% of Yearly Total PBRT Enrollment	***34.3%***	***65.6%***	***2.0%***	***32.8%***	***67.2%***	***34.8%***	***65.2%***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable was created for Indian Hills 2006 data because the data was clearly inconsistent with its 2007 and 2008 data. A dummy variable was created by averaging the numbers for the following two years, then re-computing applicable totals and percents that reflect the summary data for the table.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.
Blank cells indicate true zero or data omission.
"PBRT" stands for Post-baccalaureate Reverse Transfer.
For % Yearly of Total Enrollment, denominator for 2006 Fiscal Year is 1,849; denominator for 2007 Fiscal Year is 2,416; denominator for 2008 Fiscal Year is 2,282.
Due to rounding error and possibly substitute approximation, the total percentage is 101.9 for the 2006 % of Total PBRT Enrollment.
Possibly due to substitute approximation, the Yearly Total PBRT Enrollment for 2006 is 1,848 for the denominator rather than 1,849' the latter is used to be consistent.
If applicable, all whole numbers rounded to nearest whole.
All % numbers are rounded to nearest tenth.
Table borders intentionally left.

In the colleges with the most PBRT students and the most PBRT students year to year, Kirkwood and Des Moines, in some instances males outnumbered females two to one. Both

Kirkwood and Des Moines saw an increase in both female and male students from the 2007 year to 2008. Most substantially, Des Moines Community College's female and male PBRT populations grew 41.4 and 23.6%, respectively, from 2007 to 2008. Even with these increases, though, the gender difference in the total PBRT population at Des Moines Community College in 2008 represented the same one-third (female) versus two-thirds (male) gender difference persistent in the yearly total PBRT enrollment percentages.

As noted earlier, Iowa Lakes Community College experienced a dramatic influx of PBRT students in the 2007 fiscal year. Table 10 shows a substantial increase in both female and male PBRT students in comparison to the preceding and succeeding years; in 2007, Iowa Lakes' male PBRT student enrollment increased nearly three and a half times and the female PBRT student enrollment increased more than two times from the prior year. Eastern Iowa likewise saw even greater gains in 2007, with nine times more female and nearly seven times more male PBRT students enrolling in 2007 than in 2006. Unlike Iowa Lakes, however, Eastern Iowa's enrollment of both female and male PBRT students was almost the same in 2008.

Race/Ethnicity

There is a relatively low percentage of minorities in Iowa compared to the U.S. as a whole. For instance, the U.S. Census Bureau (2009b) reported Iowa's population is 2.8% African-American and 4.5% Hispanic whereas nationally those figures are 12.9 and 15.8%, respectively. That said, not all minority groups lag behind their White counterparts in Iowa when looking at people who already have baccalaureate degrees or higher and enroll in two-year public colleges. In examining tables 11a through 11c beginning on page 40, which describe the racial/ethnic composition of post-baccalaureate reverse transfer students in the state of Iowa for

the 2006, 2007, and 2008 fiscal years,[11] the majority of PBRT students in Iowa is White for all three years and ranged from 86.8 to 87.3% of the total PBRT student population subset. Since the U.S. Census Bureau reported in 2009 that Iowa's White (not Hispanic) population was 89.8%, White (not Hispanic) people who hold a bachelor's degree or higher are disproportionately enrolling in two-year colleges even considering their highest percentage enrollment of 87.3% in 2006.

PBRT students who are Black or Hispanic are the two minority groups out of four in Iowa who are less likely to enroll in a community colleges while holding a baccalaureate degree or higher. The results of this study found that Black PBRT student enrollment ranged from 1.9 to 2.3% and Hispanic PBRT student enrollment from 1.3 to 1.9 % of the total PBRT student population in Iowa. The U.S. Census Bureau reported Iowa's 2009 Black population at 2.8% and Iowa's Hispanic population at 4.5%. In comparison with the PBRT student enrollment ranges for these two minority groups, possible racial disparities in the number of people with bachelor's degrees or higher seeking education and training at two-year public colleges in Iowa might exist. There could be several possible explanations to account for this. One possible reason is that people who are Black or Hispanic could be earning fewer bachelor's degrees compared to their White counterparts. If so, there would be less PBRT students of color by definition. Hispanic people experienced the largest disparity even considering the highest enrollment of Hispanic PBRT students, 1.9% in both the 2007 and 2008 fiscal years. In addition to the previous reason, the U.S. Census Bureau's count of Hispanic people may have captured people in the U.S. illegally thereby possibly making an accurate comparison of the Hispanic population in Iowa against the number of Hispanic PBRT students difficult. The other two minority groups for which data was available for this study, American Indian/Alaskan Native

[11] Race/Ethnicity categorical names are the Iowa Department of Education and U.S. Census Bureau's categories.

and Asian/Pacific Islander, both groups' presence of PBRT students in Iowa are consistent with their populations in Iowa. The number of American Indian/Alaskan Native PBRT students in Iowa ranged from 0.3 to 0.4% and Asian/Pacific Islander ranged from 1.9 to 3.2% in the three years examined in this study while the U.S. Census Bureau found Iowa's 2009 population comprised of 0.4% American Indian/Alaskan Native and 1.8% Asian/Native Hawaiian and other Pacific Islander.[12] In fact, according to the results of this study and the U.S. Census Bureau, the Asian/Native Hawaiian and other Pacific Islander PBRT student group in Iowa is overrepresented.

On the next page Table 11a shows the data for the 2006 fiscal year. In 2006, Northeast, Iowa Lakes, Kirkwood, Des Moines, and Western Iowa Tech community colleges enrolled the majority of White post-baccalaureate reverse transfer students and Kirkwood and Des Moines community colleges enrolled the majority of all minority groups followed by Eastern Iowa and Western Iowa Tech colleges.

[12] The Iowa State Department of Higher Education combined Asian and Pacific Islander populations whereas the U.S. Census Bureau does not. To compare "apples and apples" rather than "apples and oranges" the U.S. Census Bureau's two categories were combined for analysis.

