

Growth & Impact

*The Expansion of High School Based
Dual Credit in Stark County, Ohio*

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This is the fourth in a series of studies by the Stark Education Partnership on the growth of high school based dual credit courses (HSBDC) in Stark County, Ohio. Prior studies – All Students Ready, Growing Dual Credit, and Advancing College Opportunity – may be seen at www.edpartner.org under publications, or are available through the U.S. Department of Education's Education Resources Information System (ERIC) at <http://www.eric.ed.gov/>.

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Executive Summary

High school based dual credit (HSBDC) is a course offered through a collaborative agreement between an institution of higher education and a school district. A student may earn both high school and college credit in an HSBDC course taught by a high school teacher who qualifies to become a college adjunct on a high school campus.

The growth of HSBDC courses in Stark County, Ohio has been explosive. During the 2009-10 academic year, HSBDC courses were offered across all 17 Stark County school districts for the first time. Enrollments in such courses reached 2,460 nearly doubling the 2008-09 enrollments of 1,294. From an initial 65 students during the summer of 2006, HSBDC last year impacted an estimated 1,300 students.

This report looks at data from enrollment records, grades, surveys and focus

groups conducted by the Stark Education Partnership throughout the year. Results are viewed using a method known as *Impact Evaluation*.¹ Indications are that HSBDC is beginning to produce substantial returns:

1. HSBDC has added another early college credit earning opportunity for an estimated 13% of the junior and senior Stark County cohort or 6.5% of all high school students, compared to 5% nationally or 2% in Ohio.
2. Over 92% of Stark County HSBDC students successfully earned 6,366 hours of college credit at a grade of “C” or above.
3. The financial benefit to Stark County families and students may range between \$860,000 to \$5,000,000 (textbooks excluded) depending on where students transfer credit.

¹ *Impact Evaluation* starts with a central question – “What would have happened if the policy or program had never existed?”

4. Since 2006, the cadre of high school teacher qualified as college adjunct faculty has grown from 2 to 69. High school and college faculty are crossing the boundaries between K-12 and higher education, impacting both the content and rigor of high school courses.
5. From an initial two courses during the summer of 2006, all Stark County high schools combined now offer 83 dual credit courses, with 165 separate class sections.

Probable Outcomes

1. HSBDC may be promoting less remediation, greater persistence and faster completion rates for students going on to college.
2. Local colleges and universities may begin to benefit with higher enrollment and greater success among HSBDC students.
3. HSBDC students may be adding to a fast growing contingent of county 18 to 24 year-olds with some college, no degree, increasing Stark County's education attainment rate and providing possible economic benefit to the community.

I. Who Are These HSBDC Students?

Definitions

High school based dual credit (HSBDC) is a course offered through a collaborative agreement between an institution of higher education and a school district. A student may earn both high school and college credit in an HSBDC course taught by a high school teacher who qualifies to become a college adjunct on a high school campus.

By our definition, HSBDC is distinct from other post secondary opportunities in Stark County, including:

- Ohio's traditional Post Secondary Enrollment Options (PSEO) program where students gain college or dual

credit by taking a course primarily on a college campus.

- Advanced Placement (AP) courses where passing a standardized test at a score of 3 or higher may result in college credit at many colleges and universities upon admission.
- College Tech Prep where programs may result in either dual credit while in high school or “banked” credit awarded when students enroll in college.
- Canton's Early College High School where students have the opportunity to earn an associate degree while in high school.

Primary Findings

According to 1,167 in-class HSBDC student surveys – conducted by Adele Gelb, Program Officer at the Stark Education Partnership – while a handful were freshmen and sophomores, nearly all were juniors and seniors. Effectively, these students represented about 13% of the junior-senior cohort or 6.5% of the entire high school population in all 17 districts of Stark County (20,387). After four years of development, HSBDC in Stark County is reaching beyond Ohio’s 2%² and the 5% national average³ for dual enrollment.

Over half have already experienced or are concurrently enrolled in PSEO, AP, and/or College Tech Prep courses.

Also, based on 1,164 responses, females outnumber males in HSBDC

enrollment. At 54.4% this is similar to, but a full ten percentage points lower, than the state’s PSEO program where females account for nearly 64.6% of the enrollment.⁴

Seven hundred and sixteen students responded to the question on race. On the basis of those responses, the HSBDC population is largely white (82.5%), once again similar to, but less than PSEO enrollment (89.4%).⁵ Students claiming minority or multi-racial heritage equaled 17.5% of the Stark HSBDC population.

Eighteen percent of the 1,156 HSBDC students responding said that they qualified for free and reduced lunch – a key indicator of poverty.

² Ohio Board of Regents (2010). *Third Report on the Condition of Higher Education in Ohio*. Columbus: Author, p. 8.

³ Kleiner, B., and Lewis, L. (2005). *Dual Enrollment of High School Students at Postsecondary Institutions:2002–03* (NCES 2005–008). U.S. Department of Education. Washington, DC: National Center for Education Statistics., p. 7.

⁴ Blanco, C., Prescott, N. & Taylor, N. (2007). *The Promise of Dual Enrollment: Assessing Ohio’s Early College Access Policy*. Cincinnati: KnowledgeWorks Foundation and the Western Interstate Commission on Higher Education, p. 26.

⁵ Ibid, p 26.

II. What Did the Students Accomplish and What Were Their Attitudes Towards HSBDC and College?

Primary Findings

- 92.4% of HSBDC enrollments resulted in transferable credit at a grade of “C” or better.
- HSBDC students earned 6,366 hours at this level.
- School-based resources are still the greatest source of knowledge about HSBDC.
- Students are knowledgeable about the opportunity HSBDC offers.
- Students better understand what college work requires.
- Students depend on a variety of resources for college knowledge.
- Financial aid is the chief concern of students considering college.

Student Attitudes

In addition to the student surveys, Gelb conducted focus groups in 62 classrooms asking another series of seven questions. While focus groups are not necessarily representative of an entire population, they do allow an opportunity to more fully explore student attitudes and thinking. Results here are based on the frequency, or actual number of classrooms, in which specific responses were given to a series of questions. A full summary of student focus group results can be found in Appendix III.

When asked, “What made you take a dual credit class?” The most frequent response was that HSBDC represented an opportunity to earn college credit, particularly free college credit while in high school. HSBDC also represented a head start on college. Strong responses in this area seemed to indicate that both the intrinsic and financial benefit of HSBDC were recognized by the participants.

Students continue to learn about HSBDC primarily through guidance counselors and teachers. Peers and siblings are also sources of information.

Student satisfaction with HSBDC was high with participants in nearly every focus group indicating that they would take another HSBDC course if they had the opportunity. Interestingly, few

indicated that the HSBDC had changed their college going plans for the future. For those who did, the change could be dramatic. “HSBDC has impacted my plans,” one student said. “Now that I have college credit in the state system, I’m going to apply to a state school instead of a private college. I’m also going to change my major.”

While many students recognized that they would need to focus and work hard at college, several replied that college would be much harder than they thought. As one student said, “College will be different – there will be a lot of work, many papers and real deadlines.” Yet, for some, college was seen as being easier based on their HSBDC work. “I realize that I’m ready for the rigor,” commented one student.

Looking to the future and what part of the college application process has either proven or appears to be the hardest, financial aid and the FAFSA form accounted for the greatest number of responses, appearing in half of the focus groups. The actual process of picking a college came in a distant second.

Students are placing heavy reliance on the Internet to do research on their future college options, but reliance on guidance counselors came in a close second.

III. Viewing HSBDC through Impact Evaluation

In recent years, a new form of evaluation has emerged as a way to look at the effects of policies and programs on individuals, their families, companies and organizations, and even whole communities, states or nations. Known as *Impact Evaluation*,⁶ this assessment starts with a central question. “What would have happened if the policy or program had never existed?”

To answer this question, *Impact Evaluation* requires the rigorous design of a counterfactual situation. For the purposes of this report that counterfactual

will be a hypothetical description of what things would be like in Stark County had HSBDC never existed.

The study of HSBDC in Stark County is still largely exploratory. Data collection, while extensive, is still hampered by state reporting policy and procedures.

