Student Preparation for Postsecondary Success: Insight from the Career and College Information Surveys

Indiana is often referred to as the Crossroads of America for its geographic location and its expansive highway transportation network. For generations people came to Indiana to work in its numerous factories, and stayed to raise their families. Then, high paying manufacturing jobs only required a high school diploma. Indiana now finds itself at another crossroads. The manufacturing jobs of the past are gone and have been replaced by positions that pay far less or require education beyond a high school diploma. Unfortunately, those employed in this sector often have been hesitant to recognize these economic realities, instead hoping their factories would be spared or their jobs would return. The positions have not returned, and a high school diploma alone no longer guarantees a stable high-paying job, but rather has become the crucial and necessary step to prepare for postsecondary education. The Hoosier economy and its workforce will suffer without significantly increasing the number of workers with training and education beyond high school.

Much of the recent education and economic data reinforce this reality. According to the 2010 American Community Survey, Indiana ranks 29th in the percent of the population with an associate’s degree and 44th in the percent of the population holding a bachelor’s degree or higher. The same data also show that just over 30 percent of Hoosiers 25 years and older hold an associate’s degree or higher. These totals place Indiana at, or near the bottom, of seven Midwestern states for every measure of educational attainment (Figure 1). Minnesota, the Midwest leader, ranks third nationwide in associate’s degree attainment, and fifth in number of bachelor’s degrees, with over 41 percent of its residents 25 years and older with an associate’s degree or higher. More importantly, it is clear that Indiana is not producing enough workers with postsecondary education to support our current and future workforce needs. As a result, Indiana’s economy and economic development efforts are in jeopardy and Indiana risks falling further behind the nation and our Midwest peers.

Figure 1. Educational attainment by percent of population 25 or older, 2010

Source: Stats Indiana, US Census Bureau, American Community Survey, One Year Estimates, 2010
Lower levels of educational attainment translate to lower per capita income. In 2010, Indiana ranked 41st in per capita income, placing it last among Midwestern states at $34,042. This is down from the state’s national ranking of 32nd in 2000, and 30th in 1990. By comparison, the Midwest leaders in per capita income, Illinois and Minnesota, ranked 16th and 10th, respectively, and possess income levels exceeding $42,000. These states have also fared better over time. Illinois’ per capita income position nationally has remained relatively steady, ranking 9th in 2000 and 10th in 1990. Similarly, Minnesota ranked 10th in 2000 and 15th in 1990 (http://bber.unm.edu/econ/us-pci.htm).

A closer examination of wage rates tells a similar story. In 2010, the average wage per job in Indiana was just over $39,000. After adjusting for inflation, this is slightly less than it was in 2000. Looking at the same data from another perspective provides an even more discouraging view. In 2000, Indiana’s average wage per job was 88 percent of the U.S. wage level. By 2010, Indiana’s wage per job had fallen to 84 percent of the U.S. value. In other words, we lagged behind the U.S. average in 2000 and have fallen further behind. In Minnesota the average wage climbed between 2000 to 2010, increasing from nearly $45,000 to $47,000, while Minnesota’s share of U.S. wages remained steady at the national average.

**Learn More Indiana and the Career and College Information Survey**

In an attempt to reverse these trends, increase the educational attainment of Hoosiers, and promote greater acceptance of the need for postsecondary education, many statewide initiatives have been implemented. For example, the state of Indiana has created Learn More Indiana (Learn More) to communicate the need for increased educational attainment and to provide resources to students and parents about how to plan for life after high school. Learn More is a cooperative effort of the Indiana Commission for Higher Education, the Indiana Department of Education, the Indiana Department of Workforce Development, and the State Student Assistance Commission. They have created online and printed materials to increase both parent and student awareness.

The information available includes a high school graduation plan with course, testing, diploma, and career plans. High school graduation plans for each student are now required by statute in Indiana. An initial plan is developed in the sixth grade with a statement of intent to graduate from high school and an emphasis on good grades, attendance, and study habits. The plan is revisited before the end of ninth grade to include subject and skill areas of interest, a program of study in line with the skills and aptitudes of the student, assurances that successful completion of the plan will result in graduation and eligibility for admittance to postsecondary institutions in the state, and plans to take advance placement exams and SAT and ACT tests. This plan is reviewed annually by the student, parent(s), and guidance counselor to ensure adequate progress, or provide any necessary counseling.