Table 11a
2006 Fiscal Year, Race/Ethnicity of Post-baccalaureate Reverse Transfer Students by Community College

Community College	American Indian / Alaskan Native	Asian / Pacific Islander	Black	Hispanic	White	Unknown
1. Northeast		1	1	2	90	12
2. North Iowa						
3. Iowa Lakes		1	2		119	
4. Northwest					7	
5. Iowa Central		2			33	3
6. Iowa Valley		1	1		29	1
7. Iowa Hawkeye	1	2	2	1	41	2
9. Eastern Iowa		3	4	1	33	1
10. Kirkwood	4	10	15	11	641	56
11. Des Moines	1	10	8	7	381	46
12. Western Iowa Tech	2	3	1	1	126	11
13. Iowa Western		1			27	1
14. Southwestern					5	
15. Indian Hills		2	1	1	83	0
16. Southeastern						
Total PBRT Enrollment	***8***	***36***	***35***	***24***	***1,615***	***482***
% of Total PBRT Enrollment	***0.4%***	***1.9%***	***1.9%***	***1.3%***	***87.3***	***7.1%***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable was created for Indian Hills 2006 data because the data was clearly inconsistent with its 2007 and 2008 data. A dummy variable was created by averaging the numbers for the following two years, then re-computing applicable totals and percents that reflect the summary data for the table.
Probably due to substitute approximation, Indian Hills' total is 87 in this table rather than 85 as listed in Table 8.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Blank cells indicate true zero or data omission.
"PBRT" stands for Post-baccalaureate Reverse Transfer.
Denominator for 2006 Fiscal Year is 1,849.
If applicable, all whole numbers rounded to nearest whole.
All % numbers are rounded to nearest tenth.
Table borders intentionally left.

In 2007, more post-baccalaureate reverse transfer minority students sought for-credit education and training than in the previous year as illustrated in Table 11b on the next page. The largest increase was among Asian/Pacific Islander PBRT students, a 0.8% increase. The second largest increase, 0.6%, was among Black PBRT students. The enrollment of Hispanic PBRT students increased the smallest at 0.1%. American Indian/Alaskan Native PBRT students' enrollment decreased by 0.1%. Northeast, Indian Hills, Iowa Lakes, Eastern Iowa, Kirkwood,

Des Moines, and Western Iowa Tech community colleges enrolled the majority of White post-baccalaureate reverse transfer students, though this is likely due to concentrations of PBRT students at these colleges to begin with. Similar to 2006, Eastern Iowa, Kirkwood, and Des Moines colleges enrolled the majority of PBRT students of color.

Table 11b
2007 Fiscal Year, Race/Ethnicity of Post-baccalaureate Reverse Transfer Students by Community College

Community College	American Indian / Alaskan Native	Asian / Pacific Islander	Black	Hispanic	White	Unknown
1. Northeast		1	1	2	107	18
2. North Iowa						
3. Iowa Lakes	1	2	3	4	384	3
4. Northwest					6	
5. Iowa Central		1		1	29	3
6. Iowa Valley		1		2	27	2
7. Iowa Hawkeye		1	4	2	67	1
9. Eastern Iowa	3	19	10	10	236	33
10. Kirkwood	2	5	17	7	631	52
11. Des Moines	2	15	14	16	409	39
12. Western Iowa Tech	2	2	1	2	86	10
13. Iowa Western		1			36	1
14. Southwestern					4	
15. Indian Hills		1	1		76	
16. Southeastern						
Total PBRT Enrollment	***10***	***49***	***51***	***46***	***2,098***	***162***
% of Total PBRT Enrollment	***0.4%***	***2.0%***	***2.1%***	***1.9%***	***86.8%***	***6.7%***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Blank cells indicate true zero or data omission.
"PBRT" stands for Post-baccalaureate Reverse Transfer.
Denominator for 2007 Fiscal Year is 2,416.
All % numbers are rounded to nearest tenth.
Due to rounding error, the total percentage is 99.9 for the% of Total PBRT Enrollment.
Table borders intentionally left.

In 2008, the enrollment of all post-baccalaureate reverse transfer minority students increased with the exception again of American Indian/Alaskan Native PBRT students. The percentage of Hispanic PBRT students remained the same. Two explanations may account for

the continuous increase of Asian American/Pacific Islander and Black PBRT students from 2006 to 2008. There is either a true increase in the number of these two PBRT student subsets or more students are reporting their race; the latter is possibly indicated by the fewer unknowns in Table 11c below. Eastern Iowa, Kirkwood, and Des Moines colleges enrolled the majority of White PBRT students and, as in the prior year, the same colleges enrolled the majority of PBRT minority students.

Table 11c
2008 Fiscal Year, Race/Ethnicity of Post-baccalaureate Reverse Transfer Students by Community College

Community College	American Indian / Alaskan Native	Asian / Pacific Islander	Black	Hispanic	White	Unknown
1. Northeast		1	1		71	4
2. North Iowa					10	1
3. Iowa Lakes		1	1		47	
4. Northwest					4	
5. Iowa Central		1		2	30	1
6. Iowa Valley		1	2	2	22	3
7. Iowa Hawkeye	1	1	4	3	41	1
9. Eastern Iowa	5	23	10	11	231	28
10. Kirkwood		19	12	10	708	50
11. Des Moines		21	22	16	627	19
12. Western Iowa Tech		2			64	6
13. Iowa Western		1			26	3
14. Southwestern					2	
15. Indian Hills		2	1		89	
16. Southeastern					16	2
Total PBRT Enrollment	***6***	***73***	***53***	***44***	***1,988***	***118***
% of Total PBRT Enrollment	***0.3%***	***3.2%***	***2.3%***	***1.9%***	***87.1%***	***5.2%***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.
Blank cells indicate true zero or data omission.
"PBRT" stands for Post-baccalaureate Reverse Transfer.
Denominator for 2008 Fiscal Year is 2,282.
All % numbers are rounded to nearest tenth.
Table borders intentionally left.

Highest Degree Held

Table 12 on the next page lists the highest degree held by PBRT students for each of the fifteen community colleges in Iowa. Across all three years examined in this study, the highest degree held by most PBRT students is the bachelor's degree rather than a graduate degree. Between 2007 and 2008, the number of PBRT students holding a baccalaureate degree and attending a community college increased by nearly 15%. In 2006, Kirkwood, Des Moines, and West Iowa Tech colleges enrolled most of the PBRT students whose highest degree held is a four-year degree and in 2007 and in 2008, Eastern Iowa, Kirkwood, and Des Moines enrolled the majority of PBRT students whose highest degree is a four-year degree. Eastern Iowa Community College experienced the biggest enrollment increase in PBRT students with bachelor's degrees with a nearly 6.5 times increase between 2006 and 2007. This finding may indeed be accurate as Eastern Iowa's number of PBRT students whose highest educational attainment is a bachelor's degree is 261, only 9 students less than in 2008. Des Moines Community College experienced the second biggest enrollment increase in PBRT students with bachelor's degrees with about a 48% increase between 2007 and 2008. Kirkwood Community College followed closely behind with a 42% increase between 2006 and 2007. In contrast to Kirkwood and Des Moines colleges, Western High Tech Community College's PBRT students with four-year degrees dropped each consecutive year.

