

The Importance of Being Educated

Wage Benefits for Indiana's Adult Students





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Executive Summary

ven modest levels of postsecondary educational pursuit can result in significant wage gains for adult students at twoyear institutions.

Adult students—those who begin enrollment in postsecondary institutions when they are 25 years or older—who attempted between 25 and 36 college credit hours earned \$1,000 more in annual wages compared to adult students who attempted fewer than 12 college credit hours.

Adult students-frequently called non-traditional students-who attempted 37 to 48 credit hours also earned, on average, \$1,000 more in annual wages. Those students who attempted 49 to 60 credit hours achieved even higher wage gains-\$2,300 more on average—compared to adult students attempting fewer than 12 credit hours.

The annual wage gains from academic pursuit depended upon the program of study. Adult students who were industrial arts and consumer services majors and pursued 25 to 36 credit hours earned, on average, about \$5,100 more per year than those who attempted fewer than 12 college credit hours.

Other programs of study were not as rewarding. Adult students in most other academic programs earned less than the \$1,000 average bump in annual wages resulting from attempting 25 to 36 hours. Precise values for the benefits of academic pursuit for other programs of study could not be statistically substantiated.

An adult student who earned an associate degree gained, on average, about \$4,100 per year more in wages than those who attempted less than 12 college credits.

The benefits of earning an associate degree also depended on An adult student who earned an associate degree gained, on average, about \$4,100 per year more in wages than those who attempted less than 12 college credits.

the program of study. Only those completing degrees in health and industrial arts and consumer services received an unequivocally higher boost than those who attempted less

than 12 college credits, although completers majoring in computers and math also tend to earn more. Health majors gained, on average, \$9,900 more per year in wages, while industrial arts and consumer services majors gained \$7.000 more annually than those who attempted less than 12 college credits.

This research studied adult students who attended Indiana's public two-year institutions. Of the 20,263 students included in this study, Ivy Tech enrolled 89 percent and Vincennes University enrolled 11 percent. Of all the students who first enrolled at Indiana's public two-year institutions between the fall of 1999 and spring of 2002, more than 43 percent met the age and employment conditions for this research.

An educated workforce is the bedrock of economic development at the local, state and national levels. Unfortunately, a large portion of the adult population in the U.S. has not pursued additional education.

Summary of Indiana Tipping Point Research Results

Annual Wage Differential by Academic Pursuit⁵					
25-36 Credit Hours Attempted	\$1,000				
37-48 Credit Hours Attempted"	\$1,000				
49-60 Credit Hours Attempted	\$2,300				
Annual Wage Differential by Academic Attainment ⁵					
Associate Degree	\$4,100				

Compared to those attempting 12 credit hours or less
Significant at 0.09 level; ** Significant at 0.17 level; Other figures are significant at 0.05 level or lower

Annual Wage Differential by Academic Pursuit by Program of Study [§]					
Industrial Arts and Consumer Sciences					
25-36 Credit Hours Attempted	\$1,000				
Annual Wage Differential of Associate Degree Attainment by Program of Study ⁶					
Health	\$9,900				
Industrial Arts and Consumer Sciences	\$7,000				

⁶Compared to those attempting 12 credit hours or less Note: All figures are significant at 0.05 level or lower

According to recent statistics reported by the Census Bureau, 49.2 percent of U.S. adults 25 years of age and older have opted out of continuing their education past high school. In Indiana, 55.3 percent have opted out.

Despite the importance of their educational advancement to economic growth and higher living standards, relatively little is known about the unique educational experiences of adult students in Indiana. The educational experiences and employment outcomes of adult students can differ dramatically from those of traditional college-aged students. Compared to students who enroll in college soon after high school, a significantly greater percentage of those who start college after age 24 never complete their

Given that a vast majority of adult students begin their postsecondary pursuit at community colleges, recent research has focused on the challenges and successes of these two-year institutions. For example, a study conducted in the state of Washington identified a "tipping point," or academic threshold, beyond

which adult students at community and technical colleges experienced significant economic wage gains. This Indiana study replicated much of the original Washington tipping point study.

