



- | A high school surveys graduates and college faculty members to inform instruction.
- | Teachers, administrators, and other staff members travel to colleges to conduct surveys and interviews.
- | The surveys, the interviews, and testing data are combined to reveal how “college ready” this high school’s graduates are.

In a private room at a restaurant just off campus near a major university, college students—all graduates of Oakwood High School in Dayton, OH—greet one another and their former high school teachers, counselors, and principal with cheers, laughter, and hugs. Servers move through the crowd, bearing trays of quesadillas and chicken wings. The students settle at tables to complete copies of a survey about their perceptions of their preparedness for college. Once the surveys have been collected, the revelry begins—students reminisce about high school with their former teachers and eagerly chat about all manner of things.

On a breezy, spring day on the sprawling campus of the Ohio State University, a cluster of educators from Oakwood City School District sits on the steps of the outdoor amphitheater. The group includes teacher representatives from the math, science, social studies, foreign language, special and gifted education, and English departments; the high school guidance counselors; the principal; and the district's director of curriculum. Each of them has interviewed college faculty members from his or her respective disciplines to gain insights about the skills and content that students most need to know to succeed in entry-level college courses, as well as which skills and content students often come to college lacking. Now they are convening as a group to share what they learned. When they are finished, they will write short reflections about the interviews and give them, the survey data, and the interview notes to their faculty members, administrators, and the board of education.

Those two scenes depict components of the district's College Connection Study, which is now in its eighth year. The purpose of the study is to help us, the educators in the district, learn how to effectively prepare students for success in the colleges of their choice.

### How It Started

Oakwood City School District, located in a small, first-tier suburb of Dayton, Ohio, enrolls about 2,100 students (about 650 in the high school). It serves a high socioeconomic population: the median income is \$58,930, and 70% of residents have at least a college degree. Ninety-seven percent of Oakwood graduates are college-bound, and about 90% of graduates are accepted to their first-choice college or university. The district has earned the state of Ohio's top designation—Excellent with Distinction—since the inception of the ranking system, and the high school is annually included in *Newsweek's* list of the best high schools in the United States.

Those feel-good statistics belie the fact that just 10 years ago, our district was embroiled in a contentious curricular dispute: the Math Wars had arrived at our doorstep with a vengeance, and the storm of controversy battered our community for several years before subsiding. The controversy prompted a commitment to discovering why some graduates were experiencing difficulty with college math. Among the first and most striking realizations was that although we “knew” we had high-performing students, we were at a loss to interpret and respond to anecdotal reports about some of our graduates struggling with college

placement tests and first-year course work. Because we had not systematically analyzed the data, we had no way to determine how widespread and significant problems of preparedness might be for our grads. As a result, what we decided to learn everything we could about how well we were preparing them for postsecondary education in all disciplines.

For a decade now, we have been tracking and analyzing data from students' grades 3–8 state tests, national norm-referenced tests; SATs; ACTs; and AP, college remediation, and state graduation records. Although useful, the data do not shed light on whether students believe that they are prepared for college and how professors assess their preparation. To address that gap in the data, in 2005 the district initiated our ongoing College Connection Study.

The goal of the survey is to inform our preparation of Oakwood students for college success. The purposes of the study are threefold:

- To strengthen the high school–college connection
- To determine whether, to what extent, and in what way there exists a disconnect between achievement in high school and preparedness for college
- To identify colleges' expectations of incoming freshmen.

Each spring, we send our college connection team to a different university to study our graduates and to learn from college faculty about expectations for incoming freshmen. We visit the universities that are attended by the highest percentages of our graduates. We have conducted our survey at Miami University (2005), the Ohio State University (2006),



Ohio University (2007), the University of Dayton (2008), Wright State University (2009), Denison University (2010), and the University of Cincinnati (2011).

The study consists of three inter-related data sets. The first is survey data from our graduates. During each college visit, the study team hosts a reception for our grads at a local eatery, during which students are asked to complete a survey (see figure 1) regarding their perceptions of Oakwood's college preparation. The survey includes items about their high school course work, their majors, and their perceptions of high school preparation by content and skill area (e.g., writing and research skills). The second data set is compiled from interviews that team members conduct with college faculty members. (See figure 2 for sample interview protocol.) The third data set is derived from individual interviews conducted by the curriculum director with graduates attending out-of-state universities.