While *Impact Evaluation* is increasingly being used in the study of education reform initiatives, it was first applied in the study of HSBDC in Stark County in the previous report in this series, *Advancing College Opportunity*.⁷

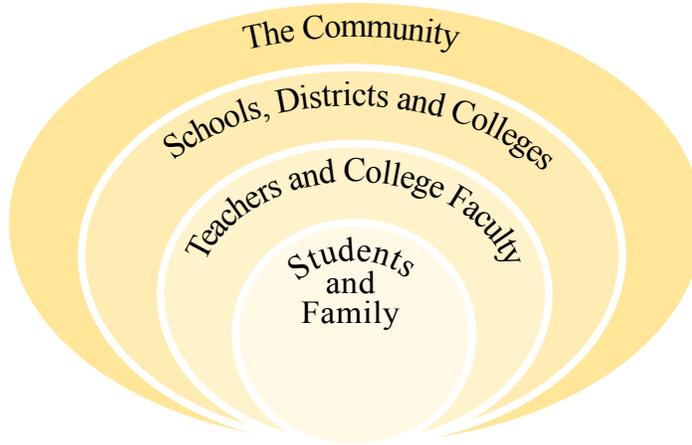
⁶ Ellis, P. (2006). *Impact Evaluation: What is different about Impact Evaluation?* Australian Government: AusAID, Office of Development Effectiveness.

⁷ Rochford, J., O’Neill, A., Gelb, A. (2009). *Advancing College Opportunity: An Impact Evaluation of the Growth of Dual Credit in Stark and Wayne Counties*. Canton: Stark Education Partnership, Inc.

The Counterfactual: A Work in Progress

A counterfactual requires consideration of how things might be different in several distinct domains. These domains are student and family, teachers and college faculty, colleges, schools and districts, and ultimately, the community itself.

Domains in the Counterfactual for HSBDC



Student and Family Domain

Impact Finding: HSBDC creates a substantial new opportunity for Stark County students to gain early college credit, offers economic benefit for students and families, and has the potential to help ensure college success.

HSBDC is an additive factor, meaning that it both adds college credit opportunities for students who engage in other dual enrollment options, and that it creates new opportunities for students who have

not previously been involved in any other program.

HSBDC growth in Stark County has been accompanied by growth in other dual enrollment opportunities as the data below indicate.

Stark PSEO, AP and Tech Prep Students

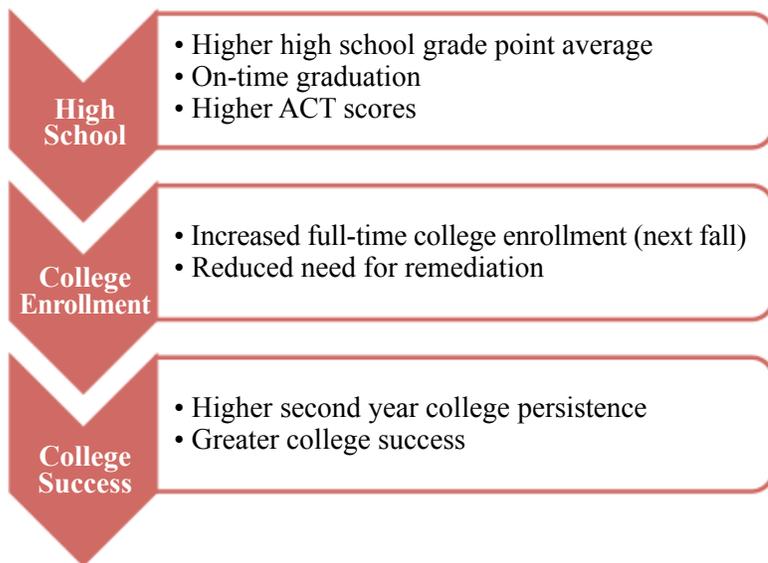
Year	2006-07	2007-08	2008-09	2009-10
PSEO	396	451	965	NA
AP	1,561	1,618	1,534	NA
Tech Prep	1,317	1,786	2,129	2,697

Sources: Ohio Department of Education, College Board, Stark County Tech Prep Consortium

HSBDC may produce enhanced academic outcomes for students. Such outcomes may be multiple.

For instance, it might be expected that HSBDC is correlated with all of the following:

Potential Outcomes of HSBDC



Student and Family Domain: *Student Academic Results*

Information on enrollments and grades came from both teacher and college sources. Grades were issued for 2,460 dual credit enrollments. Though numbers are greater, student performance at the “A” range is similar to both the 2007-08 and 2008-09 academic years. Grades at the “D” and “F” level continue to increase – from 4% in 2007-08 to 7.5% in 2009-10.

Nearly 80% of the students earned a grade of “B” or higher; 92.4% earned grade of “C” or higher, usually the cut-off point for college or university acceptance of a HSBDC course for credit. Grades of “C” or above are considered “successful completion” for the purposes of this report.

Grade Distribution of 2009-10 HSBDC Courses

	Number of Grades	Percent	Cumulative
Grade of "A"	1,099	44.7%	44.7%
Grade of "B"	829	33.7%	78.4%
Grade of "C"	344	14.0%	92.4%
Grade of "D"	122	5.0%	97.4%
Grade of "F"	61	2.5%	99.9%
N/A	5	—	—
Total Enrollment	2,460		
Hours Attempted	6,899		
Enrollment Earning "C" and Above	2,272		
Hours "C" and Above	6,366		

Student and Family Domain: *Economic Benefits*

HSBDC offers a financial benefit to both students and families through college credit already earned. Students enrolling in further higher education will have a

reduced total cost that should help free savings, lower student debt or increase a family's disposable income to purchase goods and services within the community.⁸

Cost Savings to Students and Families from 2009-10 HSBDC

Successful Enrollments	2,272
Total Hours Earned	6,366
Benefit @ 2 Year College Tuition Rate (\$135.75 hr.)	\$864,185
Benefit @ 4 Year State Tuition Rate (\$372.80 hr.)	\$2,373,245
Benefit @ 4 Year Private Tuition Rate (\$800.00 hr.) ⁹	\$5,092,800
Benefit of Textbook Costs (\$150.00)	\$340,800

⁸ Miller-Adams, M. (2009). *The Power of a Promise: Education and Economic Renewal in Kalamazoo*. Kalamazoo: W.E. Upjohn Institute for Employment Research., p.17.

⁹ Tuition based on Stark State College of Technology (2 year); University of Akron (4 year public); Walsh University (4 year private). All rates for 1 credit hour at 2010 fees. These institutions are considered representative.

During the 2009-10 academic year, North Canton City, Lake, Osnauburg, Northwest and Perry Local School Districts did charge students a nominal fee to take HSBDC courses. These fees ranged from \$50 for a dual credit

course to \$35 per credit hour, or \$105 for a three hour course. While having some impact on potential cost savings, it should be noted that in all instances these fees are still less than the cost of an average college text book.

Teacher and College Faculty Domain

Impact Finding: HSBDC creates an environment fostering high school and college faculty collaboration, spanning the boundaries between K-12 and higher education

David Conley, the author of *College Knowledge*,¹⁰ underscores why it is important to correct the disconnect between K-12 and higher education. High school teachers and college professors need to sit down and design their courses together. Stark County high school and college faculty are already spanning these boundaries impacting both the content and rigor of high school courses.

Sixty-six high school faculty and 13 college professors were interviewed by Gelb. The 66 high school faculty represented nearly all HSBDC faculty. The 13 professors had the responsibility of mentoring 61 of those teachers.

Communications and support are two primary indicators of boundary spanning in this instance. High school teachers reported receiving the following resources to support their teaching:

- 57 received the course syllabus
- 23 received copies of tests as given on campus.

High school teachers reported receiving departmental mentoring or support as follows:

- 37 teachers communicated with campus faculty by phone and/or
- 51 teachers communicated with campus faculty by e-mail and/or
- 42 teachers had face to face meetings with campus faculty and/or
- 13 teachers were visited in their classrooms by campus faculty.

College faculty believed that the mentor teacher relationship was a critical part of the program. They indicated that rigor was met. Most would like to continue with the program.

College content is being introduced into high schools across Stark County through HSBDC. A substantial body of teachers is being made aware of college requirements.

¹⁰*College Knowledge: An Interview with David Conley.* Phi Delta Kappan. September 2010, 92:28-34.

The best illustration is the example of two foreign language teachers in a suburban district. Building on their experience in teaching HSBDC courses, these teachers were determined to review their curriculum and raise the bar for all of their students in order to better prepare them for college work. Three years later they saw results from their freshmen who were now juniors.

These students were organizing their own Spanish conversation club, but more importantly were making requests for more project based learning and were willing to tackle more rigorous daily assignments.