Table 12
Highest Degree Held by Post-baccalaureate Reverse Transfer Students by Community College and Fiscal Year

Community College	Highest Degree Held					
	2006 Fiscal Year		2007 Fiscal Year		2008 Fiscal Year	
	4-Year	Graduate	4-Year	Graduate	4-Year	Graduate
1. Northeast	74	32	71	58	47	30
2. North Iowa					11	
3. Iowa Lakes	13	109		397	46	3
4. Northwest	6	1	4	2	2	2
5. Iowa Central	38		34		34	
6. Iowa Valley	25	7	24	8	23	7
7. Iowa Hawkeye	43	6	67	8	42	9
9. Eastern Iowa	42		270	41	261	47
10. Kirkwood	469	268	666	48	723	76
11. Des Moines	396	57	418	77	617	88
12. Western Iowa Tech	131	13	96	7	65	7
13. Iowa Western	24	5	34	4	30	
14. Southwestern	4	1	1	3	1	1
15. Indian Hills	67	19	62	16	71	21
16. Southeastern					18	
Yearly Total PBRT Enrollment	***1,332***	***518***	***1,747***	***669***	***1,991***	***291***
% of Yearly Total PBRT Enrollment	***72%***	***28%***	***72.3%***	***27.7%***	***87.2%***	***12.8%***

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable was created for Indian Hills 2006 data because the data was clearly inconsistent with its 2007 and 2008 data. A dummy variable was created by averaging the numbers for the following two years, then re-computing applicable totals and percents that reflect the summary data for the table.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.
Blank cells indicate true zero or data omission.
4-Year equals those students who hold a bachelor's degree .
Graduate equals those hold held master's, doctoral, and professional degrees.
"PBRT" stands for Post-baccalaureate Reverse Transfer.
Denominator for 2006 Fiscal Year is 1,849; denominator for 2007 Fiscal Year is 2,416; denominator for 2008 Fiscal Year is 2,282.
If applicable, all whole numbers rounded to nearest whole.
All % numbers are rounded to nearest tenth.
Table borders intentionally left.

According to Table 12, Iowa Lakes, Kirkwood, and Des Moines community colleges enrolled the most post-baccalaureate reverse transfer students whose highest degree held is a graduate degree in the 2007 and 2008 fiscal years. Iowa Lakes Community College enrolled most of this subset of PBRT students in 2007 with 397, more than three and a half times the prior

year's enrollment. The next highest enrollment of PBRT students with graduate degrees is during the 2006 fiscal year with Kirkwood enrolling 268 students. Unlike Iowa Lakes during the same time period, fiscal year 2006 to fiscal year 2007, Kirkwood Community College realized a significant decrease in the number of PBRT students with graduate degrees attending their institution, 82% less students in 2007. In 2008, Kirkwood's PBRT graduate-degree holder enrollment did not rebound much. Des Moines Community College saw a 35% increase from 2006 to 2007 and a 14% increase from 2007 to 2008 of the enrollment of PBRT student with graduate degrees.

Career Cluster

Tables 13a through 13c below list the top three career clusters post-baccalaureate reverse transfer students enrolled in during the 2006, 2007, and 2008 fiscal years. According to the McGraw-Hill School Education Group (2002), "career cluster are groups of similar occupations and industries." All career clusters include only credit programs. I used career clusters instead of academic majors since too few PBRT students enrolled in any single major to provide meaningful examination in this analysis; the top three career clusters were used for the same reason. In addition to the 16 career cluster categories, another category, College Transfer, was included in the raw data for this analysis since 60% of all two-year college students indicate College Transfer as their intent (T. Schenk, personal communication, December 8, 2009). College Transfer encompasses only two-year liberal arts degrees. The number in parentheses in Tables 13a through 13b is the number of PBRT students who selected the respective career cluster. The College Transfer career cluster, though, may not accurately reflect a PBRT student's intentions for enrolling in a two-year institution.

As broken down in Table 13a, College Transfer (1,153) was by far the most common career cluster reported by all fifteen community colleges in Iowa followed by Health Sciences (258), and Business, Management and Administration (92) in the 2006 fiscal year. Kirkwood and Des Moines colleges enrolled the majority of PBRT students indicating interest in a major in the College Transfer cluster and Northeast, Iowa Lakes, Kirkwood, Des Moines, and Western Iowa Tech colleges enrolled most of the PBRT students interested in a major in the Health Sciences career cluster.

Table 13a
2006 Fiscal Year, Top 3 Career Cluster Enrollments Pursued by Post-baccalaureate Reverse Transfer Students by Community College, Number of Students Enrolled in Parentheses

Community College	Career Cluster Name		
1. Northeast	College Transfer (67)	Health Sciences (26)	Business, Management & Administration (6)
2. North Iowa			
3. Iowa Lakes	College Transfer (71)	Health Sciences (34)	Human Services (4)
4. Northwest	College Transfer (4)	Health Sciences (3)	
5. Iowa Central	College Transfer (21)	Health Sciences (9)	Transportation, Distribution & Logistics (3)
6. Iowa Valley	College Transfer (26)	Health Sciences (6)	
7. Iowa Hawkeye	Health Sciences (23)	College Transfer (14)	Art, AV/Technology & Communication (3)
9. Eastern Iowa	College Transfer (27)	Health Sciences (7)	Agriculture, Food, & Natural Resources (2) Architectural & Construction (2) Science, Technology, Engineering, & Mathematics (2)
10. Kirkwood	College Transfer (523)	Health Sciences (64)	Business, Management & Administration (29)
11. Des Moines	College Transfer (297)	Business, Management & Administration (44)	Health Sciences (42)
12. Western Iowa Tech	College Transfer (83)	Health Sciences (37)	Business, Management & Administration (10)
13. Iowa Western	College Transfer (19)	Health Sciences (5)	Business, Management & Administration (2)
14. Southwestern	Health Sciences (2)	College Transfer (1)	Business, Management & Administration (1) Information Technology (1)
15. Indian Hills			
16. Southeastern			

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
A dummy variable could not be created for Indian Hills 2006 data because one of the three career clusters was not the same as the 2007 and 2008' top three career clusters. The top three career clusters for 2006 are College Transfer, Health Sciences, and Manufacturing.
Fiscal year 2006 is July 1, 2005 to June 30, 2006.
Blank cells indicate true zero or data omission.
Numbers in parentheses indicates number of students enrolled in career cluster.

For a description of the career clusters, please see the official website for the States' Career Clusters Initiative (SCCI) http://www.careerclusters.org/.
Table borders intentionally left.

In 2007, post-baccalaureate reverse transfer students selected College Transfer cluster (1,343) again as their educational intention followed for a second time by Health Sciences (571) and Business, Management, Administration (81) career clusters as illustrated in Table 13b on the next page. Compared to 2006, though, more post-baccalaureate reverse transfer students in 2007 expressed interest in Health Sciences degrees. More PBRT students pursued majors in the College Transfer career cluster and about the same number of PBRT students pursued majors categorized in the Business, Management, and Administration cluster. Iowa Lakes, Eastern Iowa, Kirkwood, and Des Moines colleges enrolled the most PBRT students completing a degree in the College Transfer and Health Sciences career clusters. This makes sense as these four institutions each enrolled more PBRT students than the other community colleges.