### Benefits

Using summary survey data, we are able to identify our relative strengths and areas for focus across disciplines and skills areas, as well as by level of preparedness. (See figure 3.) For example, the data from 2008–10 shows that English course work, written expression, and group skills tend to be strengths in terms of percent

of students reporting they are well prepared (71.4%, 68.6%, and 72.2%, respectively). But students perceive themselves to be less prepared for college math—only 37.1% report that they were well prepared.

One of the biggest benefits of this ongoing study is that it enables us to triangulate graduates' perceptions of their college preparedness with other data sources, such as AP, ACT, college remediation, and state graduation exam data. For example, when we recently reviewed our K–12 science curriculum, we triangulated data from the Ohio Graduation Test, ACT, AP, and the survey to conclude that in general, our graduates are prepared for college science and that we are outperforming state, national, and global averages. Nonetheless, there is room to grow: in general, our college-prep pathway students—compared to our honors/AP pathway students—are substantially less likely to report feeling well prepared in science. This conclusion validated our teachers' views that we need more course work options—and more rigorous options—for college-prep science students. In response to that finding, we are implementing new course work options in the 2012–13 school year.

Interviews with college faculty members have also proven beneficial. Faculty members from the high school generally appreciate the opportunity to speak to college faculty members in their disciplines. From those interviews, we have learned important lessons. For example, we heard repeatedly about the importance of teaching students to be literate consumers of information they pull from the Internet. Faculty members from the University of Dayton shared a rubric

Figure 1

## ALUMNI SURVEY

1. Name (optional): \_\_\_\_\_ University: \_\_\_\_\_

2. Year Graduated from OHS: \_\_\_\_\_ GPA (optional): \_\_\_\_\_

3. Year in college (circle one): FRESHMAN    SOPHOMORE    JUNIOR    SENIOR    OTHER: \_\_\_\_\_

4. Major or intended focus of study: \_\_\_\_\_

What influenced you to pursue this major/focus of study? \_\_\_\_\_

5. Are you in an honors program at your university (circle one)?    YES    NO

6. During what grade did you begin attending Oakwood schools? \_\_\_\_\_

7. Put a ✓ next to each of the courses below that you took in high school:

<input type="checkbox"/> AP English III	<input type="checkbox"/> Honors English IV	<input type="checkbox"/> AP English IV	<input type="checkbox"/> AP Studio Art
<input type="checkbox"/> Pre-calc Honors	<input type="checkbox"/> AP Statistics	<input type="checkbox"/> AP Calculus	<input type="checkbox"/> AP Music Theory
<input type="checkbox"/> AP Biology	<input type="checkbox"/> AP Chemistry	<input type="checkbox"/> AP Physics	
<input type="checkbox"/> AP American History	<input type="checkbox"/> AP US Gov/Pol	<input type="checkbox"/> AP Euro History	
<input type="checkbox"/> AP Latin	<input type="checkbox"/> AP Spanish	<input type="checkbox"/> AP French	

If you participated in any post-secondary educational opportunities in high school, please list them: \_\_\_\_\_

Did you have to take any **remedial** coursework in college? If so, in what area(s) (check all that apply):

Reading     Writing     Math     Other: \_\_\_\_\_

8. For which 2–3 college courses that you’ve taken have you felt the **most** prepared? **Why (your reasoning is what’s most important to us)?**

Course:	Course:	Course:
Reason(s) felt prepared:	Reason(s) felt prepared:	Reason(s) felt prepared:

9. For which 2–3 college courses that you’ve taken have you felt the **least** prepared? **Why (your reasoning is what’s most important to us)?**

Course:	Course:	Course:
Reason(s) felt unprepared:	Reason(s) felt unprepared:	Reason(s) felt unprepared:

10. Was your transition to college life (academic, social, etc.) easy? Difficult? What made it so? \_\_\_\_\_

Flip to back

## ALUMNI SURVEY

11. For each of the topics listed below, please identify how well prepared you were for your beginning college courses in the following content areas, and explain your reasoning (your reasoning is what's most important to us). Put NA in the reasoning column if a topic does not apply to you.