Recently, more research resources have targeted non-traditional adult students. These older students may want to advance their education, but encounter a variety of barriers—for example, the need to financially support a family—that may prevent them from doing so.

Future research on both community colleges and adult students is planned to:

- Estimate the annual economic benefits of the technical and vocational certification
- · Determine the effects of age on the wage gains of postsecondary certificate recipients
- Estimate the wage differentials of all who earn degrees at Indiana public institutions
- Determine the rates and duration of unemployment for those who have earned degrees at Indiana public institutions

This study was supported by Lumina Foundation for Education as part of a larger effort to advance the Indiana Workforce Intelligence System (IWIS). IWIS data was used to estimate the wage benefits of educational attainment and pursuit. The Lilly Endowment provided support for the initial stages of IWIS development by the Indiana Business Research Center (IBRC) through its Information for Indiana grant, and the Joyce Foundation provided early support to the Indiana Department of Workforce Development for this effort.

For more information, please contact Dr. Timothy Slaper at tslaper@indiana.edu. 🍇



Introduction

n educated workforce is the bedrock of economic development at the local, state and national levels. Unfortunately, a large portion of the adult population in the U.S. has chosen not to (or is unable to) pursue additional education opportunities after high school.

According to the most recent statistics reported by the U.S. Census Bureau, the portion opting out of educational pursuit comprises 49.2 percent and 55.3 percent of the U.S. and Indiana populations, respectively. This is unfortunate. Most new jobs and the vast majority of jobs that pay wages sufficient to support a family require at least some education beyond high school (Carnevale and Derochers, 2003). Low educational attainment is also associated with higher rates of unemployment and poverty.

Given that such a large portion of the population has opted out of educational pursuit, economic development and higher living standards are at potential risk. Yet, relatively little is known about how to re-engage those who opt-out or how to improve their chances of success once they pursue additional education.

The unique experiences of adult students—those 25 years or older who enter community college with limited education has been relatively unexplored. Their experiences and Compared with college students who enrolled soon after high school, a significantly greater percentage of those who start after age 24 earn neither an associate degree nor other educational certification.

outcomes differ from traditional college-aged students. Compared with college students who enrolled soon after high school, a significantly greater percentage of those who start after age 24 earn neither an associate degree nor other educational certification. Non-traditional adult students (adult students for short) may desire to advance their education, but a variety of barriers—needing to support a family, for example—may hinder them from doing so.

Recently, more research and resources have targeted adult students. Given that many begin their postsecondary pursuit at community colleges, recent research has focused on the challenges and successes of these two-year institutions. For example, a study for the state of Washington identified a "tipping point," or academic threshold, beyond which adult students at community

and technical colleges experienced substantial wage gains (Prince and Jenkins, 2005).

This study sought to replicate the Washington study to determine the experience of Indiana adult students. The Indiana research differs from the original Washington State tipping point study. For example, the data for the cohort of Indiana adult students did not record course completion—that is, whether the student completed and earned credit for a course in which she or he was enrolled. The Indiana data set used the concept of educational pursuit instead, that is, whether a student enrolled in a course, but did not necessarily complete the course. The Indiana tipping point study did extend the Washington State study by examining the effect of academic majors on wage gains. 🍇

The Challenges

dult students present community colleges with two great challenges: transform the "opt-outs" into "opt-ins" and ensure that adult students have the resources to succeed.

College and university administrators, policymakers and social scientists have studied issues of higher education access and affordability for students in an effort to increase the number of students pursuing education beyond high school. Their goal has been to increase educational pursuit. Recently, these same stakeholders have also turned their attention to increasing graduation rates.

But at what point does education pay off? Is it only after graduation (attainment), or are there some positive returns along the way (pursuit)? Do the answers to these questions change depending upon whether one is a traditional student or an adult student? More specifically, for those with a long break between high school and community college, does education make financial sense?