Table 13b
2007 Fiscal Year, Top 3 Career Cluster Enrollments Pursued by Post-baccalaureate Reverse Transfer Students by Community College, Number of Students Enrolled in Parentheses

Community College	Career Cluster Name		
1. Northeast	College Transfer (75)	Health Sciences (36)	Business, Management & Administration (9)
2. North Iowa			
3. Iowa Lakes	Health Sciences (210)	College Transfer (83)	Transportation, Distribution & Logistics (47)
4. Northwest	College Transfer (3)	Health Sciences (2)	Business, Management & Administration (1)
5. Iowa Central	Health Sciences (20)	College Transfer (7)	Manufacturing (3)
6. Iowa Valley	College Transfer (24)	Health Sciences (6)	Agriculture, Food, & Natural Resources (1) Information Technology (1)
7. Iowa Hawkeye	Health Sciences (33)	College Transfer (27)	Manufacturing (4)
9. Eastern Iowa	College Transfer (196)	Health Sciences (58)	Science, Technology, Engineering, & Mathematics (9) Transportation, Distribution & Logistics (9)
10. Kirkwood	College Transfer (490)	Health Sciences (74)	Business, Management & Administration (32)
11. Des Moines	College Transfer (334)	Health Sciences (57)	Business, Management & Administration (32)
12. Western Iowa Tech	College Transfer (55)	Health Sciences (25)	Business, Management & Administration (6)
13. Iowa Western	College Transfer (22)	Health Sciences (11)	Education & Training (2)
14. Southwestern	Architectural and Construction (1)	Art, AV/Technology & Communications (1)	Business, Management & Administration (1) College Transfer (1)
15. Indian Hills	Health Sciences (39)	College Transfer (27)	Information Technology (6)
16. Southeastern			

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between 1962 and 1964.
Fiscal year 2007 is July 1, 2006 to June 30, 2007.
Blank cells indicate true zero or data omission.
Numbers in parentheses indicates number of students enrolled in career cluster.
For a description of the career clusters, please see the official website for the States' Career Clusters Initiative (SCCI) http://www.careerclusters.org/.
Table borders intentionally left.

In 2008, post-baccalaureate reverse transfer students most commonly enrolled in the College Transfer (1,449), Health Sciences (411), and Business, Management, and Administration (46) career clusters, as shown in Table 13c below. Unlike for fiscal years 2006 and 2007, there is data available about the career clusters PBRT students enrolled in at North Iowa and Southeastern community colleges. Less PBRT students designated Health Sciences and

Business, Management, and Administration fields as their goal in 2008 in contrast to 2007 and more PBRT student in 2008 selected College Transfer than in 2007. Eastern Iowa, Kirkwood, and Des Moines colleges registered the most PBRT students interested in pursuing degrees in the College Transfer and Health Sciences clusters, while Des Moines Community College enrolled the most PBRT students seeking to complete a major classified in the Business, Management, and Administration career cluster.

Table 13c
2008 Fiscal Year, Top 3 Career Cluster Enrollments Pursued by Post-baccalaureate Reverse Transfer Students by Community College, Number of Students Enrolled in Parentheses

Community College	Career Cluster Name		
1. Northeast	College Transfer (43)	Health Sciences (20)	Architectural & Construction (4) Business, Management & Administration (4)
2. North Iowa	Health Sciences (5)	College Transfer (4)	Business, Management & Administration (2)
3. Iowa Lakes	Health Sciences (32)	College Transfer (11)	Architectural & Construction (3)
4. Northwest	College Transfer (4)		
5. Iowa Central	Health Sciences (18)	College Transfer (7)	Manufacturing (4)
6. Iowa Valley	College Transfer (22)	Health Sciences (6)	Art, AV/Technology & Communication (1) Human Services (1)
7. Iowa Hawkeye	Health Sciences (20)	College Transfer (17)	Art, AV/Technology & Communication (4) Manufacturing (4)
9. Eastern Iowa	College Transfer (195)	Health Sciences (66)	Transportation, Distribution & Logistics (9)
10. Kirkwood	College Transfer (510)	Health Sciences (107)	Information Technology (36)
11. Des Moines	College Transfer (541)	Health Sciences (55)	Business, Management & Administration (33)
12. Western Iowa Tech	College Transfer (34)	Health Sciences (25)	Business, Management & Administration (6)
13. Iowa Western	College Transfer (19)	Health Sciences (7)	Education & Training (1) Hospitality & Tourism (1) Science, Technology, Engineering, & Mathematics (1) Transportation, Distribution & Logistics (1)
14. Southwestern	Art, AV/Technology & Communication (1)	Business, Management & Administration (1)	
15. Indian Hills	Health Sciences (49)	College Transfer (27)	Information Technology (8)
16. Southeastern	College Transfer (15)	Health Sciences (1)	Human Services (1)

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number #8 college due to a merging of two area education districts between years 1962 and 1964.
Fiscal year 2008 is July 1, 2007 to June 30, 2008.

Blank cells indicate true zero or data omission.
Numbers in parentheses indicates number of students enrolled in career cluster.
For a description of the career clusters, please see the official website for the States' Career Clusters Initiative (SCCI) http://www.careerclusters.org/.
Table borders intentionally left.

Although College Transfer was the most frequently enrolled career cluster for each of the three fiscal years looked at in this study, for a couple of reasons it is questionable that post-baccalaureate reverse students are seeking to complete two-year liberal arts degree. One, as discussed in the literature review, it contradicts recent research findings which found PBRT students are mainly interested in pursuing health science majors and updating skills. Two, community colleges classify PBRT students as College Transfer who are seeking to apply to selective admissions programs but who have not yet completed the prerequisite coursework required to apply to the program. In essence, the College Transfer cluster functions, then, as a "holding" category in this instance, which may be technically correct but unfortunately disguises the intent of PBRT students to investigators of the phenomenon of post-baccalaureate reverse transfer. Finally, PBRT students may indicate College Transfer as their intent because they may want to explore careers before committing to a specific program. Beginning in fiscal year 2009 (July 1, 2009), the Iowa Department of Education started auditing the student's major (e.g., career clusters); therefore, the data in this study only reflects what students have chosen at the time and not what certificate or degree they ultimately completed (T. Schenk, personal communication, December 11, 2009).

LIMITATIONS OF THE STUDY

This exploratory study about post-baccalaureate reverse transfer students in Iowa was limited to using descriptive, quantitative data of the last three fiscal years for which data was available, 2006, 2007, and 2008. Age, gender, and race/ethnicity are the only demographic information the Iowa State Department of Education requires community colleges to submit to them for all students regardless of students' prior educational attainment.