Learn More also provides a student success magazine, *OnTrack*, for various grade levels starting with kindergarten and continuing through high school. The 2011-12 publication features age appropriate information for planning, preparing, and paying for college. At the kindergarten level, children are encouraged to think about careers in the community and to role play or draw pictures of people who wear uniforms. Parents are asked to meet with their child’s teacher and open a 529 education savings plan. Fifth graders are encouraged to talk to professionals in career fields that interest them, begin writing in a journal, and to establish a college savings account of their own. Ninth and tenth graders are asked to take a skills assessment, the PSAT or PLAN tests, and to visit the IndianaCollegeCosts.org site to determine costs of various colleges.

This effort also supports a website that provides detailed career information including interest inventories, hot jobs, career profiles, and the educational requirements of various careers. There is also information on college, including preparing for college, and applying, paying, and, most importantly, completing college.

Finally, Learn More sponsors two annual surveys of ninth and eleventh grade high school students. The *Career and College Information* survey ask students about their educational plans and performance, college entrance testing, career interests, and provides an opportunity to obtain feedback on the impact of Learn More initiatives. Additionally, survey participants are provided another opportunity to reflect upon future goals and plans. The 2010-11 survey asked 55 questions of eleventh graders and 53 of ninth graders. Survey participation is voluntary and survey administrators acknowledge that urban districts are underrepresented. Nonetheless, while there is slight fluctuation from year to year, the survey has statewide coverage and a participation rate of nearly 70 percent of all schools. Public school participation is higher with 73 percent of public schools participating in 2010 and only 30 percent of eligible private schools administering the survey. These percentages translate to over 50,000 ninth graders and 40,000 eleventh graders. As a result of the sample size and coverage, the survey results provide an opportunity to discover if students understand the importance of continuing their education beyond high school and whether or not they are adequately preparing to be successful at the next level.

**Educational Aspirations of Indiana’s High School Students**

One way to determine whether or not students are adequately preparing for success at the next level of education or training is to find out which of the available high school diplomas they intend to earn. There are four diploma options available to Indiana students. These include the Core 40 diploma, the Core 40 with Academic Honors, the Core 40 with Technical Honors, and a General Diploma. In an effort to raise high school graduation rates, the Indiana General Assembly passed legislation mandating the completion of one of the Core 40 curriculums as the minimum standard for all stu-

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1 A 529 education savings plan is designed for families to save funds for future educational expenses. The funds are established by Section 529 of the Internal Revenue Code and are available in all 50 states. In Indiana contributions up to $5,000 are eligible for a 20 percent state tax credit.
Students entering high school in 2007. These requirements increase the number of math and science credits required for graduation. Furthermore, at a minimum, a Core 40 diploma is required prior to admission to any of Indiana’s four-year public universities. If a General Diploma is desired, students must now complete a formal opt-out process.

The Learn More survey asks students in both ninth and eleventh grade to specify the high school diploma they expect to receive. This analysis compares the survey results of ninth graders during the 2008-09 school year and this same cohort two years later as eleventh graders during the 2010-11 term. This analysis serves two purposes: 1) to determine whether or not students are taking the math and sciences courses that are predictors of success at the postsecondary education level, and 2) to discover how many students are potentially failing to meet the state standard of a Core 40 diploma and eliminating themselves from eligibility for admittance to four-year public universities in Indiana. The students best prepared for postsecondary coursework will be those that complete the credit and course requirements of the Core 40 with Academic Honors diploma, since it includes additional mathematics classes, higher grade point averages, and proven performance in dual credit courses, advanced placement courses, international baccalaureate, or ACT testing.

A review of survey results shows promising results. In both the ninth and eleventh grade surveys approximately 40 percent (Figures 2 and 3) of all students plan to earn a Core 40 with Academic Honors diploma. Not surprisingly, the percentage is higher for those planning to enroll at a four-year college or university the first year after high school. The responses of the students planning to enroll at a two-year institution or who are undecided are not as encouraging. These students start high school with higher expectations but by eleventh grade roughly half as many of these students report that they plan to obtain a Core 40 diploma, but not the Academic Honors diploma.

Many survey respondents are undecided about both which high school diploma they will earn and their postsecondary plans. More than 25 percent of the ninth grade survey respondents were in this category (Figure 2). By eleventh grade, the number of respondents in this group fell slightly, to 22 percent (Figure 3). To some extent, indecision among ninth graders is understandable and expected, but for this level of indecision to remain in the eleventh grade cohort is a negative indicator. Undecided students are more likely to be ill-prepared for postsecondary education or the workforce.