These questions are timely in light of the renewed focus on college completion, especially at community colleges. According to a recent report by the College Board, the U.S. has fallen from first to 12th among countries with the highest educational attainment.¹ This decline, coupled with the United States' less-than-stellar performance in other cross-national educational rankings (particularly in science and math), undermines the country's long-term economic standing and competitiveness. In response to this threat, the federal government has proposed the American Graduation

Other budget priorities siphoned funding away from the initiative, but the recent policy spotlight has made adult students and community colleges a subject area of greater interest to researchers. Researchers are following the lead of Jacobsen and Mokher (2009), who explored various academic pathways to increase the earnings of low-income students in Florida. They found that low-performing students were, on average, less likely to persist to credential completion. On the other hand, those majoring in healthrelated or professional programs at two-year colleges were more likely to earn a credential. In addition, students who completed certificate programs at two-year colleges tended to secure better-paying jobs.

Bridges to Opportunity for Underprepared Adults,² an initiative funded by the Ford Foundation, examined the lessons and best practices across states for improving education and employment outcomes for adults who are educationally and economically disadvantaged, for example, linking educational opportunities with economic development efforts. In fact, the original "tipping point" research by Prince and Jenkins (2005) was a part of this multi-state study. They found that adult students-often lowerskilled labor—at Washington State community and technical colleges who reached a certain academic threshold received a substantial earnings advantage over students who failed to reach that threshold.

Compared to four-year colleges and universities, community colleges are relatively new. Despite their short history, however, community colleges have risen to a place of strategic importance.

Collectively, community colleges influence a significant portion of undergraduate students and minority students. According to the American Association of Community Colleges, they enroll 44 percent of all undergraduate students.³ They also enroll 40 percent of first-time freshmen and 39 percent of first generation college students. Community colleges enroll large minority populations: more than 50 percent of all Native American and Hispanic undergraduates and over 40 percent of black and Asian/Pacific Islanders.

Community colleges are also a training ground and, in many cases, a re-training ground for the labor force. In addition to facilitating mid-career transitions, community colleges also serve as the main point of entry into the postsecondary education system for adult students who have a high school diploma or a GED.

Recent investigations into the adult student experience, like the Washington State tipping point study by Prince and Jenkins, while informative, are state specific. They cannot adequately address the Indiana experience. The goal of this study was to find the "tipping point" (or threshold) for Hoosier adult students and then to estimate the economic benefits that accrue to adult students once they reach that threshold. After a brief discussion about the data, this research brief presents the key findings and implications for policy and future investigations. 🎎



Initiative to focus attention on America's two-year higher education institutions.

² "Bridges to Opportunity for Underprepared Adults: A State Policy Guide for Community College Leaders," 2008, www.fordfoundation.org/pdfs/library/Bridges_to_ Opportunity for Underprepared Adults.pdf.

¹ Educational attainment is measured by the percentage of 25 to 34 year olds with an associate degree or higher.

³ "Community College Facts at a Glance," 2009, www. aacc.nche.edu/AboutCC/Documents/fastfacts2009.pdf.

Study Sample

n order to determine the Indiana tipping point, researchers used the Indiana Workforce Intelligence System (IWIS) as the data source.4 While protecting student identities, IWIS has granular data that can be constructed to track aggregate student educational pursuit in Indiana public institutions of higher learning. The database contains information on enrollment in postsecondary credit or non-credit courses and remedial courses offered at public institutions since the 1998-1999 academic year. The information was used to track the educational progress—that is, attempted credit hours and degree status—of a threeyear cohort of adult college students and the cohort's earnings history. IWIS combines enrollment and completion data with wage data from the Indiana Department of Workforce Development. In this way, researchers could examine the annual earnings of students the year before and six years after they enrolled (see the sidebar for more information on the calculation).