Many previous studies utilized both quantitative and qualitative research methods (Becker, 2000; McHugh, 2003; Quinley and Quinley, 1999; Townsend, 2003). Of the studies relying solely on quantitative methods, all of them employed a survey as part of their research methodology (Brand, 2005; Reusch, 2000; Winter, Harris, and Ziegler, 2001) except for Patricia Windham (2000) who utilized two state-level databases to conduct research about PBRT students. One of the mixed method studies did not employ a survey design and relied on student records instead (Quinley and Quinley, 1999) whereas another mixed method used a filtered database, survey, and electronic mail interviews (Becker, 2000). The authors who used mixed methodology always employed the interview as their qualitative method. I note here the research methodologies of the recent research about post-baccalaureate reverse transfer students because they illustrate the limitations of the present study. Specifically, the present study is limited by the following:

1. This study was limited to examining a narrow range of demographic characteristics, age, gender, and race/ethnicity. In addition to the three looked at in this study, prior studies also examined marital status (divorced, married, single), number of dependents, employment status (full- or part-time, unemployed), and student/attendance status (full-

or part-time) to gain further insight into the post-baccalaureate reverse transfer phenomenon.

2. This study was also limited by the legitimacy of the highest degree held data. The data for this study was obtained from the Iowa State Department of Education, Division of Community Colleges and Workforce Development, who are unable to audit the highest degree held data as two-year colleges do not require official college transcripts to enroll in their institutions. Thus, the highest degree held data in this study is based solely on students' self reports. The highest degree held data is also limited in that the type of graduate degree (e.g., master's, doctoral, professional) was unknown.
3. This study was further limited to examining one academic characteristic, the career cluster for which PBRT students enrolled in, whereas prior studies examined additional academic characteristics such as PBRT students' undergraduate (career or liberal arts majors) and graduate fields of study and the number of credit hours completed at the two year college post baccalaureate. Some studies also looked at the number of PBRT students who attended a two-year college during their undergraduate education.

CONCLUSION

The profile of the post-baccalaureate reverse transfer student in Iowa is a White male, age 35, whose highest level of education is a bachelor's degree and is likely to be enrolled in a college transfer or health science program of study in an urban community college. The present study found that post-baccalaureate reverse transfer students in Iowa comprised 1.4 to 1.9% of the total credit community college enrollment in Iowa between the fiscal years 2006 to 2008 with a 0.5% increase between the 2006 and 2007 years. This study's results provide a starting point for further and more in-depth research about post-baccalaureate reverse transfer students in Iowa. Lee Hermiston on September 10, 2009 reported that Kirkwood Community College experienced an increase in returning students, defined as 24 years and older; Kirkwood, did not know how many of them held a bachelor's degree. Conducting a study similar to the present in a couple of years from now might provide different results than this researcher found. Since health sciences figured prominently in this study's findings, a study design similar to that of Evan McHugh's (2003) might be worthwhile to configure in research about Iowa's PBRT student population.

DISCUSSION

Recommendations for Practice

The implications for people who hold bachelor's degrees or higher attending two-year colleges for credit coursework are several. Three areas will be examined here: funding and student services for post-baccalaureate reverse transfer students and the presence of PBRT students in classes on two-year campuses.

In discussing the implications of post-baccalaureate reverse transfer students, Daniel Phelan (1999) noted that, "for policymakers, providing additional assistance to post-baccalaureate revere transfers at community colleges seems to be fiscally redundant" (p. 78). As Phelan (1999) explained, community college administrators must already contend with increasingly limited state financial support and providing even more with less may not be possible for administrators. Despite the widespread acknowledgement that there is a need for lifelong learning in today's globally competitive world, there might not be as strong a case for lifelong learning in the form of credit coursework if it displaces students without bachelor's degrees. These potentially displaced students could be traditional college-age students or older adults returning to school without academic credentials. To avoid this situation, community college leaders and employers from all sectors of the economy – not just the private sector – need to make the argument that as the economy changes, so do their needs for the types of skills and areas of knowledge required to be competitive. Community college leaders need to consistently make the case to state lawmakers that lifelong learning entails costs and those costs must be addressed with taxpayer money instead of just lobbying the Federal government for one-time or short-term grants. To be effective, extensive and reliable data about the presence and needs of PBRT students must be collected and presented to state lawmakers. As Barbara

Townsend (1999) explained, PBRT students attend community colleges because four-year colleges do not meet their needs.

As this study demonstrated, obtaining extensive information about post-baccalaureate reverse transfer students is problematic without employing a survey and interviewing PBRT students. Moreover, issues of accuracy arise when researchers use data that were not audited as in the case of the highest degree held data in this study. Two-year colleges should therefore require all students with a bachelor's degree or higher to submit unofficial copies of transcripts of prior coursework before enrolling in classes. Official transcripts could be required; however, this might cause a financial burden to some. Secondly, community colleges should track the courses and programs in which PBRT students enroll. These efforts would validate the number of PBRT students attending an institution and provide information about the courses and programs PBRT students are enrolling in. Altogether, two-year colleges would have concrete data to give to state lawmakers in order to justify increased funding for offering more sections of high-demand courses and spots in competitive programs like nursing and allied health fields.

Although the literature explained that post-baccalaureate reverse transfer students were satisfied with their experience at the two-year college, some of the interviews conducted with post-baccalaureate reverse transfer students indicated a perception that student services were of limited used to them. For example, Dianne Reusch (2000) discovered that PBRT students more frequently utilized friends and relatives as sources of career guidance in her investigation of this population of students in six Illinois community colleges. Barbara Townsend and Rivkah Lambert (1999) found that, "most students did not desire counseling, advising about courses, or an orientation session" in their study of PBRT students in two states (p. 70). These realities may challenge community colleges that do not have policies and procedures in place to allow PBRT

students to efficiently register and easily acquaint themselves with the college without the more extensive orientation typically required or offered to traditional-age or new students in postsecondary education. It may also challenge student services professionals who are more accustomed to using developmental advising methods when counseling students. Instead, academic and career advisors may need to adopt a more informational approach when interacting with PBRT students.

The latest research about the post-baccalaureate reverse transfer phenomenon did not examine post-baccalaureate reverse transfer students; rather it looked at the experiences of faculty teaching PBRT students alongside students without four-year degrees. Scott Smith (2008) conducted this qualitative study and interviewed eight instructors who taught career-based courses at one of the two-year colleges in Colorado. Smith (2008) found through his interviews that instructors positively related to PBRT students as equals (professional to professional) and adjusted their teaching styles to accommodate both PBRT students and students without bachelor's degrees. Smith (2008) summarized the instructors' observations about the dynamics between these two groups of students: while "students displayed fears and vulnerabilities towards each other…as time evolved, fear was replaced by bonding and vulnerability morphed into cross-learning relationships" (p. 128). Smith's (2008) findings suggest that the teaching and learning experience for all may be enhanced with the presence of PBRT students in the classroom at the two-year college.