Summaries of high school and college faculty interviews may be found in Appendices I and II.

Schools, Districts and College Domain

Impact Findings: HSBDC has grown from impacting 0.3% of the Stark County high school population in 2006 to an estimated 6.5%, surpassing Ohio's PSEO average at 2% and the nation's 5% average for dual enrollment.

HSBDC enrollment continues to grow at an explosive rate. From an initial 130 enrollments in 2006, HSBDC grew to 2,460 enrollments in 2009-10, nearly doubling the previous year's count.

HSBDC growth is enhancing the curriculum in Stark County schools and districts. From two courses in the summer of 2006, districts offered 83 dual credit courses during the 2009-10 academic year.

Since 2006, the cadre of high school teacher qualified as college adjunct faculty has grown from 2 to 69.

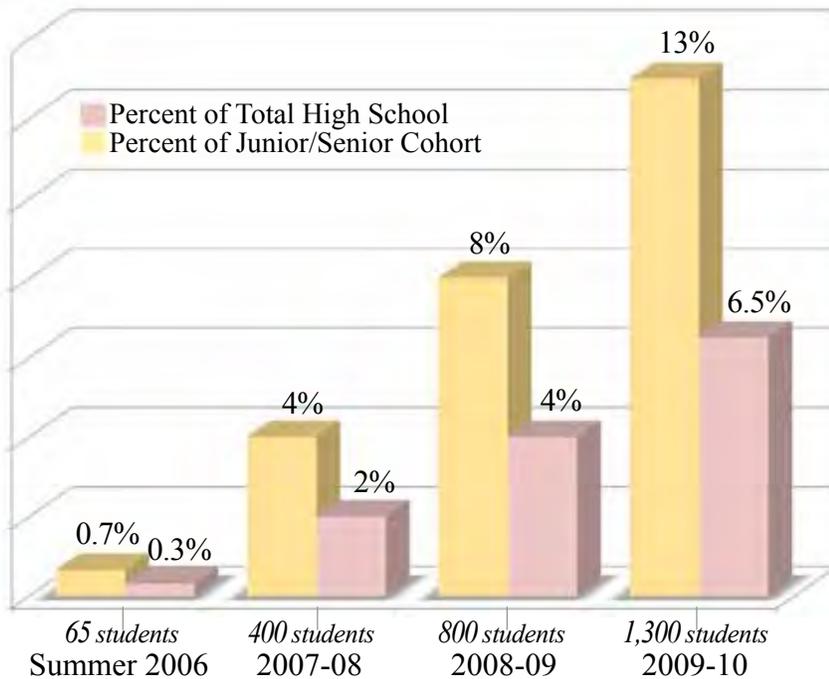
In this domain, the supposition is that HSBDC provides a **benefit to schools, districts, and colleges**. Colleges, particularly Stark State College of Technology, have gained through enrollment growth. For districts, the opportunity has emerged to provide a distinct academic and financial benefit to students and families. This

opportunity has been growing almost exponentially.

That growth is having an increasing impact on the number of students being served. While the exact number of students remain unknown, estimates offered below are based on best calculations.¹¹

¹¹Calculations are based on student surveys and/or unduplicated college enrollment counts for HSBDC. It should be noted that previous years' reports integrated data from Wayne and Columbiana Counties. These are Stark County only estimates.

Estimated Number of Stark County Students Taking HSBDC and as a Percentage of High School Population

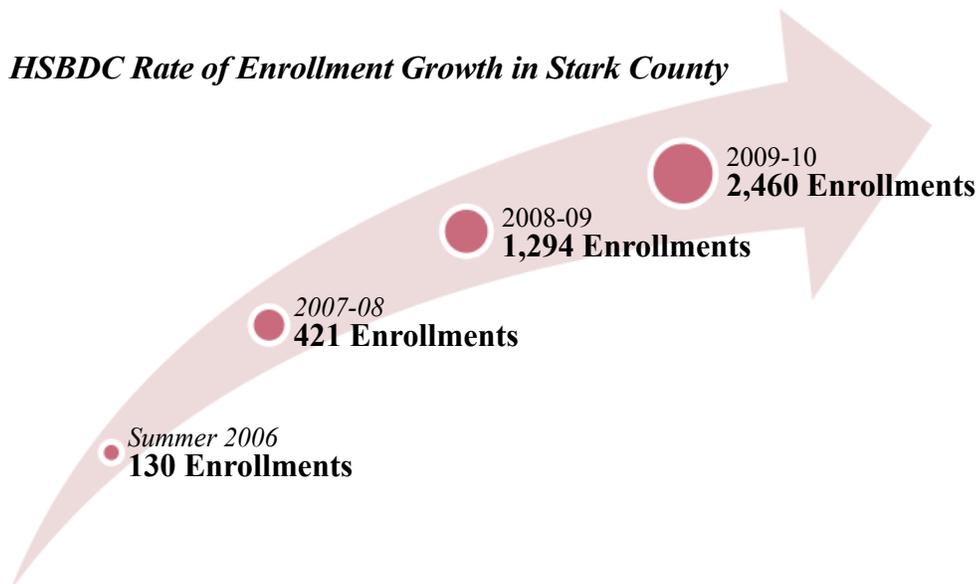


Schools, Districts and College Domain: Enrollment Growth

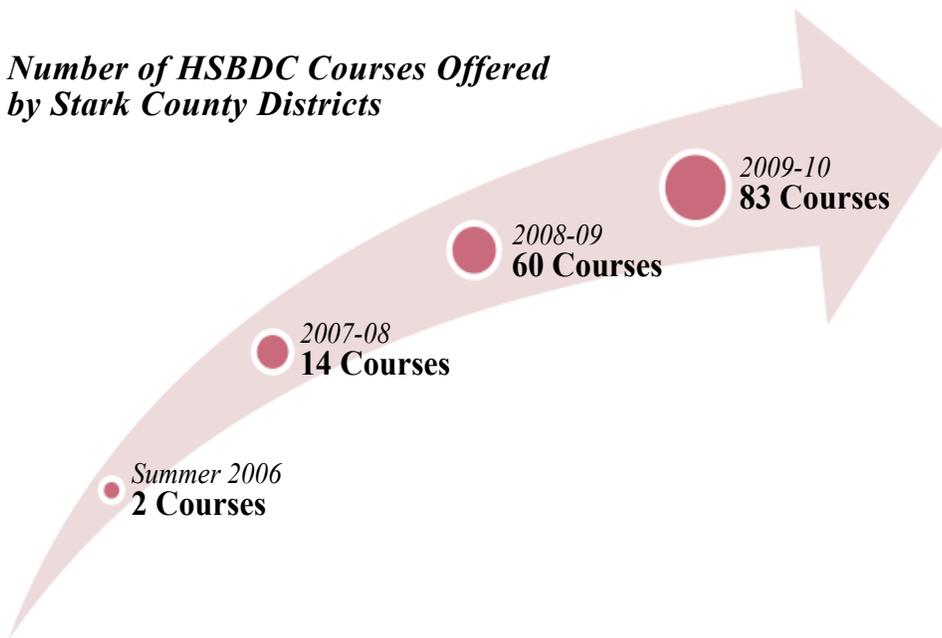
As more students are being served, the growth of enrollment is also accelerating. Enrollment counts, unlike student number estimates, are based on

the reporting of actual number of grades awarded. Student estimates are lower as students may take more than one HSBDC course.

HSBDC Rate of Enrollment Growth in Stark County



Number of HSBDC Courses Offered by Stark County Districts



In 2009-10, HSBDC was offered for the first time by all 17 school districts. Eighty-three separate courses with 165

sections were offered. A full listing of courses and sections may be found in Appendix IV.