The study sample consisted of one cohort of first-time college students who were between the ages of 25 and 54 and began their academic pursuit between the fall of 1999 and the spring of 2002. Approximately,

IWIS is a data warehouse—an information system drawing upon sources maintained by the Department of Workforce Development (DWD), the Department of Education (DOE), and the Commission on Higher Education (CHE), with links to additional state agencies as needed for specific analyses. IWIS does not collect new data, but rather integrates existing data already in state databases, creating a multi-year time series well suited for analyzing changing trends over time and relationships among policy-relevant variables.

The cohort had some distinctive demographic characteristics. While the ratio of women to men in the cohort was close for most racial categories, black students were not so evenly divided.

Calculating the Wage Differential

To compute the annual wage gains (or potential losses), students' pre-enrolled annual wages were subtracted from their annual wages six years later.

Using workforce data from IWIS, researchers gathered pre-enrollment wages from the four quarters preceding each student's first academic year. For the post-enrollment data, researchers totaled the wages for the four quarters immediately following the six-year period from when they first enrolled.

Example:

Two students—A and B—both started college in the third quarter of 1999. Their "pre-wages" (earned between the third quarter of 1998 and the second quarter of 1999) were subtracted from the "post-wages" (earned between the third quarter of 2005 and the second quarter of 2006). The wages in these two periods were not adjusted for inflation.

As shown in the table, student A attempted 30 credit hours in the six-year period, while student B attempted only 10. The annual wage differential between these two students, as only attributed to attempted hours and no other factors, was \$4,000.

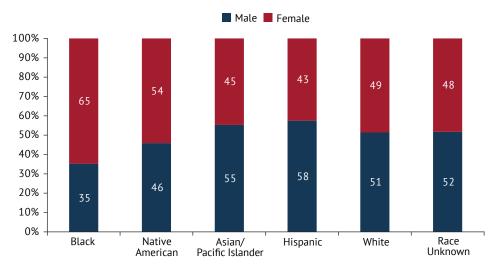
Student (hours attempted)	Pre-Wages	Post-Wages	Wage Differential
A (30)	\$25,000	\$35,000	\$10,000
B (10)	\$20,000	\$26,000	\$6,000
Difference (A - B)			\$4,000

These annual wage differentials were calculated for student cohorts over three years and averaged to derive a study estimate of the average wage gains due to educational pursuit.

This report highlights the levels of educational pursuit or attainment where some adult students' higher wage gains, relative to the cohort's low-credit non-completers, are not chance occurrences.

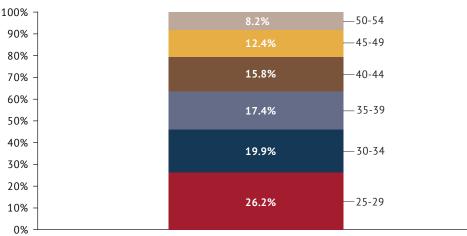
⁴ IWIS is an information resource designed to support the needs of Indiana policymakers, program administrators, educators and other stakeholders who need to understand how Hoosiers move into, through and out of the Indiana education-workforce continuum. It enhances insight into the dynamics of Indiana's "talent pipeline" that is the foundation of the state's ability to prosper and to improve the quality of life for all Hoosiers.

Figure 1: Cohort Sex Distribution by Race/Ethnicity



Source: IBRC, using data from the Indiana Workforce Intelligence System (IWIS)

Figure 2: Cohort Age Distributon



Source: IBRC, using data from the Indiana Workforce Intelligence System (IWIS)

one-third of the cohort began in each of these academic years: 1999-2000, 2000-2001, or 2001-2002. The cohort did not comprise all adult students enrolled in the three years. In order to compare the earnings of an adult student before enrolling and six years after enrolling, the student needed a matching wage record for work in Indiana in both periods in IWIS. This restriction greatly reduced the number of students in the cohort. In all, the cohort totaled 20,263 students, or about 43 percent of all students who entered a public

community or technical college during this time. The analyses also took into account several factors that could influence the estimated wage gains.5

The cohort had some distinctive demographic characteristics. While the ratio of women to men in the cohort was close for most racial categories, black students were not so evenly divided. As Figure 1 shows,

black female students outnumbered males nearly two to one. The median age of the cohort is 36 with 46 percent of the adult students between 25 and 34 years old (see Figure 2). Students between the ages of 25 and 29 comprised the largest group—over one-fourth of the cohort.

