

College in the Schools Follow-Up Student Survey

A survey of alumni five years after participation

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Introduction

The College in the Schools (CIS) program delivers introductory-level University of Minnesota courses to high school junior and senior students in their local high schools. These courses are taught by their high school teachers and are a means of providing advanced curriculum to those students who are ready for highly challenging content. There is a range of subject areas in CIS courses – world languages, English composition and literature, economics, history, and political science. The high school teachers are supported by professors from the University of Minnesota in terms of the content to be taught and instructional methods. The classes are offered within the regular school day and meet for a semester or the entire year. There is no charge to students to take the classes; however, there is a small amount of tuition which the schools pay to the University for coordinating their participation in CIS. Students are able to earn college credit for their participation in CIS courses.

The CIS Follow-Up Student Survey sought to gather the opinions of past participants five years after they had taken a CIS course. The survey asked about participants' experiences after high school including whether they attended college, whether the University credit received was recognized at their college, and how CIS did or did not prepare them for college. The survey also asked about their future plans after completing their postsecondary education.

Sample

The survey was mailed in 2003 to the home addresses of participants at the time they were enrolled in a CIS course. Of 1,770 surveys mailed to respondents, a total of 476 completed and returned the survey (26.9% response rate). Most participants (88.7%) listed 1999 as their high school graduation year while the rest listed 2000. Five respondents did not list a high school graduation year. Of the 476 respondents, 448 listed the specific CIS course(s) they took in high school. The majority (55.6%) listed only one course while slightly over a third listed two courses. The remainder listed three (5.4%), four (4.0%), or five courses (0.4%). Figure 1 below shows the proportion of respondents reporting having taken each type of CIS course. Only English Literature was taken by a majority of the respondents. It was followed in order of popularity by English Composition, Political Science, Economics, Intermediate German, and Intermediate French.

Figure 1. Proportion of Students Reporting Taking Each Type of CIS Course (Student Could List More than One Course, n=448)

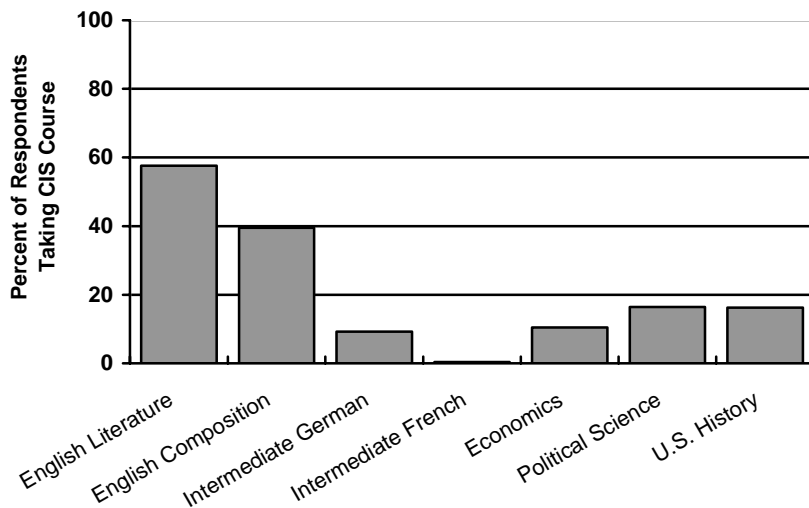
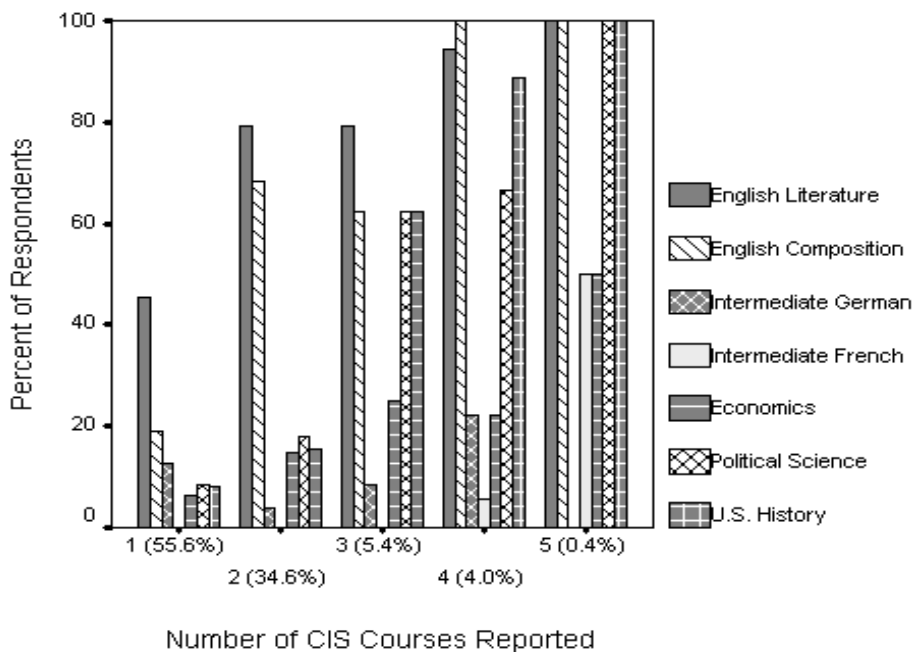