Despite the intentions of Indiana lawmakers and the valuable resources provided through Learn More’s efforts, many students are not actively engaged in planning for their future. The survey shows very low rates of annual updates to graduation plans, even though this is now required by statute. As Figure 4 shows, less than 35 percent of students
who plan to attend a four-year institution reported updating their plan annually. Plan updates are even less common for those planning to attend a two-year institution, obtain full-time employment, or those that are undecided. Furthermore, the survey reveals large numbers of students who were not sure whether they had updated their plans. While reporting that they are “not sure” whether they have updated their graduation plan does not necessarily mean that a student has not updated the plan, it does imply that the student has not been effectively engaged in the process of planning for the future.

**Performance and Preparation**

The survey includes questions that may provide some insight into future performance in the classroom and workplace. The most recent survey of eleventh graders asks students to specify the grades they mostly receive. For the most part, students appear to be making plans that fit their classroom achievement (Figure 5). However, those planning to attend a four-year institution and reporting primarily grades of Bs and Cs should be encouraged to improve their classroom performance to ensure acceptance, and that they have mastered the subject matter necessary for success at the next level. The same is true for those looking to enroll at a two-year school who report receiving Cs and Ds. Students who report that they receive mostly As and Bs and yet remain undecided regarding their post-graduation plans warrant additional consideration. These higher performing students may benefit from guidance about postsecondary education options and what barriers, if any, may be mitigated to encourage their postsecondary educational attainment. The same could be said for undecided students at all academic performance levels. If their plan is to immediately enter the workforce upon leaving high school, success may hinge upon acquiring as many math and science skills as possible before graduation.

By the eleventh grade, students should understand the importance of their education and should view high school as their primary responsibility. Homework completion and attendance can be used as an indicator of their commitment and understanding. Those who have difficulty turning homework in on time in high school will likely struggle at the postsecondary level when faced with multiple assignments, more rigorous courses, and less supervision. A similar statement can be made about attendance. Those who struggle to regularly attend classes run the risk of falling behind at the postsecondary level when due dates and examinations are less accommodative of student absences. The problem is even more apparent for those who plan to transition to full-time employment after high school. Most employers limit the amount of sick time available to employees and too many sick days could mean termination, particularly for employees with minimal training and education.
Table 1. Selected indicators of future classroom and workplace performance, percent of eleventh grade respondents who said yes, 2010-11

<table>
<thead>
<tr>
<th>Indicator</th>
<th>All Students</th>
<th>4 Year College</th>
<th>Community, Technical, or Business College</th>
<th>Full-time Employment</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn homework in on time</td>
<td>89.8%</td>
<td>95.1%</td>
<td>85.8%</td>
<td>73.0%</td>
<td>77.1%</td>
</tr>
<tr>
<td>Absent fewer than 10 times last year</td>
<td>68.1%</td>
<td>73.9%</td>
<td>60.3%</td>
<td>52.6%</td>
<td>54.3%</td>
</tr>
<tr>
<td>Plan to take four years of math</td>
<td>73.6%</td>
<td>84.5%</td>
<td>53.7%</td>
<td>47.1%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Participate in class</td>
<td>95.0%</td>
<td>98.0%</td>
<td>93.6%</td>
<td>86.1%</td>
<td>86.0%</td>
</tr>
<tr>
<td>Ask teachers for help</td>
<td>87.0%</td>
<td>91.1%</td>
<td>85.9%</td>
<td>76.3%</td>
<td>74.9%</td>
</tr>
</tbody>
</table>

Source: Indiana 11th Grade College & Career Information 2010-11 Survey

Table 1 presents the results for answers to questions about potential future performance indicators by the student’s postsecondary plans. For each question, a higher percentage of those planning to attend a four-year university answered positively compared to the students in the three other categories (plans to attend a two-year college, plans to enter the workforce, and undecided). Roughly 25 percent of those planning for full-time employment or undecided in their post-graduation plans do not ask teachers for help when they need it. This contributes to lower classroom performance and may carry over to affect workplace performance.

These results appear to reinforce the results of the Indiana Chamber of Commerce’s Ready Indiana Annual Employer Workforce Skills Survey. Ready Indiana is the Chamber’s workforce and education development initiative. Employees with applied skills—including punctuality, time management, problem solving, leadership, and communication—is the most prevalent response to survey questions asking which workplace skills are most needed by employees.