All students in the cohort had a high school diploma or equivalent. The Washington State study included all adult students, even those who were still working on their high school diploma. The Indiana study did not include adults still working on their diploma. Adult Hoosier students with GED diplomas, however, were included and comprised about 10 percent of the cohort. About 28 percent of the students required some remediation, in math, English or both. Half of the cohort was enrolled in occupational and technical degree programs. The balance of the cohort consisted of liberal arts (29 percent) and undeclared (21 percent) majors. 🎎

⁵ These factors included race, gender, remediation, type of high school diploma, receiving financial aid, full-time enrollment and years not enrolled.

Educational Pursuit and Earnings

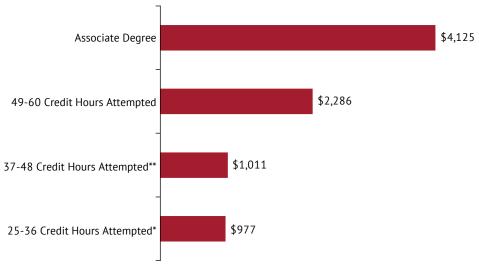
he tipping point for educational pursuit is estimated to be between 25 to 36 credit hours for Indiana adult students. For two-year institutions, the average adult student enjoyed a boost in annual earnings as a result of attempting between 25 and 36 credit hours, compared to adult students enrolling in less than 12 hours, as shown in **Figure 3**. Nearly 24 percent of the cohort, or 4,840 students, achieved this threshold.

Not surprisingly, the higher students' educational pursuit after six years, the higher the wages they earned on average. Compared with students who enrolled in fewer than twelve college credits, those who took 25 to 36 hours had, on average, \$977 more in annual wages. Adult students who attempted 37 to 48 had slightly higher annual wage gains—\$1,011. Those that attempted 49 to 60 credit hours doubled their earning power, averaging \$2,286 more in annual wages.

Adult students who earned an associate degree from any one of Indiana's public two-year institutions have even greater rewards, gaining on average \$4,125 more per year than their peers who did not earn degrees. About 5 percent of the adult student cohort, or 1,061 individuals, earned degrees.

Overall, the Indiana findings are consistent with previous research on the economic returns to higher education. Earlier studies have shown that earning a credential can provide a significant earnings advantage compared to individuals with just some college but no degree. The wage gains associated with

Figure 3: Average Annual Wage Gains from Academic Pursuit and Attainment[§]



N = 20,263; Compared to those attempting 12 credit hours or less*Significant at 0.09 level; ** Significant at 0.17 level; Other figures are significant at 0.05 level or lower

Source: IBRC, using data from the Indiana Workforce Intelligence System (IWIS)

Table 1: Indiana Nominal Wage Gain Benchmark

	Estimated Annual Wage					
Educational Attainment	2000	2007	Change			
High School — No College	\$23,356	\$25,734	\$2,379			
Some College — No Degree	\$23,924	\$29,964	\$6,041			
Associate Degree	\$29,089	\$35,011	\$5,922			
Educational Benefit						
Associate Degree Vs. High School Diploma (line 3 minus line 1)						

Note: 2000 Age Restrictions: 25-54; 2007 Age Restrictions: 31-60 Source: U.S. Census Bureau, ACS PUMS 2000 and 2007

postsecondary education of less than a year are often negligible.

Rather than comparing the annual wage gains against inflation over the reference period, the better benchmark to compare the relative advantage of educational pursuit and completion is against those with just a high school diploma. Researchers used Indiana nominal wage data from U.S. Census Bureau, namely the American Community Survey (ACS) Public Use Microdata Sample.