Topic	Not prepared	Prepared	Well prepared	Reasoning
English				
Foreign language				
Math				
Science				
Social studies				
Writing skills				
Study skills				
Time management				
Group skills				
Research skills				
Overall college preparation				

12. How much time do you spend studying outside of class (check one)?

- Less than my peers   
  About the same as my peers   
  More than my peers   
 Why? \_\_\_\_\_

13. What percent of the time do you attend classes (check one)?

- 0%–25%   
  26%–50%   
  51%–75%   
  76%–89%   
  90%–100%

14. What advice/recommendations do you have for OHS to strengthen the high school–college connection?

their students use to determine the soundness and trustworthiness of Internet sources. We now use this rubric in some of our courses.

We also learned that university math departments are hotbeds of debate about the appropriate use of technology (e.g., graphing calculators) in math instruction. We concluded that our graduates need to be both computationally fluent in hand calculations and skilled at using technology. We added Chinese dual enrollment course work after hearing from multiple universities that Chinese is not only rigorous but also viewed favorably by admissions officials.

The curriculum director conducts interviews with graduates when they are home on break. She asks the graduates questions that are similar to the ones on the graduate survey, but she digs deeper into the reasons behind students' perceptions. For example, in trying to understand why some of our graduates struggle with college math, we learned that it is not necessarily the concepts and skills that are unfamiliar but the way that they are organized and presented that students find disorienting. Other students find that college math is quite similar to what they experienced in high school. For example, an Oakwood alum who graduated pre-med from Vanderbilt University explained that both the high school and college math courses were "really about critical thinking" and finding ways to "figure out problems." The interviews reveal that departments at different universities sometimes approach con-

tent and instruction differently.

We also have found ancillary benefits to our College Connection Study. The annual spring survey visit allows study team members to bond with one another. Long car rides and shared meals give us opportunities to get to know one another better as individuals. We invariably have meaningful professional conversations on myriad topics. For example, at lunch during one trip, our AP physics teacher spoke to our curriculum director about the gender imbalance in his courses and his desire to find ways to address it.

In addition, the study has curried social capital in our community. Parents and community members appreciate our commitment to using data to help us prepare students for college more effectively.

### Barriers and Limitations

Everything has limitations, and the study is no exception. We have found that the following areas are cause for concern when implementing a study like this.

**Time.** It takes the counselor time to plan and conduct the study and to make arrangements with the selected university. The visit itself requires that members of the study team be away from the school for one and a half days in the spring.

Being away from the building—especially in the spring—is a hard sell to educators.

**Expense.** Annual costs for the study (including travel, hotel, food, reception, and substitute costs) range from \$1,600 to \$1,800. Although

**Everything has limitations, and the study is no exception.**

Interested in developing your own study? Here are some details about how ours works.

Each fall, we decide which university our team will travel to the following spring. A member of our guidance department then contacts the university to begin making preparations for our visit. Once a date has been established for the visit, the counselor sends multiple e-mail messages to all our graduates who attend that university, inviting them to a reception at which they will be asked to complete a survey. (Before high school graduation, we ask students to give us their e-mail addresses.)

In the spring, members of the study team head out of the district midday on a Thursday and take a district van or carpool to that year's focus university. We arrive at the off-campus eatery early and get set up (e.g., confirm orders with the restaurant and set out surveys, pens, and postcards that our grads can complete if they are willing to have a follow-up interview when they are home on break).

After the festive reception, the team heads off to a nice dinner, where we debrief and bond.

We stay overnight at a local hotel and then hold interviews with the college faculty the next morning. Some universities provide formal receptions and presentations for our team (e.g., on honors programs, undergraduate admissions, first-year experiences, or specialized services).

After faculty interviews conclude on Friday, we grab lunch and then head back to our district. Team members write short reflections about their experiences and submit them to the curriculum director.

The curriculum director provides photocopies of all completed surveys to each department.

Summary information is shared with the administrative team and the board of education.