Communicating the importance of postsecondary education and encouraging students to set their goals high are critical first steps towards improving the collective educational attainment of Hoosiers. However, the Learn More survey also demonstrates that many students do not understand or appreciate the important steps they should be taking in high school to prepare them for postsecondary success. For instance, as Figure 6 indicates, only about 60 percent of students who plan on attending a two-year college intend to take math during their senior year. For a growing number of career paths, including for an associate’s degree, math is a required course. Students failing to demonstrate appropriate proficiency often require remedial math coursework, which results in additional time and expense towards earning a degree. Recent remedial statistics show that nearly 25 percent of all Core 40 graduates required remedial coursework in the first year of college. This is both an unnecessary expense and significantly reduces the likelihood of a student completing a degree program.

Occupational trends and employment projections indicate that there will be ample opportunities for skilled workers with less than a four-year degree in the labor market. These “middle-skill” jobs, those that require more than high school but less than a four-year degree, will remain in strong demand over the next decade. While many of these jobs offer median salaries that exceed those for Indiana jobs overall, these jobs increasingly require basic math proficiency. A recent report by the National Skills Coalition, Indiana’s Forgotten Middle-Skill Jobs, Meeting the Demands of a 21st-Century Economy, identified 30 middle-skill jobs that Indiana will need over the next decade. A
majority of these jobs require degrees that include college level math in their curriculum. For example, radiology technicians, with a median salary over $50,000 and projected job growth of nearly 16 percent, require college-level algebra or trigonometry as part of their degree program.

In fact, with relatively few exceptions, most of the technology driven jobs that will be demanded over the next few decades require college-level math proficiency. The core curriculum for an associate’s degree in advanced manufacturing from Ivy Tech Community College includes college algebra, trigonometry with analytic geometry, and physics among the general education prerequisites for the degree program. Associate’s degrees related to machine tool technology have similar mathematics requirements. By avoiding math during their senior year in high school, many students are likely limiting their postsecondary options or making their degree pursuit more difficult and costly.

While not every student will necessarily pursue a career in a field that requires advanced mathematics, educating students on the relationship between their high school education and their post-graduation success is critical. The Learn More survey reveals that the number of students who report discussing their future plans with parents is significantly higher than the number who report discussing their future plans with guidance counselors. For those students who are undecided about their post-graduation plans or who intend to immediately enter the workforce after graduation, thinking about and planning for their future is critical to ensuring that they are equipped for success.

Unfortunately, as Figure 7 shows, only a little more than 30 percent of these students reported discussing their plans with school counselors. These survey data reveal both a failure and an opportunity to reach the students most in need of information and guidance in planning for a successful transition into adulthood. With the valuable resources and information provided by Learn More Indiana, the more immediate challenge is connecting these substantial resources to the students who need them most.

Those most in need of guidance before leaving high school are the students who reported both that they had not discussed their future plans with a guidance counselor and that they were undecided or planning to immediately enter the workforce following graduation. Looking at these students, Table 2 shows that the cohort planning to enter the workforce immediately after high school has done little career exploration or job shadowing; approximately two-thirds of respondents failed to take an online career interest survey, visit an area career center, or participate in job shadowing or internships.

A closer examination of those who are undecided shows that over one-third of survey

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**Figure 7.** Students who reported discussing future plans with family or school counselor, eleventh grader respondents, 2010-11

![Bar chart showing percentages of students discussing future plans with family or school counselor.]

**Source:** Indiana 11th Grade College & Career Information 2010-11 Survey

**Table 2.** Selected indicators of preparation for employment and postsecondary education, eleventh grader respondents, 2010-11

<table>
<thead>
<tr>
<th>Postsecondary full-time employment</th>
<th>Postsecondary plans undecided</th>
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<tbody>
<tr>
<td><strong>Yes</strong></td>
<td><strong>No</strong></td>
</tr>
<tr>
<td>Parent attended college</td>
<td>43.5%</td>
</tr>
<tr>
<td>Parent earned college degree</td>
<td>25.9%</td>
</tr>
<tr>
<td>Enrolled in dual-credit course</td>
<td>19.8%</td>
</tr>
<tr>
<td>Completed online learning assessment</td>
<td>13.9%</td>
</tr>
<tr>
<td>Taken an online career interest survey</td>
<td>13.7%</td>
</tr>
<tr>
<td>Participated in job shadowing or an internship</td>
<td>18.3%</td>
</tr>
<tr>
<td>Read OnTrack</td>
<td>6.9%</td>
</tr>
<tr>
<td>Visited the Learn More Indiana website</td>
<td>2.4%</td>
</tr>
<tr>
<td>Visited an area career center</td>
<td>22.8%</td>
</tr>
</tbody>
</table>