As **Table 1** shows, average annual wages for Hoosier adults with a high school diploma increased by almost \$2,400 from 2000 to 2007. In contrast, the average wage gains

for adults with some college or an associate degree were about \$6,000 over the same period. Based on the ACS data, those who attended some college or earned an associate degree earned more than \$3,500 a year more than those with only a high school diploma. Note that the ACS data are averages and "some college" includes four-year, private and outof-state institutions. The IWIS data the researchers used does not include four-year, private and out-of-state institutions. (Recall that, based on the IWIS data, associate degree recipients earned, on average, \$4,125 more than those with some college but no degree.) 🎎

⁶ The magnitude of the advantage varies by sex and field of study (Bailey, Kienzl, and Marcotte, 2004; Grubb, 2002; Kienzl, 2004).

Program of Study

dult students who earn an associate degree enjoy higher wage gains than non-completers. The benefits of educational pursuit and completion, however, also depend on the student's field of study.

To analyze potential program effects, the cohort's 185 different academic majors were condensed into 16 programs of study. 7 **Table 2** shows the distribution of enrollment and attainment by fields of study. The table highlights program concentration and degree completion ratios. Over 50 percent of the cohort is classified as undeclared or humanities and liberal arts, both with atrocious completion ratios. While the law and public policy field of study is tiny, adult students in this program have the highest completion rates of all fields. The health field of study has the second-highest ratio while industrial arts and consumer services-the program with the greatest returns-had the fourthhighest completion ratio.

The tipping point for Indiana's adult students-the threshold for which there are definite gains from pursuing education—depends on their academic major. The \$977 annual average gains for all majors attempting 25 to 36 credit hours is largely driven by one major industrial arts and consumer services. On average, the wage gains for those attempting 25 to 36 credit hours in this field of study is \$5,143 per year. Industrial arts and consumer services is the only field of study for which the wage gains can be reported with confidence. Because of the relative

The \$977 annual average gains for all majors attempting 25 to 36 credit hours is largely driven by one major—industrial arts and consumer services.

paucity of the data, the results for the other majors were not statistically significant. That said, given how much industrial arts and consumer services majors pull up the wage gains, one can surmise that many of the other fields of study pull the average down (for the 25-to-36hours-attempted category).

Indeed, while the paucity of the data constrains reporting the statistically insignificant findings, it appears that for some fields of studybusiness and humanities and liberal arts for example—the tipping point threshold occurs at more than 61 attempted credit hours. In contrast, the tipping point for industrial arts and consumer services majors materialized after attempting only 19 credit hours.

In sum, the tipping point depends on the field of study. Even without obtaining a credential, adult industrial arts and consumer service majors still saw a spike in their wage

Table 2: Educational Attainment and Pursuit by Field of Study

	Completed an As	Ratio of Completion	
Program of Study	No	Yes	to Non-Completion
Undeclared	4,234	0	0
Agriculture and Natural Resources	*	0	*
Arts	120	11	8/100
Biology and Life Science	0	0	0
Business	2,035	248	11/100
Communications and Journalism	33	*	*
Computers and Mathematics	1,565	129	8/100
Education	18	*	*
Engineering and Architecture	1,015	64	6/100
Health	934	199	18/100
Humanities and Liberal Arts	5,915	26	0
Industrial Arts and Consumer Services	3,247	349	10/100
Law and Public Policy	83	25	23/100
Physical Sciences	0	0	0
Psychology and Social Work	*	0	*
Social Sciences	0	0	0
Total	19,202	1,061	

N = 20,263; Data Suppressed

Source: IBRC, using data from the Indiana Workforce Intelligence System (IWIS)



⁷ The major academic groups were patterned after a recent report, "What's It Worth: The Economic Value of College Majors" conducted by the Georgetown Center for Education and Workforce (http://cew.georgetown.edu/whatsitworth). A category for undeclared majors was also included.

gains compared to those attempting less than 12 credits.