Recommendations for Further Research

The majority of studies about the post-baccalaureate reverse transfer student phenomenon reviewed in this study present comprehensive demographic profiles of PBRT students and describes their experience at the two-year college. More recently, the research has moved into new directions with Evan McHugh's (2003) investigation of a subset of the PBRT student population, prospective nursing and allied health PBRT students, and Smith's (2008) inquiry into the experiences of faculty teaching PBRT students. But these are just two examples, and as noted early in the literature review in this paper, 60% of the states do not have any information about their post-baccalaureate reverse transfer student population. Thus, there is ample opportunity to establish a solid foundation of information about the PBRT student population in several states. After such information is developed, research should be conducted to explore specific subsets of the post-baccalaureate reverse transfer population such as those applying to selective admissions programs and to investigate the experience of not only faculty interactions with PBRT students, but the experiences of student affairs professionals and non-PBRT students, neither of which has been explored.

In terms of establishing a national demographic profile of post-baccalaureate reverse transfer students, the High School and Beyond database is inappropriate to use because the dataset is not designed to follow students beyond the average age of PBRT students and even if it did, the dataset may not capture all degree-holding students. Another problem with national datasets is that they cannot provide timely information to community colleges leaders and state policymakers. Paul Winter, Michael Harris, and Craig Ziegler (2001) stated, "studies…should be conducted in other regions of the country to develop a national profile of reverse transfer students" (p. 279). This seems like the best strategy to employ both in the short term and in the

long term as PBRT student populations may vary according to regional economical differences (e.g., regional differences in unemployment rates and access to middle-class jobs).

Two final issues in the research include settling on an appropriate and consistently used term for the post-baccalaureate reverse transfer student population and deciding at what point in time we will stop referring to the post-baccalaureate reverse transfer student as a "phenomenon." Townsend (personal communication, July 3, 2008) stated that,

> My work helped popularize the label "post-baccalaureate reverse transfer students," but I no longer use the phrase because it is potentially misleading. The only way people with a baccalaureate or higher can be reverse transfer students is if they literally transfer some credits from their bachelor's degree into a community college program. It is my sense that most of the people with a bachelor's degree or higher are not doing this.

While technically it is true that to transfer, credits must be transferred from one institution to another, the research does not address whether or not PBRT students transfer credit from their baccalaureate degree to an associate's degree. Christine LeBard (1999) summarized that,

> The term "reverse transfers" may be a misnomer because it assumes that four-year institutions are the pinnacle of higher education. Designating students who follow multiple transfer patterns with terms such as "reverse" implies that these students are regressing. Such terminology belies the fact that nearly 15 percent of all college students who follow multiple transfer patterns successfully attain the baccalaureate before transferring (Bach et al., 1999).

Indeed, in 2006, Alan Sturtz described higher education as a "huge mall" where students "shop" for different educational experiences from different institutions (p. 151). While the word "reverse" may carry a negative connotation, the real controversy may be that it challenges the academic establishment's assumptions about how students should progress in educational attainment, horizontal versus vertical.

Post-baccalaureate reverse transfer students have been commonly referred to in the literature as "completers," "degree-holders," and both of these acronyms, "PBRT" and "PRTS," and variations of them, such as PRT-1 and PRT -2 (Yang, 2006), have been used to describe

students who hold bachelor's degrees or higher and attend a two-year college. Po Yang (2006) used PRT-1 to reference PBRT students enrolled in certificate and degree programs and PRT-2 to reference PBRT students who attend community colleges "for contract training, welfare-to-work programs, adult education projects or skill upgrading and employment preparation" (p. 62). This dichotomy, however, fails to consider that PBRT students may not view certificates and degrees as separate from skill upgrading and employment preparation. The terms completers and degree holders were used to differentiate PBRT students from undergraduate reverse transfer (URT) students. Degree holders may seem like an appropriate term to use, however, that would not distinguish students with associate degrees who continue on at their community college or attend a different two-year institution for a second associate's, another unexamined trend in higher education (T. Schenk, personal communication, October, 2009).

The remaining issue to be dealt with in the literature is at what point in time the post-baccalaureate reverse transfer student population will no longer be referred to as a "phenomenon" and thought of as just another population the community college serves. The word "phenomenon" conveys a meaning of an unusual occurrence. In 1976 Robert Rue first recognized people with bachelor's degrees attending two-year colleges, and as recently as 2007 the American Association of Community Colleges ascertained 8% of the two-year college population held a baccalaureate degree or higher (Lum). While some of the increase in the number of PBRT students may be attributable to recent recessions, workforce and economic analyses may show that on-going structural changes in the U.S. economy are compelling people with bachelor's degrees or higher to return to two-year colleges on a regular basis. Therefore, the post-baccalaureate reverse transfer student population may not be a phenomenon but rather an established constituency of the community college (Lum, 2007). Time will tell.

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APPENDICES

Appendix Table 1
Post-baccalaureate Reverse Transfer Students Publications

Author (Date)	Publication Title	Publication Name
Robert Rue (1976)	Will it be held against me?	Community and Junior College Journal
Dorothy Knoell (1976)	Through the Open door: A Study of Patterns of Enrollment and Performance in California's Community Colleges	California Postsecondary Education Commission
Sally Bethune (1977)	Retooling the College Graduate	Community College Review
Nancy K. Renkiewicz et al. (1982)	Transfers: It's a Two-Way Street	Community and Junior College Journal
D. J. Anderson (1982)	Reverse Transfer Students at the Community College of Denver: An Analysis of Selected Characteristics and Implications for Student Development Programs and Services	Doctoral Dissertation
Stewart R. Rooth (1982)	The Reverse Transfer Student: An Advantaged Group Returns to Postsecondary Education	Doctoral Dissertation
Robert A. Ross (1982)	The Reverse Transfer Phenomenon at Piedmont Virginia Community College, Fall Quarter, 1981	Piedmont Virginia Community College Research Report
Julie Y. Slark (1982)	Reverse Transfer Student Study	ERIC ED221248
E. L. Boyd (1983)	The Reverse Transfers: An Emerging Curriculum Student Group in the North Carolina College System	Doctoral Dissertation
Robert G. Templin, Jr. (1983)	Keeping the door opened for disadvantage students	In G. Vaughan (Ed.) Issues for Community College Leaders in a New Era
Grace N. Mitchell Berg (1984)	The Reverse Transfer, Lateral Transfer, and First-Time Community College Student: A Comparative Study	Doctoral Dissertation
A.C. Steenhoek (1984)	The Reverse Transfer Student and Comparisons of the Reverse Transfer Student to the Lateral Transfer Student, and the Native Student at Cerritos College	Doctoral Dissertation
Rosann R. Hogan (1986)	An Update on Reverse Transfers to Two-Year Colleges	Community/Junior College Quarterly of Research and Practice