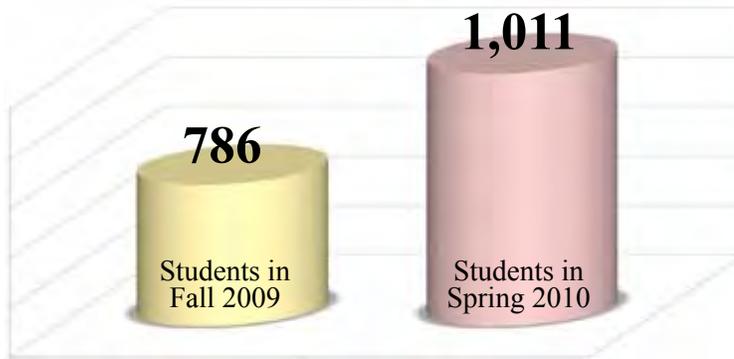
Number of HSBDC Courses and Sections by District in 2009-10

	Alliance	Canton	Canton Local	Osnaburg	Fairless	Jackson	Lake	Louisville	Marlington	Massillon	Minerva	North Canton	Northwest	Perry	Plain	Sandy Valley	Tuslaw	Total
Number of Courses	3	11	10	1	5	3	12	2	5	6	2	1	1	5	7	7	2	83
Number of Sections	3	21	29	1	5	10	26	3	11	9	3	4	1	6	19	12	2	165

How do colleges gain under this arrangement? There is a short-term gain in enrollment or student full-time equivalent (FTE) for state schools that will eventually reflect in subsidies

through State Share of Instruction (SSI). The primary beneficiary here is Stark State College of Technology (SSCT), who supports 71 of the 83 HSBDC courses.

**Unduplicated Stark State College of Technology
HSBDC Student Enrollment**



Three partner universities (University of Akron, Kent State Stark and the University of Mount Union) benefit

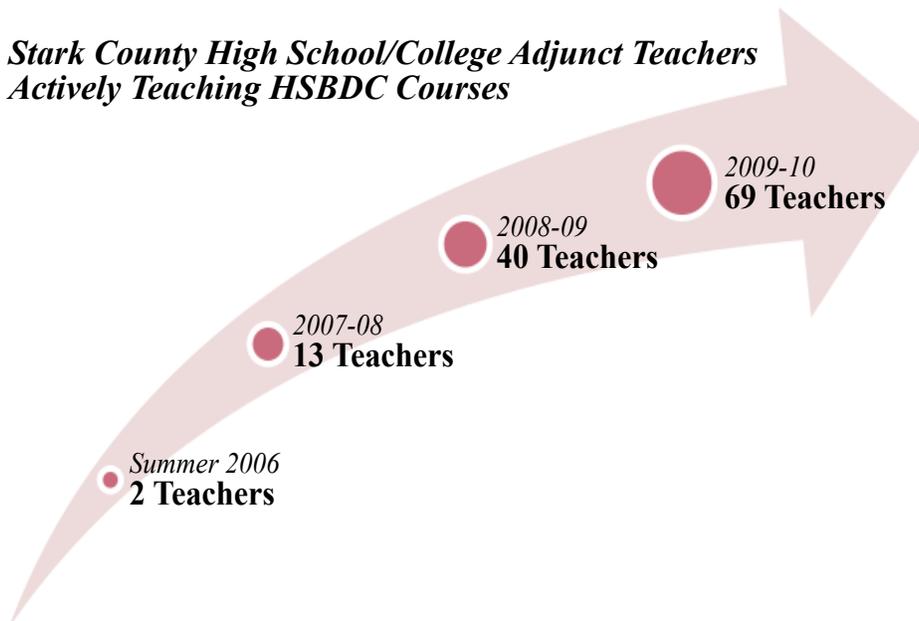
in short-term enrollment as well, but to a much lesser extent. Mount Union receives no SSI funds.

Schools, Districts and College Domain: *Adjunct Teacher Growth*

Added to this increase in enrollment is the continuing growth of a new cohort of teachers who are meeting qualifications to be appointed as college adjuncts. The active HSBDC teaching cadre continues to grow.

Over a third of the HSBDC teachers had their first experience in 2009-10. The remaining teachers had between two and four years experience.

Stark County High School/College Adjunct Teachers Actively Teaching HSBDC Courses



Schools, Districts and College Domain: *Investment Value for Colleges*

Three of the four partner institutions (Kent State Stark, University of Akron and SSCT) are the top three destinations for Stark County graduates, enrolling together nearly half of all those attending college in Ohio. Given current economic conditions enrollments may even increase.

If HSBDC does promote better preparation and, ultimately, greater persistence and success, it may begin to serve as a valuable “up-front” investment on the part of these institutions.

Investment Value of HSBDC for Partner Colleges and Universities

To what extent do HSBDC students enroll in partner institutions?

Is there less remediation required?

Do they persist at greater levels?

Do they complete in less time?

Due to its explosive and continuing growth, HSBDC is putting Stark County in a different place in relation to the state and the nation in percentages of students

being served by dual enrollment options. The full ramifications of this growth are not yet known.

Community Domain

Impact Finding: HSBDC may be accelerating the growth of education attainment for the age 18 to 24 age group in Stark County.

In *Advancing College Opportunity* the researchers noted that HSBDC in Stark County was expanding into lower income communities and districts with

correspondingly low college going rates. With the extension of HSBDC into all 17 districts during the 2009-10 academic year, that expansion has been completed.

Stark County District Type with 2007 Ohio College Going Rate

Type	HSBDC Offered	'07 College Going Rate
<i>Rural/Agricultural – High poverty, low median income</i>	Sandy Valley	49%
	Minerva	38%
<i>Rural/Agricultural – Small student population, low poverty, low to moderate median income</i>	Fairless	48%
	Osnaburg	50%
	Marlington	44%
	Tuslaw	46%
<i>Rural/Small Town – Moderate to high median income</i>		
<i>Urban – Low median income, high poverty</i>	Alliance	31%
	Canton Local	43%
	Massillon	50%
<i>Major Urban – Very high poverty</i>	Canton	37%
<i>Urban/Suburban – High median income</i>	Lake	54%
	Northwest	60%
	North Canton	64%
	Perry	60%
	Plain	52%
<i>Urban/Suburban – Very high median income, very low poverty</i>	Jackson	66%
	Louisville	58%

Source: Ohio Department of Education, Ohio Board of Regents

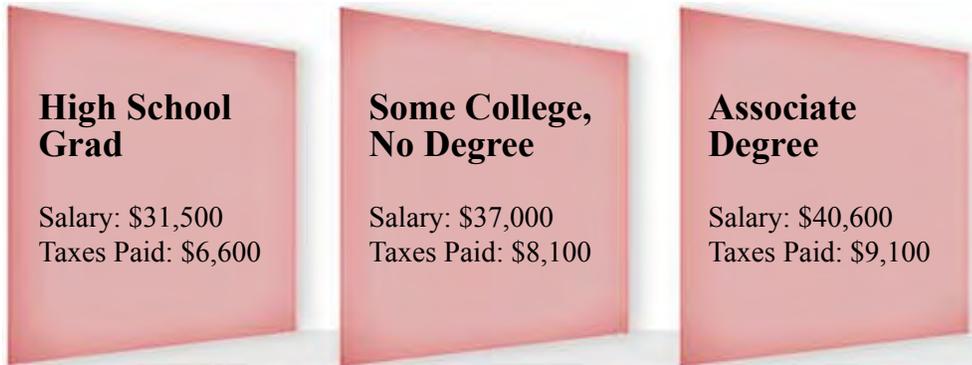
The premise here is that HSBDC is a factor in helping to increase college going rates. Raising the education attainment in communities will lead to a more highly educated workforce that contributes to economic development.

HSBDC is still a relatively new development. Students from the first full academic year (2007-08) of HSBDC will only now be entering their junior year of college, if attending a four-year institution full time.

What we do know is that HSBDC students, whether going directly to college or not, going part-time, or sitting out a year or more, have entered a new education classification. This is the “some college, no degree” category.

Long overlooked in favor of full college degrees, researchers – as the chart below indicates – are now realizing that education attainment at this level does produce additional financial benefits for a community.

Differences in Salary and Taxes Paid, High School Grad to Associate Degree



Source: College Board *Education Pays 2007*¹²

The chart below indicates that over 40% of the county’s age 18 to 24 population has now experienced some college or earned an associate degree. It is

anticipated that even greater growth will occur over time as the number of HSBDC students continue to increase. HSBDC’s first full year was 2007-08.

Percent of Stark County Population Age 18 to 24 with Some College, No Degree or Associate Degree

	2006	2009
Percent	37.9%	41.7%
Population	33,328	33,598
Number	12,631	14,010

Source: US Census 2006, 2009 American Community Survey

The full impact of HSBDC in increasing the “some college, no degree” category remains to be seen, but needs to be included in any counterfactual. Even eliminating other early college opportunities, HSBDC alone may be

now adding resident eighteen year olds adults to this category. Some will be in college full time; others may enter the workforce while pursuing part-time degrees and others may not actively pursue any degree for a period of time.

¹² Baum, S. and Ma, J. (2007). *Education Pays: The Benefits of Higher Education for Individuals and Society*. Washington, D.C.: College Board, p. 9.