Economic gains from earning an associate degree also depended upon a student's major. Compared to noncompleters, students who obtained an associate degree in industrial arts and consumer services or health earned higher wage gains—\$6,891 and \$9,921, respectively. To test the validity of these results, researchers repeated the same analysis on traditional college-age students (18-24). The results were similar, with industrial arts and consumer services and health degree holders earning higher wage gains of approximately the same magnitude. Again, the data do not allow reporting the findings for the other fields of study.

The study findings reaffirm the importance of being educated in three ways.

 First, it shows that a person's investment in higher education pays off even for those Indiana students who opted out of pursuing their postsecondary education until they were 25 years or older.

- Second, it highlights that there is an economic benefit for educational pursuit—that is, attempting credit hours. This benefit varies by field of study. The Hoosier tipping point—the number of academic hours pursued that results in a tangible economic payoff—for adult students at two-year institutions is 25 to 36 credits. The tipping point for industrial arts and consumer services majors is 19 or more credits.
- Third, this study underscores the economic benefits of attaining a degree. The average associate degree holder from one of Indiana's community colleges gained, on average, \$4,125 in annual wages compared to non-completers. Earning an associate degree in health or industrial arts and consumer services netted adult students an even higher payoff.

Majors included in the Industrial Arts and Consumer Services Program of Study

- Construction Services
- Cosmetology Services and Culinary Arts
- Electrical and Mechanical Repairs and Technologies
- Family and Consumer Sciences
- Military Technologies
- Physical Fitness, Parks, Recreation and Leisure
- Precision Production and Industrial Arts
- Transportation Sciences and Technologies

This list of majors is from the report, "What's It Worth: The Economic Value of College Majors," conducted by the Georgetown Center for Education and Workforce.

Implications for Policy and Practice

his study finds that nontraditional adult students who attend Indiana's public postsecondary institutions for at least one year can boost their earnings. In addition, earning a credential—an associate degree in this case—also provides a substantial boost in annual earnings. Enrolling in a limited number of college-level courses, however, does not appear to provide much benefit in terms of earnings.

Another study of Washington State community college students (Hollenbeck and Huang, 2003) found that adults who went through community college occupational degree programs were 8 percent more likely to be employed, and they earned over \$4,400 per year more on average than did similar individuals who did not enroll in any training program. In forthcoming reports, the IBRC will document the boost in annual earnings for individuals in Indiana that earn certifications in technical and occupational programs

that are offered by public two-year institutions.

The findings from the Indiana tipping point and the Washington State studies indicate that community and technical colleges should consider making at least one year of college-level courses a minimum goal for the many low-skill adults they serve. While a significant number of Indiana's adult students did hit the tipping point or earned a degree, a vast majority did not. Nearly eight out of 10 students in the cohort that took courses left after attempting less than a year's worth of college credits and no credential.

To help low-skill adults achieve the tipping point of educational pursuit, community colleges should reconsider their programs and service delivery. About 56 percent of the adult student cohort pursued less than 12 hours, as Table 3 shows. The chief challenge for adult students is persistence; a mere 5 percent of the cohort completed their degrees.

Community and technical colleges should consider making at least one year of college-level courses a minimum goal for the many low-skill adults they serve.

These students may lack the ability to pay for college. Or, having opted out of continuing education for so long, these adults are ill equipped to tackle college-level courses. Therefore, basic skills should be emphasized and