**Source:** Indiana 11th Grade College & Career Information 2010-11 Survey
participants are unsure if they have completed an online learning assessment or a career interest survey. This is discouraging but may shed light on why these students remain undecided. Finally, both groups are failing to take advantage of the resources provided by Learn More, with fewer than 10 percent reporting that they have read OnTrack magazine or visited the Learn More Indiana website in the last year. Several of the responses are more encouraging. For both groups, students appear to be planning or have not ruled-out the idea of enrolling in dual credit courses. They also show a number of parents who have either attended college or have obtained a college degree.

Another look at the survey question that asks students which grades they generally receive may provide additional insight. While grades received are not the sole predictor of future performance they do allow a picture of future possibilities. Figure 8 shows the reported grades earned by students undecided or planning to enter the workforce. While one-third of those planning to enter the workforce, and 20 percent of undecided students, report grades of Cs or lower, over one-half of both groups report earning higher grades than that, and are therefore performing at a level that suggests preparation for postsecondary education or training. Survey data also show that nearly three-quarters of both groups have completed two semesters of Algebra I.

A final survey question asks eleventh grade students if they would like to live and work in Indiana as an adult. This question provides insight into the issue of Indiana’s brain drain as well as the future composition of Indiana’s workforce. Figure 9 shows that 24 percent of respondents do not plan to remain in Indiana as adults regardless of their postsecondary plans.

The most encouraging responses are those from the students planning to enroll at a two-year college after high school. Nearly 45 percent of this cohort plans to live and work in Indiana. These workers are vital to the future of Indiana’s workforce. They have the skills required of the middle-skill jobs and employers, site selectors, and economic developers cite continued and increased demand for these positions. A similar percentage of those planning immediate full-time employment after high school plan to stay Indiana. Retaining young adults helps to maintain the size of Indiana’s workforce. However, workers with limited training lack the skills that are sought by most employers. As a result, these workers will be more likely to face periodic unemployment and will require additional education and training whether or not they plan to obtain it. This prospect only reinforces the need to take as many math and science classes as possible while they are in high school.

Figure 9 also shows that many students are unsure of where they will live and work as adults. To convince these workers of the benefits of remaining in Indiana, additional efforts to understand their indecision are necessary. Indiana’s future workforce will require a greater supply of educated workers. Those who obtain the required skills and credentials to be competitive in the workforce must also conclude that Indiana is the best place for them to live and work.
Conclusion
For a future of full employment and economic growth, Indiana must increase the educational attainment of its workforce. Closing the gap in attainment with Indiana’s Midwest neighbors and meeting the increasing educational requirements of the labor market present important challenges to Indiana’s residents and leaders. A high school diploma only is now a prescription for periodic unemployment and dramatically lower wages. To be successful at the postsecondary level, students must adequately prepare for their future while in high school. Those best prepared are those that take four years of math and science. These students will maximize their opportunities for dual credit and advanced placement courses, thereby completing college-level work and minimizing college expenses. It is these students who will enter college having already earned college credits and who will have firsthand knowledge of the quality of work required to be successful at the next level.

What’s Next
• Efforts through Learn More are expanding beyond the traditional K-12 demographic to include both current college students and prospective adult students. This is reflected by expanded print resources for these audiences and a new Learn More website that will include information specific to each of these audiences as well as a simplified, more user-friendly design.

• Developing College Success Coalitions at the county and state level will better focus and leverage resources/efforts at both the local and state level. One of the benefits of this grassroots approach is that it should expand the reach of Learn More’s resources to a larger number of students. Learn More has 36 county coalitions currently and there are plans to add approximately 20 each year until all 92 counties are reached.

• Communications efforts are now focused around three annual College Success Campaigns: College GO! Week, KnowHow-2Go, and Cash for College. Each campaign has a specific college focus (planning, preparing, and paying), includes specific action steps for students at each level, and is held strategically during the year relative to key deadlines and milestones, (e.g., Cash for College kicks off in January and leads up to the state’s March 10 financial aid filing deadline). In addition to increasing effectiveness, this approach hopefully will increase awareness of Learn More’s efforts as well.

• The College Success Mentoring effort that connects adults to 21st Century Scholars to guide these students through high school graduation and college completion is designed to integrate the other Learn More products.

References

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