IV. Conclusion: What is the Impact of HSBDC?

What changes in the community and college-going culture can convincingly begin to be attributed to HSBDC?

Returning to the developing counterfactual, the primary (though still largely exploratory) question for Stark County, its colleges and districts, students and parents, still remains, “What is different?”

First, there are data based changes. HSBDC growth has been explosive. From an initial 65 students in the summer of 2006 accounting for 130 enrollments, HSBDC impacted an estimated 1,300 students who accounted for 2,460 enrollments in 2009-10. Courses offered by districts have increased from two to 83; high school teacher-college adjuncts from two to 69.

HSBDC has also added a range of potential college cost savings of

between \$860,000 to \$5,000,000 for students and families.

Beyond the data are probable outcomes for which reliable measurement does not yet exist. High school and college faculty may be boundary spanning, impacting both the content and rigor of high school coursework. HSBDC students may be adding to a new level of education attainment in Stark County, the “some college, no degree” category.

Most critically HSBDC may be a factor in promoting less remediation, increasing persistence, and ultimately success, for students going on to college, whether locally or elsewhere.

Other dual credit opportunities such as Canton’s Early College High School, AP and College Tech Prep continue to grow in Stark County. There may be a cadre of students who are very savvy

and take advantage of multiple dual credit opportunities, earning 20 or more college hours, before graduation.

These students are to be commended for their initiative and they will hopefully

serve the future of Stark County or Ohio well. The benefits of supporting these students in college success and accelerating them (a probable outcome) towards earlier degree completion cannot be underestimated.

V. Further Research: A Continuing Need to Know

Rigorous scientific studies on the impact of HSBDC do not exist. A 2004 Round Table by the Lumina Foundation explains why:

The goals of the programs (e.g., motivating students to pursue postsecondary education, smoothing their transition, improving access, closing the achievement gap, etc.) as well as outcome measures of success are multiple and unclear... In addition, there are no clear definitions of “success” and “failure” related to these programs in any of the research that has been done thus far.¹³

The use of *Impact Evaluation* in the study of HSBDC in Stark County is still largely exploratory. Some specific areas, such as the community domain, are not yet measurable but can be viewed from the aspect of saying in essence, “Yes, this does make sense and there are probable impacts here.”

The ultimate goal of the Stark County community remains to increase education attainment and to link that attainment to economic development. HSBDC is one means, and perhaps a very important means, of achieving that goal.

In order to begin to know this with greater certainty, the first step is a rigorous study that will look at specific and immediate outcomes for HSBDC students compared to a control group of similar students with no early college credit experience. Such a study is needed to conclusively test hypotheses.

If it can be established that HSBDC students enroll in, and succeed at greater rates in college than their peers, Stark County will gain valuable information. That information will substantially contribute to knowledge at the state and national level as well.

¹³*Understanding the Impact and Outcomes of Secondary-Postsecondary Learning Options* with support from the Lumina Foundation for Education A Round Table Discussion — June 24, 2004 <http://www.aypf.org/forumbriefs/2004/rt062404.htm>

The Stark Education Partnership will partner with the Stark County Educational Service Center to enhance data collection. During the 2010-11 academic year, the Stark Education Partnership with a grant from TG will support the implementation of the National Student Clearinghouse *Student Tracker*¹⁴ system across all 17

Stark County School districts. *Student Tracker* is able to track individual student enrollment, persistence and success at over 92% of all colleges nationwide. Correlational studies will be possible once *Student Tracker* data is cross-indexed with the information in the Education Management Information System (EMIS).

¹⁴See High Schools at the National Student Clearinghouse at: <http://www.studentclearinghouse.org/>

Appendix I: Narrative Summary of Teacher Interviews

Of the 69 high school teachers instructing High School Based Dual Credit Classes 66 were interviewed in person during the 2009-2010 school year. In addition, one guidance counselor assigned as Dual Credit liaison to colleges was interviewed.

HSBDC experience among the 66 teachers included 1 teacher with four years experience, 9 with three years, 29 with 2 years and 27 in their first year.

Interview questions focused on the teachers' perceptions of support by the college and faculty. The five colleges, including Stark State College of Technology, Kent State University, Kent State Stark Branch, University of Mount Union and Akron University have various models of support for HSBDC adjunct faculty and the experiences demonstrate the differences.

Teachers reported receiving the following resources to support their teaching:

- 57 received the course syllabus
- 23 received copies of tests as given on campus. Some classes do not include tests i.e. speech; but of those that do, first year teachers, in particular, were disappointed to be refused test materials.

Departmental mentoring or support was reported as follows:

- 37 teachers communicated with campus faculty by phone and/or
- 51 teachers communicated with campus faculty by e-mail and/or
- 42 teachers had face to face meetings with campus faculty and/or
- 13 teachers were visited in their classrooms by campus faculty.

Teachers rated that support as follows:

- 29 teachers thought the support was excellent.
- 18 teachers thought the support was good.
- 9 teachers thought the support was fair.
- 3 thought the support was poor.

Responses indicate that adjuncts in the first year of HSBDC without prior experience on a college campus find a challenging culture gap. More experienced adjuncts enjoyed their autonomy while first year teachers seemed to be insecure without the strict guidelines they are used to following in high schools.

Students brought strengths and weaknesses to their experiences. Teachers were asked to list as many of these attributes as they wished. Student strengths included:

- Motivation – listed by 17 teachers
- Skill in the subject – listed by 14 teachers
- Good, intelligent students – listed by 11 teachers
- Ability to apply the subject skills to practical situations – listed by 3 teachers
- Maturity – listed by 2 teachers
- Writing skills – listed by 2 teachers
- Creativity – listed by 2 teachers
- Dedication – listed by 2 teachers
- Original thinking – listed by 2 teachers
- Verticality of skills – listed by 2 teachers
- Excellent verbal and oral skills – listed by 2 teachers
- Independence – listed by 2 teachers
- At least one teacher listed the following positive attributes:
 - Reading skills
 - Ability to participate in text based discussion
 - Methodical
 - Critical thinker

- Personal experience
- Technical experience
- Competitive
- Good researcher
- Motivated for transcript
- Value subject
- Work ethic
- Inquisitive
- Completes daily work
- Soft skills

High school students are in the process of maturing. Teachers noted the following attributes as challenging for student success:

- Lack of maturity – listed by 10 teachers
- Lack of motivation – listed by 7 teachers
- Lack of independent work, thinking habits – listed by 7 teachers
- Rigor - listed by 5 teachers
- Weak academic skills – listed by 4 teachers
- Weak math skills – listed by 4 teachers
- Pace – listed by 4 teachers
- Curriculum shortcomings/vertical alignment – listed by 3 teachers
- Weak study skills including meeting deadlines, completing outside assignments – listed by 5 teachers
- Challenging college text or context – listed by 3 teachers
- Weak reading skills – listed by 2 teachers
- Differing high school and college grading scales – listed by 2 teachers
- Weak writing skills – listed by 2 teachers
- The following were listed by 1 teacher
 - Slow pace
 - Transference
 - Depth
 - Weak technical skills
 - Lack of adaptation to lecture format
 - Lack of analytical thinking
 - Lack of soft skills
 - Poor attendance

Systemic Challenges impeding student success that were mentioned include:

- Lack of lab facilities
- Lack of administration support
- A decline in enrollment due to conflict with senior late starts.

In schools where HSBDC has existed for at least two years teachers were asked to observe any changes in students attitude toward the opportunity.

- Higher level of awareness – listed by 10 teachers
- Increased interest, enthusiasm, understanding and enrollment – listed by 8 teachers
- No change in awareness – listed by 5 teachers
- Increased interest in applying to college – listed by 2 teachers
- Increasing need for stronger high school to college bridge – listed by 2 teachers
- Increased student understanding of work load – listed by 2 teachers
- Returning college students reporting value of HSBDC – listed by 2 teachers
- Increased parent understanding and interest – listed by 2 teachers
- The following were listed by 1 teacher
 - Students’ comments that “I can do this!”
 - Increased participation by higher achieving students
 - Students see opportunity as valuable on their transcripts
 - More students are interested in saving money – but are unqualified to participate
 - More students are successful
 - The College Connector was instrumental in explaining HSBDC program to students and increasing signup
 - Enrollment flattens as entry bar is raised
 - English teachers influence interest and enrollment
 - HSBDC enrollment declined and AP held steady
 - Students were enthusiastic about applying their learning outside the classroom

Teachers were asked to observe any evolution in their attitude about HSBDC.