Table 3: Educational Pursuit by Educational Attainment

		No Degree		Associate Degree		Total		
Attempted Credits	Number	Column %	Row %	Number	Column %	Row %	Number	Column %
Less than 12	11,320	59.0	100.0	0	0.0	0.0	11,320	55.9
12-18	2,924	15.2	100.0	0	0.0	0.0	2,924	14.4
19-24	1,179	6.1	100.0	0	0.0	0.0	1,179	5.8
25-36	1,582	8.2	100.0	0	0.0	0.0	1,582	7.8
37-48	941	4.9	100.0	0	0.0	0.0	941	4.6
49-60	534	2.8	100.0	0	0.0	0.0	534	2.6
61-72	365	1.9	45.3	441	41.6	54.7	806	4.0
73-84	190	1.0	34.4	362	34.1	65.6	552	2.7
85-96	94	0.5	42.3	128	12.1	57.7	222	1.1
97-108	51	0.3	42.9	68	6.4	57.1	119	0.6
109-120	14	0.1	30.4	32	3.0	69.6	46	0.2
121-132	*	*	*	*	*	*	*	*
133+	*	*	*	*	×	×	*	*
Total	19,202	100.0	94.8	1,061	100.0	5.2	20,263	100.0

Source: IBRC, using data from the Indiana Workforce Intelligence System (IWIS)



de-stigmatized. Redesigning courses to integrate basic skills work into standard introductory courses has been proposed as a possible solution to "remedial work." In addition, "bridge programs" that ease recent GED diploma holders and older adults into college may also increase success in college-level programs.

A community college system would also be well advised to accommodate students that "stop out," that is, interrupt their postsecondary education pursuit due to family or financial considerations. For example, the community college system would provide a map of the educational pathways that students can follow to advance in their jobs and pursue further education. Moreover, the map would show good "break points" where a student could stop-out of education for a time and re-enter when they can. In this way, students would not get lost as they leave and re-enter college.

An exciting development for Indiana's degree-completion focus for adult students is the introduction of Western Governors University (WGU) Indiana. This online university caters to working adults and offers various degrees in business, education, information technology and health professions. Since WGU Indiana will report annual data to the Indiana Commission of Higher Education, researchers will be able to use IWIS to assess this institution's ability to help non-traditional adult students fulfill their dreams of attaining their college degrees.

References

American Association of Community Colleges. (2009). Community College Facts at a Glance. Washington, DC: American Association of Community Colleges.

Bailey, T., Kienzl, G. S., & Marcotte, D. E. (2004). The return to sub-baccalaureate education: The effects of schooling, credentials, and program of study on economic outcomes. New York: Columbia University, Teachers College, Community College Research Center.

Carnevale, A. P., & Derochers, D. M. (2003). Standards for what? The economic roots of K-16 reform. Princeton, NJ: Educational Testing Service.

Carnevale, A.P., Strohl, J., & Melton, M. (2011). What's It Worth: The Economic Value of College Majors. Washington, DC: Georgetown University Center on Education and the Workforce.

Grubb, W. N. (2002). Learning and earning in the middle, Part I: National studies of pre-baccalaureate education. Economics of Education Review, 21, 299-321.

Hollenbeck, K. M., & Huang, W. J. (2003, July). Net impact and benefit-cost estimates of the workforce development system in Washington state (Technical Report No. TRo3-018). Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.

Jacobson, L. & Mokher, C. (2009). Pathways to Boosting the Earnings of Low-Income Students by Increasing Their Educational Attainment. Washington, DC: Hudson Institute Center for Employment Policy and CNA.

Jenkins, D. et al. (2008). Bridges to Opportunity for Underprepared Adults: A State Policy Guide for Community College Leaders. Community College Central.

Kienzl, G. S. (2004). The triple helix of education and earnings: The effect of schooling, work and pathways on the economic outcomes of community college students. Unpublished doctoral dissertation, Columbia University.

Lee Jr., J. M. & Rawls, A. (2010). The College Completion Agenda 2010 Progress Report. New York: The College Board Advocacy and Policy Center.

NGA Center for Best Practices (2009). Pathways to Advancement Project: How States Can Expand Postsecondary Educational Opportunities for Working Adults. Washington, DC: National Governors Association.

Prince, D. & Jenkins, D. (2005). Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study. New York: Community College Research Center, Teachers College, Columbia University.