Cathie J. Jackson (1990)	Reverse Transfer Students: Students Who Transfer from Area Universities to the Junior College	Doctoral Dissertation
D. F. Klepper (1990)	A descriptive analysis of completer transfer students at a Virginia community college	Doctoral Dissertation
Alex Kajstura and Marybelle C. Keim (1992)	Revere Transfer Students in Illinois Community Colleges	Community College Review
T. H. Bers (1992)	Yet another look at transfer: Oakton students and Bachelor's degree recipients at Illinois public universities	ERIC ED352087
Rhona Joy Lambert (1993) Author's name is now: Rivkah Lambert Adler	College-wise: Post-baccalaureate Reverse Transfer Students Attending Baltimore Community Colleges	Doctoral Dissertation
N. J. Mattice (1993)	Students with baccalaureate degrees	ERIC ED354951
W. H. Trombley (1993)	Public Policy by Anecdote: The Case of Community College Fees	ERIC ED356806
C. R. Chan and C. McIntyre (1994)	California Community Colleges Report on Enrollment, 1990-1993	ERIC ED377927
Melissa A. Delaney (1995)	Reverse Registrants in Community Colleges	Doctoral Dissertation
W. E. Piland (1995)	Community College Transfer Students Who Earn Bachelor's Degrees	Community College Review
John W. Quinley and Melissa P. Quinley (1998)	Four-Year Graduates Attending Community Colleges: A New Meaning for the Term "Second Chance"	Community College Research Center
Ben Gose (1997)	A Community College in Virginia Attracts Ph.D.'s—as students	Chronicle of Higher Education
K. J. Halverson (1997)	A Degree Later: An Analysis of the Reverse Transfer Phenomenon of Baccalaureate Degreed Students Attending Minnesota's Technical Colleges	Doctoral Dissertation
M. K. Kinnick et al. (1997)	Student transfer and outcomes between community colleges and a university within an urban environment	ERIC ED410895

Barbara K. Townsend (1998)	Reverse Diploma Transfer Students in a Technical Institute	Listed in references of Townsend and Dever (1999)
Terry L. Barnes and Laura M. Robinson (1999)	Bachelor's Degree Students Attending Community Colleges: A Look at Post-baccalaureate Reverse Transfer Students	New Directions for Community Colleges
James L. Catanzaro (1999)	Understanding and Recruiting the Reverse Transfer Student: A Presidential Perspective	New Directions for Community Colleges
Linda Serra Hagedorn and Consuelo Rey Castro (1999)	Paradoxes: California's Experience with Reverse Transfer Students	New Directions for Community Colleges
Christine M. LeBard (1999)	Sources and Information on the Scope and Impact of Reverse Transfers	New Directions for Community Colleges
Christine M. LeBard (1999)	Reverse Transfers in the Community College	ERIC Digest ED433871
Barbara K. Townsend (1999)	Telling the Community College Story: The transfer Function	ERIC ED430615
Barbara K. Townsend and Rivkah Y. Lambert (1999)	Post-baccalaureate Reverse Transfers in Maryland and Tennessee: Institutional Problems and Possibilities	New Directions for Community Colleges
Barbara K. Townsend and John T. Dever (1999)	What Do We Know About Reverse Transfer Students?	New Directions for Community Colleges
James Royce Weaver (1999)	Motivating Factors for Post-Baccalaureate Students Enrolled in Credit Programs in South Carolina Technical Colleges	Doctoral Dissertation
Paul A. Winter and Michael R. Harris (1999)	Community College Reverse Transfer Students: A Field Survey of a Nontraditional Student Group	Community College Review
John W. Quinley and Melissa P. Quinley (1999)	The Urban Post-baccalaureate Reverse Transfer Student: Giving Meaning to the Term *Second Chance*	New Directions for Community Colleges
Deborah A. Becker (2000)	A study of post-baccalaureate reverse transfers in two Florida community colleges	Doctoral Dissertation
Kent Phillippe and Michael Valiga (2000)	Faces of the Future: Summary Findings	American Association of Community Colleges
Barbara K. Townsend (2000)	Rationales of Community Colleges for Enrolling Reverse Transfer Students: A Second Chance for Whom?	Community College Journal of Research and Practice

Barbara K. Townsend (2000)	Selected Policy Issues Facing the 21st Century Community College	Paper presented to the Alabama Community College Leadership Academy
Dianna Lynn Reusch (2000)	The Nature and Characteristics of Post-Baccalaureate Reverse Transfer Students and Their Utilization of Career Guidance	Doctoral Dissertation
Patricia Windham and George Perkins (2000)	An Investigation of the Highest Degree held by Community College Students	Journal of Applied Research in the Community College
Alyssa Bryant (2001)	Eric Review: Community College Students: Recent Findings and Trends	Community College Review
Barbara K. Townsend (2001)	Four-Year college Students' Use of the Community college: A Middle-Class Takeover?	Paper presented at the Annual Meeting of the Association for the Study of Higher Education
Myron Pope et al. (2001)	Post Baccalaureate Reverse Transfer Implications for Community College Student Services	Paper presented at the Annual Meeting of Johnson County Community College and Oakton Community College
Paul A. Winter et al. (2001)	Community College Reverse Transfer Students: A Multivariate Analysis	Community College Journal of Research and Practice
Evan J. McHugh (2003)	Post-baccalaureate Reverse Transfer Students and Two-Year Restrictive Access Allied Health Programs	Doctoral Dissertation
Barbara K. Townsend (2003)	The Two-Year College as a First Choice, Second Chance Institution for Baccalaureate-Degree Holders	Community College Journal of Research and Practice
Samuel T. Brand (2005)	Socioeconomic factors that affect the enrollment of post-baccalaureate reverse transfer students at Meridian Community College	Doctoral Dissertation
California Postsecondary Education Commission (2006)	Back to College: Are University Graduates Returning to Community Colleges?	California Postsecondary Education Commission
Angela Provitera McGlynn (2006)	Transfers from Four-Year to Two-Year Colleges Grow	Hispanic Outlook in Higher Education
Po Yang (2006)	UCLA Community College Review: Reverse Transfer and Multiple Missions of Community College	Community College Review
Lydia Lum (2007)	Community Colleges Are Portals to New Career Paths	Diverse Issues in Higher Education

Scott R. Smith (2008)	Community College Instructors' Experiences with Post-Baccalaureate Reverse Transfer Students: A Phenomenology	Doctoral Dissertation

Note: Source: Appendix Table 1 consists of publications about or which include descriptions and/or data of post-baccalaureate reverse transfer students in the U.S. This list does not include publications about *only* undergraduate reverse transfer students or publications like Michael Heinze and Jack Daniels' (1970) and Edward Hudak's (1983) that do not differentiate between undergraduate reverse transfer and post-baccalaureate reverse transfer students. When an article was found based on a dissertation, the dissertation was only listed. Literature search included ERIC (search term: "reverse transfer"), ProQuest database (search term: "post-baccalaureate reverse"), and reference list of journal articles and doctoral dissertations. Articles are listed in chronological, alphabetical order. Every effort was made to be as accurate and complete as possible. Table borders intentionally left due to length of table.