- Positive attitudes and support for HSBDC – listed by 16 teachers
- HSBDC is great opportunity for student – listed by 11 teachers
- HSBDC is a great opportunity for me/my favorite class – listed by 6 teachers
- HSBDC is what I expected – listed by 4 teachers

- No opinion expressed by 4 teachers
- We should offer more classes – listed by 3 teachers
- HSBDC frees me to push students - listed by 2 teachers
- “I prefer PSEO. The students are too immature for HSBDC.” – listed by 2 teachers
- Counselors need more information in order to support students – listed by 2 teachers
- Need for attention to credit transference and quality of texts – listed by 2 teachers
- Graduates provide good feedback – listed by 2 teachers
- The following were listed by 1 teacher
 - Discomfort with differing high school and college standards
 - Admission process should screen for maturity
 - HSBDC is not as hard as AP
 - Would like to see a more “college-like” atmosphere
 - HSBDC is a good introduction to the possibility of college
 - Teacher now realizes the importance of achieving a 23 composite on the ACT
 - Better experience than I expected
 - Appreciative of the academic freedom of teaching a college course
 - Disappointment in students
 - Faster pace than expected
 - HSBDC is more work for teacher
 - High school needs to work faster toward vertical integration
 - Disappointed in lack of rigor
 - Appreciative of high school location
 - Interested in building stronger transition for students
 - Interested in acknowledgement of additional work from administration
 - Frustrated by varying requirements for HSBDC
 - Ramping up demand for independent learners
 - Requesting better scheduling to eliminate conflicts with honors
 - Enjoys opportunity for depth
 - Observes that high school content is more advanced than same HSBDC course
 - Frustrated with registration problems

Teachers were asked to comment on any evolution they perceived in their district's attitude.

- 20 teachers noted the district's positive attitude toward HSBDC
- 9 teachers noted that district's interest in starting more HSBDC classes
- 9 teachers did not notice any change in the district's attitude
- 8 teachers found the district to be supportive of HSBDC teachers
- 3 teachers said the district was adding more classes next year
- 3 teachers said the district was encouraging more teachers to gain adjunct status
- 2 teachers said their principal and guidance counselors were actively recruiting HSBDC students
- The following were listed by 1 teacher
 - There's been little parent comment
 - Our school is adding a HSBDC course for all freshmen
 - District appears to be committed
 - District likes the prestige of HSBDC
 - Guidance has better understanding of HSBDC
 - District prefers IB

Teachers were asked to define how HSBDC differs from any high school level course they may be teaching:

- 14 teachers noted a difference in depth
- 12 teachers noted a difference in rigor and/or pace
- 8 teachers noted a difference in content
- 5 teachers said there was no difference
- 4 teachers said HSBDC was easier
- 4 teachers said the course required more student independence
- 2 teachers said there was more technical information required
- 2 teachers said there was more research and use of resources required
- 2 teachers said there was more analytical or critical thinking required
- The following were listed by 1 teacher
 - Harder tests and grading policy
 - No credit for daily work
 - More work in class
 - More project based work
 - Less rigor and depth than AP
 - Similar to AP

- More reading required
- Not as thorough as high school work

Teachers responded to the question: “How much additional support do you provide for students taking HSBDC?”

- 26 responded that they provided the same opportunity as they did for high school classes. For many, their schedule did not allow for any additional opportunities and students who are bussed cannot easily come before or stay after school.
- 3 responded that they are always available
- 2 responded that they provide support whenever they can
- 2 responded that they provided students with their e-mail address
- 2 responded that they provided students with support in reading the text
- 2 responded that their students were not engaged and didn’t ask for help
- The following were listed by 1 teacher
 - Gave students phone number to call before 10 p.m.
 - Students had access to tutor hired by district
 - District set up a writing center and paid for professional development at SSCT
 - Teacher set up support by appointment
 - No one needed support
 - Walsh students provided support
 - After school labs were conducted once a month
 - Review of reading homework in class
 - Teacher adds college access skills and activities

Teachers were asked what additional support would be helpful to them in their work as adjuncts teaching HSBDC:

- 6 requested countywide meeting for those teaching the same courses
- 8 requested improved and consistent communication about a variety of issues including: registration, college data systems, grade norming. Better communication with students and parents.
- 4 requested additional planning time
- 4 requested stipends
- 4 requested a summer workshop
- 3 requested financial support to earn adjunct status
- 3 requested additional hardware
- 3 requested stronger mentoring for new adjuncts

- 3 requested release time to attend college meetings for adjuncts
- 3 requested some kind of online support for students
- 2 requested better calendar coordination
- 2 requested guidance on what to emphasize
- 2 requested additional science equipment
- 2 requested the opportunity to see the tests given on campus and perhaps to have copies
- The following were listed by 1 teacher
 - Some kind of acknowledgement from the district – there is significant additional work and prep for HSBDC
 - Additional classes
 - Adjunct privileges on campus – reduced fees for classes
 - High schools to allow fewer missed classes
 - At home computer access for students
 - Collaboration with guidance counselors
 - Coordination of lab book with text
 - Definition of course levels
 - Increased collaboration between high school and college faculties
 - Additional time to support students
 - Any course materials
 - I like the autonomy
 - Request to observe class on campus
 - Pacing guide
 - Pure HSBDC class – some schools mix in non HSBDC students
 - Acknowledgement by college that high school teachers have insight into high school students
 - Opportunity to see models of college work
 - Additional software
 - Software for text
 - Students need their own workbook – it’s not realistic to share over years
 - Additional teacher resources, test generator
 - Timely mentor assignment (class began in fall, mentor was assigned in April)
 - Timely observation
 - Reduced administrative chores

Additional comments include:

- Requests for subject networks and end of year sharing of best practice (Williams model)
- HSBDC is difficult with block scheduling, particularly with foreign languages
- One district sends a letter to each family of participating students explaining the financial value of each HSBDC class
- One school department raised the rigor in all high school classes three years ago and is seeing higher achievement in all classes and better prepared HSBDC students
- Kent State University is telling education majors that HSBDC doesn't increase school rigor
- Some districts require an essay, review of subject work and a B or better in the subject in order to participate in HSBDC
- HSBDC classes should be capped at 20
- It is difficult to accommodate IEPs in HSBDC
- It is difficult to bridge the mismatch in high school and college goal
- Some college course lessons are outdated
- It will be difficult to recruit additional HSBDC teachers since there is little financial support for gaining accreditation
- Prerequisites for this course are not rigorous enough
- There are registration, crediting and transcript problems
- The SSCT English department provides a good model for mentoring HSBDC teachers
- Lectures and labs should be aligned
- Students at Marlinton have performed well in an online class

Appendix II: Survey Responses of College Faculty

College Faculty Responses to Survey

The researcher contacted college professors and liaisons assigned to mentor high school teachers working as adjuncts to the college faculty while on the high school campus. Thirteen college faculty members with responsibility for 61 teachers were contacted.

1. *Do you feel that the professor mentor/teacher relationship was a critical part of this program? How?*

Response	Number
Yes	12
No	0
N/A	1

Comments supported the importance of this relationship in narrowing the gap between high school and college cultures and improving student outcomes. It was suggested that communication should evolve to include high school administrators and principals.

2. *Have you ever taught in a high school setting?*

Response	Number
Yes	6
No	6
N/A	1

3. *Have you ever worked directly with K-12 faculty non issues of instruction or curriculum e.g. MSP?*

Response	Number
Yes	6
No	6
N/A	1

4. *To what extent did your teacher(s) call upon you for support/advice/consultation?*

Response	Number
Much	4
Occasionally	8
None	2
N/A	1

- Communication between adjuncts and mentors was uneven. More experienced HSBDC teachers are reported adopting the culture of the college faculty and requesting less support.
- Some college departments have set up meetings for adjuncts teaching HSBDC and some are disappointed to find teachers not attending due to lack of district support to hire substitutes for day time meetings and lack of teacher willingness to attend meetings on their own time.
- Other department heads report good outcomes from meetings with teachers.
- Some departments have appointed liaisons to work with HSBDC teachers, as reflected in the 13:61 ratio of college faculty to teachers. Liaisons reported contact with teachers at least twice each semester for new teachers and fewer contacts with veterans.