## SAMPLE INTERVIEW QUESTIONS FOR COLLEGE FACULTY MEMBERS

### Gifted

1. Please describe your school's gifted/scholars/honors program.
2. How do students cope with the challenge?
3. What social and emotional needs do you feel students need help with prior to college?
4. What is the rate of success for freshmen in this program?
5. How can high schools better prepare students?

### Disability Services

1. How do modifications compare with those at the high school level?
2. What are your perceptions of level of assistance provided at the high school level?
3. What role do aides play?
4. Do students who were on IEPs typically access services?
5. How does your program help develop advocacy skills?
6. Are alternative assessments available for students who struggle with the standard essay?
7. What is the rate of freshman year success in this program?
8. How can high schools better prepare students?

### Math

1. Does your math department have a calculator use policy?
2. Is math software used? If so, what software?
3. How are mathematics placement tests administered and used?
4. What skills and topics are necessary for incoming freshmen?
5. What skill is most lacking?
6. What AP courses do you see the most benefit in?

### English

1. How is your freshman composition course organized?
2. Do you place more emphasis on fiction or nonfiction?
3. What writing strengths and weaknesses do your freshmen come in with (e.g., research, prewriting, writing, editing, or revising)?
4. How are students oriented to the library services and research tools available at your school?

### Science

1. What are some of the issues that you wish high school teachers would emphasize more to better prepare students for freshman/sophomore science classes?

Examples:

- knowledge of specific content items
  - algebra and mathematical manipulations
  - problem solving (e.g., ill-defined problems)
  - calculator use (or over-reliance)
  - computer use (e.g., spreadsheets or presentation software)
  - lab report writing
  - laboratory techniques or use of equipment (discipline specific)
2. For students who struggle in "non-major" classes, what are the issues, and what could we be doing to better prepare students?
  3. For students who struggle in major classes, what are the issues and what could we be doing to better prepare students?
  4. What are the policies for awarding AP credit in the different departments? What about placement?

Figure 3

## STUDENTS' PERCEPTIONS OF THEIR PREPAREDNESS FOR COLLEGE CONTENT/SKILLS

	Not Prepared Composite	Prepared Composite	Well Prepared Composite
English	2.9%	25.7%	71.4%
Foreign Language	8.3%	33.3%	58.3%
Math	22.9%	40.0%	37.1%
Science	3.8%	65.4%	30.8%
Social Studies	3.2%	61.3%	35.5%
Writing Skills	5.7%	25.7%	68.6%
Group Skills	0.0%	27.8%	72.2%
Research Skills	10.8%	32.4%	56.8%
Overall College Preparation	2.7%	32.4%	64.9%
<b>Totals</b>	<b>6.8%</b>	<b>37.2%</b>	<b>56.1%</b>

Data from 2008–10 (2008: Ohio University; 2009: Wright State University; 2010: Denison)

any expenditure is closely scrutinized these days, we believe that the richness of our data and findings from this study make it more than worth the cost.

**Sampling and methodology limitations.** We neither visit each campus that our grads attend nor interview and survey all of our grads. At each university we have visited, anywhere from 20% to 48% of our graduates participated in our study (although all are invited). The setting in which we administer the surveys—an informal eatery where each student is surrounded by his or her former classmates and teachers—likely affects participants' responses in some way. In addition, although the surveys themselves are anonymous, we know which graduates participated in the surveys and which did not. All of those factors

require us to take great care not to overgeneralize from our findings. This is why having ongoing, triangulated data over the better part of a decade is helpful: we are able to look at and judiciously act on trends and patterns that we see in the data.

**Getting people on board.** When we launched the study in 2005, we heard a number of complaints: “So we all have to do this because of the math controversy?” “I hate being away from my students,” and “You mean we’re going to do this *every* year?”

### Conclusion

Eight years into our study, our team embraces the shared responsibility to examine our data. We use the data formatively to inform our curricular offerings and instructional practice and summatively as an accountabil-

ity measure. The study has become part of our instructional culture as an important tool to help us move from making our graduates “college eligible” to making them “college ready” (Conley, 2005, p. xi). **PL**

### REFERENCE

■ Conley, D. T. (2005). *College knowledge: What it really takes for students to succeed and what we can do to get them ready*. San Francisco, CA: Jossey-Bass.

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