Appendix Table 2
Full name of Iowa's fifteen community colleges

Community College Full Name
1. Northeast Iowa Community College
2. North Iowa Area Community College
3. Iowa Lakes Community College
4. Northwest Iowa Community College
5. Iowa Central Community College
6. Iowa Valley Community College District
7. Iowa Hawkeye Community College
9. Eastern Iowa Community College District
10. Kirkwood Community College
11. Des Moines Area Community College
12. Western Community College
13. Iowa Western Community College
14. Southwestern Community College
15. Indian Hills Community College
16. Southeastern Community College

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number # 8 due to a merging of two area education districts between years 1962 and 1964
6. Iowa Valley Community College District consists of Ellsworth Community College in Iowa Falls, Marshalltown Community College and Iowa Valle Continuing Education in Marshalltown, and a satellite campus in Grinnell. http://www.iavalley.edu/index.htm
9. Eastern Iowa Community College District consists of Clinton Community College in Clinton, Muscatine Community College in Muscatine, and Scott Community College in Bettendorf. http://www.eicc.edu/business/general/aboutus/index.html

Appendix Table 3
Full List of Career Clusters

Career Cluster Name
Agriculture, Food, and Natural Resources
Architectural and Construction
Art, AV/Technology & Communication
Business, Management & Administration
Education and Training
Finance
Government and Public Administration
Health Sciences
Hospitality and Tourism
Human Services
Information Technology
Law, Public Safety, and Security
Manufacturing
Marketing, Sales, and Service
Science, Technology, Engineering, and Mathematics
Transportation, Distribution & Logistics

Note. Source: Iowa Department of Education, Division of Community Colleges and Workforce Development.
There is no number # 8 due to a merging of two area education districts between years 1962 and 1964.
For a description of the career clusters, please see the official website for the States' Career Clusters Initiative (SCCI) http://www.careerclusters.org/

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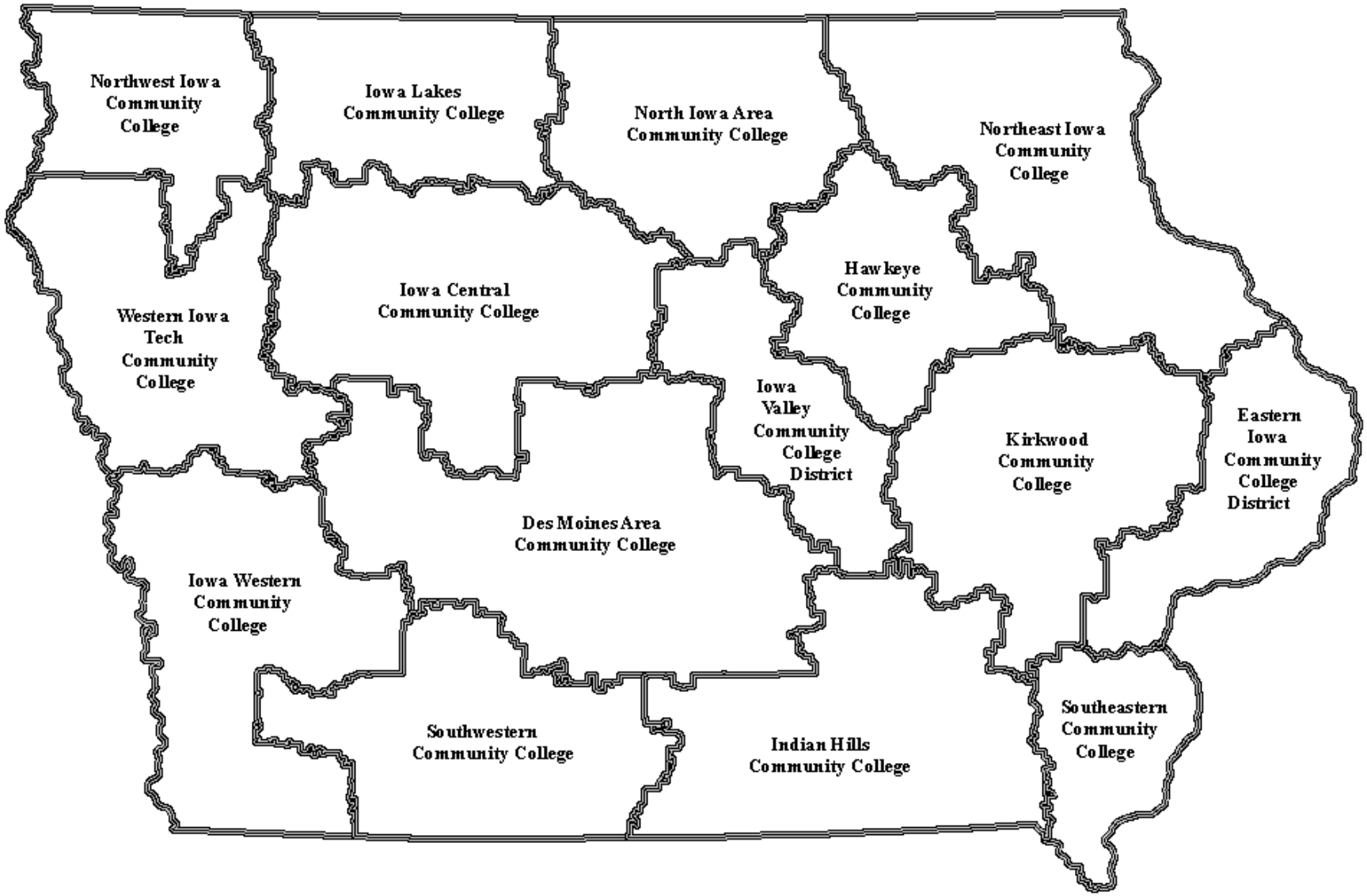
Northwest Iowa Community College
Iowa Lakes Community College
North Iowa Area Community College
Northeast Iowa Community College
Iowa Central Community College
Hawkeye Community College
Western Iowa Tech Community College
Iowa Valley Community College District
Kirkwood Community College
Eastern Iowa Community College District
Des Moines Area Community College
Iowa Western Community College
Southwestern Community College
Indian Hills Community College
Southeastern Community College