5. *Do you have any insight into whether the rigor/content of the course was adequately met in the high school setting?*

Response	Number
Met	8
Not met	2
No insight	3

- The question of rigor elicited strong responses from college faculty. Many reported uneven or “spotty” rigor with varying causes including: maturity of students, lack of books, lack of a common syllabus and teacher quality. In one instance it was reported that 3 of 13 teachers were conducting their courses satisfactorily.
- In schools where classes include HSBDC students and high school students college faculty felt that the combination prevented rigor.
- One professor stated that “High school is NOT college. Our [college] name is on this course – it must reflect our standards –for rigor, depth and pace.”
- On the other hand one professor reflected, “I’ve been pleasantly surprised by how good student skills are.”
- Coordinators/liasons are being employed to monitor rigor.

6. *How would you rate the communication/information you received about HSBDC?*

Response	Number
Good	6
Fair	4
Poor	2
N/A	1

- Communication within the college was perceived differently by those on the “inside” and those on the outside. Professors who were involved in the development of the HSBDC model felt communication was good. Those who were involved later did not feel as well informed.
- Some felt that communication varies by department. Some departments have initiated a meeting to familiarize faculty and teachers with the model and with administrative issues.

7. *What evolution has there been in your thinking about HSBDC?*

Response	Number
More valuable than I thought	4
Less valuable than I thought	1
No change	7
N/A	1

- The majority of professors' attitudes are unchanged. Those expressing opinions shared the following:
- I've evolved from 50/50 support to 75/25. I am concerned about giving away what campus students pay for. In addition I'm concerned about the high school culture of teaching to test.
- I've realized that it is most important to be certain that students are well advised about different courses and the difference between the transfer module and TAG.
- I like HSBDC better than AP – we have more direct control.
- I'm not impressed with what I see of students' experiences. HSBDC needs to be refined.

8. *What evolution have you noticed in teachers' thinking about HSBDC?*

Response	Number
More valuable than they thought	3
Less valuable than they thought	0
No change	6
N/A	4

Professors reported the following observations about HSBDC teachers:

- Over time, teachers learn to like the freedom of teaching college classes.
- Some teachers do not see the value in the big changes they have to make for a few students
- Over time, teachers are more accepting, less afraid, less concerned about intrusions and see that students must meet core competencies

9. *What evolution have you noticed in college's thinking about HSBDC?*

Response	Number
More valuable than they thought	4
Less valuable than they thought	0
No change	7
N/A	2

- Note was taken of the challenges of exploding enrollment and the need to think of the program as a work in progress.
- Expressions of appreciation seem to be underrated by participants. Teachers express interest in letters of acknowledgement and/or stipends. Colleges express interest in acknowledgement by district administrators and willingness to shoulder expenses.

10. *Would there be any advantage to teaching this one semester course over one year? (Where applicable)*

Response	Number
Yes	4
No	6
N/A	3

This question preceded a decision to eliminate the option of teaching a semester course over a year. Many responses reflected thinking behind that decision – the need to maintain rigor and pace. “A college course requires reading a chapter per day – the change would mean reading a chapter each week.”

Some responses reflected a student centered point of view:

- “I love idea of deeper learning over 1 year and I would I want to teach that”
- “A full year experience would increase transfer to coursework – students need repetition to internalize the material.”
- Some responses reflected the specific coursework: This course would be too easy if spread over an entire year – it would be easier than high school.”

11. Are you interested in continuing to work with school districts on HSBDC?

Response	Number
Yes	11
No	1
N/A	3

The most cogent comment indicated a concern for sufficient resources to support HSBDC teachers and the college faculty.

12. Do you see a direct benefit to your institution and/or to yourself through HSBDC?

Response	Number
Yes	8
No	2
N/A	3

Comments from those seeing a benefit included:

- HSBDC students bring better skills in reading and writing.
- HSBDC fulfills our college's mission; it benefits students. They receive a taste of college while increasing their confidence, competence and chances for success.
- HSBDC is a direct benefit to our college, high school teachers and students. It is a catalyst for students who wonder if they can succeed in college.
- HSBDC benefits admissions.
- HSBDC may be beneficial – it depends on the teachers
- One college faculty member observed that PSEO is good and HSBDC is NOT.

Appendix III: Student Focus Group Responses

In 2009-2010 school year the researcher visited 61 Classes in 17 districts. Student focus groups were asked to respond to the seven questions and provided the following answers.

Q1: Who or what made you take a Dual Credit Class? (May have more than one response)

Comment: Strong responses indicate that the “message” about the intrinsic and financial value of HSBDC is recognized by participants.

Response	# of classes where response was given
Opportunity to earn college credit in high school	46
Free college credit	44
Head start on college	21
Looking for a challenge	16
Chance to experience college work	12
College credit for work that isn't harder than high school work	7
Part of my career interest	6
I found it in the course guide	5
An alternative to AP	2
I'll have high school teacher's support	2

Q2: How did you learn about the Dual Credit opportunity? (May have more than one response)

Comment: The opportunity to participate in HSBDC is communicated largely by teachers and counselors.

Response	#of classes where response was given
Guidance Counselor	48
Teacher	41
Peers/Siblings	16
Parents	12
Myself	11
Placed by school	4

Q3: Would you take another High School Based Dual Credit Class if you had the opportunity?

Comment: The vast majority of students are satisfied with their experience.

Yes	54
No	8

Q4: Has the HSBDC experience changed your perceptions about college and the work you'll do at college? (May have more than one response)

Comment: Students have learned more than the subject matter during HSBDC. They recognize the demands of college work.

I'll need to focus and work hard at college	24
College will be harder than I thought	22
College will be easier than I thought	15
I'll have to do more independent thinking at college	12
I'll be able to manage the work at college	10
College work moves at a faster pace	6
There will be more hand-on activity at college	5
College will be more enjoyable	3

Q 5: Has the HSBDC experience changed your plans for the future?

Yes	6
No	51

Q6: Do you have any advice as to how to improve the HSBDC program? (May have more than one response)

Comment: Communication is an area prompting many comments. Analysis demonstrates that students at schools in their first year of HSBDC are more likely to say that communication was inadequate.

Better communication – qualifications, prerequisites, deadlines	16
Add more HSBDC classes: arts, science, math, humanities, nursing	9
Tell students sooner in year and in high school	9
Guidance Counselors need better information; better communication with colleges	6
More publicity and information about all opportunities including HSBDC	5
Clarify confusion about what transfers where; what OH colleges accept HSBDC	4
Make class periods longer	2
Simplify sign-up	2
Take Compass earlier; resolve Compass administrative challenges	2
Better informed administration	2
More information to parents	2
Offer courses throughout the day – better slots	2
Doing a good job now	1
My own text	1
Better communication about courses being college based/feeling like college with open discussion etc.	1
Get rid of ACT	1
Publicize that there is no big test like AP	1
Uniform administrative policies for participating colleges	1
Make classes year long	1
Open to all students	1
More support for credit transfer process	1
More support for filing forms - workarounds	1
Need pure HSBDC classes – all students enrolled	1
More courses for freshmen	1
Teachers should treat us like college students – less lenient	1
Offer a meeting about HSBDC and benefits	1
Encourage good students	1

Q7: What resources have you or will you use to research college options? (May have more than one response)

Comment: It is interesting to note that students list material received in the mail as an important resource.

Internet	42
Guidance Counselor	35
Mail	27

Family	19
Campus visits	16
Teacher	11
Peers	10
E-mail	9
School	9
College fairs	6
College visits to high school	4
Myself	3
Coach	2
Recruiter	2
College admissions professional	1
DREAM	1
Scholarship opportunities	1
Principal	1
Grade level assistance – ½ hr lunch period	1
OCIS	1
PSAT follow up	1
College Connector	1

Q8: What part of the college application process has proven to be or appears that it will be hardest? (May have more than one response)

Comment: Financial Aid remains a challenging process for students and their families.

Financial Aid/FAFSA	31
College selection	16
Entire process	9
Choosing a major/career	6
Motivation/organizing time	4
Little personal guidance available at school	3
Visiting colleges – time off from high school	2
Essay	2
Post acceptance support	2
Rigor	1
Transferring Dual Credit	1
ACT score	1
Polishing Application	1
Teacher recommendations	1

Additional Positive Feedback:

- Through my dual credit experience I am considering a different career and major and different colleges.
- It has been an advantage to take this class each day instead of 2 days a week. I've learned that college will be faster paced.
- I'll take fewer physics classes in college. I'm going to change my major.
- College will be different – there will be a lot of work, many papers, and real deadlines. On the other hand I'm going to have more time to myself.
- This has been a wakeup call- I'm going to learn a lot and do a lot in college.
- I realize that I'm ready for the rigor.
- It's easier to take college courses through HSBDC. I don't have a car and I don't have to travel. This is convenient and I'm comfortable with this teacher.
- I'm enjoying the college environment in the class – students respect each other.
- This class has been challenging and stressful, there has been so much writing – but we love it. Our writing skills have improved and we've gained confidence.
- Dual Credit classes make sense. It's not too hard. There's a lot of writing but not as many tests.
- I like the approach – questions rather than directives.
- I prefer HSBDC to AP.
- I feel more confident about college.
- I'd rather take a HSBDC class than sit in a study hall – it's a good use of my time.
- Fire science students are anxious to support curriculum prerequisites.
- Why not take HSBDC? It's free college credit and is the same as high school work.
- I like the students who are in HSBDC with me – they are higher achieving and ready to learn.
- I like that there's no hand-holding in HSBDC.
- I feel better prepared for college.

- HSBDC is “in the air” at our school.
- HSBDC has made me excited about college.
- This class has been challenging – I feel like it has prepared me for college and for life.
- HSBDC has impacted my plans – now that I have college credit in the state system I’m going to apply to a state school instead of a private college. I’m also going to change my major – I’ve learned that I’m as good as I need to be in this subject.
- I’m changing my major to this subject – I really enjoyed it and developed a strong interest.
- I’ve learned about deadlines and study skills. FAME has supported me in HSBDC.
- I’ve enjoyed the discussions – I’m learning through processing not just memorizing facts. I’ve learned to use different resources to write big papers.
- It is beneficial to have a college grade on my transcript.
- The College Connector informed me about HSBDC .
- I wish our high school teachers would treat us like college students – enforcing deadlines, taking notes, being independent and responsible.
- I’m interested in this topic and I have enjoyed becoming better informed.
- I’ve had real college experiences. I learned that will need to email professors and do more on my own.
- HSBDC is better than AP- no huge test to get credit.
- Dual credit helped me to decide about college

Additional Negative Feedback:

- I’ve been frustrated by administrative mix-ups regarding prerequisites for taking dual credit. 2
- It’s too hard to take HSBDC and compete in sports as well.
- This is an online class with teacher support – it’s not what I expected.
- This is a lot of work for only ½ credit.
- HSBDC may lower a high school GPA for a high achieving student.
- It is harder to visit colleges when taking HSBDC because we can only miss 4 classes.

- We would like more specific processes including meeting for HSBDC sign up.
- We were invited to participate in HSBDC but we were told that there would be no additional work and we would get college credit. That is not true – it has not been easy and there has been a lot of writing.
- The teacher didn't understand HSBDC.
- This has been a mixed class – some are HSBDC and some are not. It has been a lot of extra work for the teacher and that has impacted the class.
- Ohio University will not give us credit.
- We would like the high school and college grading systems to be the same.
- I would prefer an easy senior year – I wouldn't do this again.

Appendix IV: Courses and Sections Taught by District

Key: Stark State College of Technology (SSCT); Kent State Stark (KSU); Mount Union College (MUC); University of Akron (UA).

# of Courses	# of Sections	School	Courses	Sem 1 Sec	Sem 2 Sec	SSCT	KSU	MU	UA
3	3	Alliance	MST 122	1		1			
			MST 127		1	1			
			MTH 120		1			1	
5	12	Canton City Schools – McKinley	BIO 101		3	1			
			BST 120		2	1			
			ECA122	1		1			
			IDS 115	2	2	1			
			PSY 121	2		1			
6	9	Canton City Schools – Timken	BIO 101		1	1			
			IDS 115	2		1			
			MTH 125	1		1			
			MTH 126		1	1			
			PHY 121	2		1			
			PHY122		2	1			

# of Courses	# of Sections	School	Courses	Sem 1 Sec	Sem 2 Sec	SSCT	KSU	MU	UA
10	29	Canton South	ECA 122	1	1	1			
			ENG 124	1		1			
			ENG 125	1		1			
			ENG 224		2	1			
			IDS 112-114	6	12	1			
			MTH 120		1	1			
			MTH 122	1		1			
			PHY 101	1		1			
			PSC 121	1		1			
			SOC 121		1	1			
1	1	East Canton	CHM 141		1	1			
5	5	Fairless	IMT 121	1		1			
			IDS 115	1		1			
			IMT 121		1	1			
			MTH 125	1		1			
			MTH 126		1	1			
3	10	Jackson	ENG 124	4		1			
			ENG 231		4	1			
			MUSIC	1	1				1
12	26	Lake	ARTH		1		1		
			CHEM 10050		1		1		
			CHM 121		4	1			
			ECA 223		1	1			
			ENG 124	1		1			
			ENG 224		1	1			
			IMT 122		1	1			
			MUS		3		1		
			BIO 101		3	1			
			MTH 120		3	1			
			SPAN	3	3		1		
MTH 222		1	1						
2	3	Louisville	COM 121	1		1			
			PSC121	1	1	1			

# of Courses	# of Sections	School	Courses	Sem 1 Sec	Sem 2 Sec	SSCT	KSU	MU	UA
5	11	Marlington	ECA 122		2	1			
			ECA 144	1		1			
			HI 210	1	1			1	
			MTH 120		4	1			
			MTH 222		2	1			
6	9	Massillon	COM 121	1	1	1			
			ECA 154		2	1			
			ECA 155	1		1			
			ECA 228	1	1	1			
			ENG 124	1		1			
ENG 234		1	1						
2	3	Minerva	SPAN - INT	1					1
			MTH 120	1	1			1	
1	4	N.Canton Hoover	ENG 124		4	1			
1	1	Northwest	MTH 120		1	1			
5	6	Perry	CHM 121		1	1			
			ENG 124		2	1			
			FR - INT II		1		1		
			SPAN - INT II		1		1		
			PHY 121		1	1			
7	19	Plain	ASL 122		1	1			
			BIO 101		1	1			
			ENG 124	4		1			
			ENG 233		4	1			
			IDS 115	3		1			
			MTH 120		4			1	
7	12	Sandy Valley	BCA 120		1	1			
			BIO 126	1	1	1			
			COM 121		2	1			
			ENG 124, 224		3	1			
			IMT 122	1	1	1			
			IMT 134		1	1			
			IMT 135	1		1			
2	2	Tuslaw	PHY 101	1		1			
			PHY 121		1	1			
83	165					71	6	4	2

Course Key - SSCT

- ACC - Accounting
- AIT - Applied Industrial Technology
- AUT - Automotive
- BCA - Business Computer Applications
- BIO - Biology
- BST - Biotechnology
- BTD - Business Technologies Special Courses
- BUS - Business Technology
- CAP - Computer Technology
- CET - Civil Engineering Technology
- CHM - Chemistry
- COM - Communications
- DET - Design Engineering Technology
- DHY - Dental Hygiene
- ECA - Engineering Computers
- ECE - Early Childhood Education
- EET - Electrical/Electronic Engineering Technology
- EMS - Emergency Medical
- ENG - English
- ENT - Entrepreneurial
- ENV - Environmental
- EST - Electrical Maintenance
- ETD - Engineering Technology Special Courses
- EUT - Electrical Power Utility
- FIN - Finance
- FST - Fire Services
- GSD - General Studies Special Courses
- HIT - Health Information
- HTD - Health Technology Special Courses
- HVC - Heating, Ventilation and Air Conditioning
- IDS - Interdisciplinary Studies
- IET - Industrial Engineering Technology
- IMT - Interactive Media
- IRT - Information Reporting
- MAS - Massage Therapy
- MAT - Medical Assisting
- MET - Mechanical Engineering Technology
- MGT - Management
- MIS - Medical Instruments
- MKT - Marketing
- MLT - Medical Laboratory Technology
- MST - Mechanical Service
- MTC - Medical Transcription
- MTH - Mathematics
- NUR - Nursing (ADN)
- OAD - Administrative Information
- OTA - Occupational Therapy
- PHL - Philosophy
- PHY - Physics
- PSC - Political Science
- PSY - Psychology
- PTA - Physical Therapist Assistant
- RCT - Respiratory Care
- SOC - Social Sciences
- SWK - Human and Social Service

Course Key - KSU

- ARTH - Art History
- CHEM - Chemistry
- FR - French
- SPAN - Spanish

Course Key - MU

- HI - History