Figure 2 shows how listing each type of course was related to the number of courses taken. The more courses taken the greater the likelihood of having taken a relatively unpopular course. For example, Intermediate French tended to be taken by students already taking other CIS courses.

Figure 2. Proportion of Students Taking Each Type of CIS Course by Number of Overall Number of CIS Courses Listed (n=448)



Methods

This analysis sought to summarize the impact of CIS on students' college experience in terms of their decision to go to college, time taken to complete college, their success in receiving credit recognition, and decision to apply to graduate school. The analysis then aimed to summarize the specific benefits of CIS coursework to students. By relating the nature of the CIS experience to specific benefits, the analysis will also suggest the kinds of CIS experiences providing the most benefits to students. Given that nearly all questions are close-ended, the analysis relies on a combination of descriptive statistics to report responses to questions and nonparametric statistics to compare groups of students and cluster a checklist of benefits. These analyses sometimes refer to statistical significance or "p-values." A result is considered statistically significant if the probability of obtaining the particular outcome by chance is small (typically 5% or $p < .05$). Sometimes a p-value is provided which specifies exactly how likely it is to have obtained that result by chance (e.g. $p=.004$ is equivalent to 0.4%).

An invitation to volunteer additional comments about their CIS experience on the survey was also analyzed. Responses to the open-ended question were aggregated. The collated responses were then analyzed for predominant themes and unique contributions, along with the relative strength of the themes as they emerged. Several sample comments which are representative of the themes are also provided.

Results

How did CIS impact the decision to go to college and apply to graduate school?

Nearly all respondents indicated attending a postsecondary institution and a majority made plans to or had actually applied to graduate school.

Of 476 respondents, 469 (98.5%) reported attending a two or four-year college, a university, or technical school following graduation from high school. Four respondents (0.8%) said they did not attend school and three respondents (0.6%) gave no indication either way. None of the respondents who indicated they did not attend college reported that CIS had influenced them not to attend college.

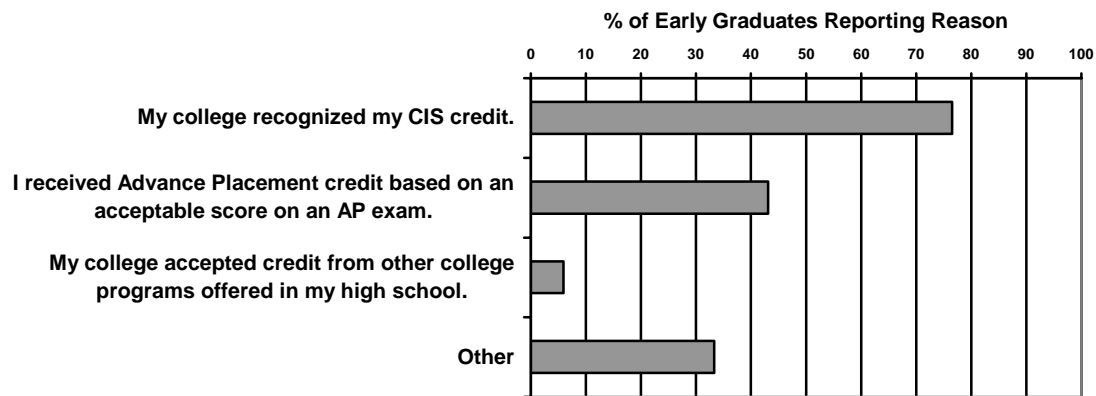
Students were asked about plans to apply to graduate school. Four hundred twelve and four hundred sixty-one students responded to the two questions respectively. Nearly two-thirds (63.6%) of those responding have plans to apply to graduate schools and 14.5 percent of those responding have applied to graduate school.

Did participation in CIS result in early college graduation?

A small minority of students indicated that they had graduated early from college and that CIS contributed to that outcome. The proportion of students doing so far exceeded early graduation rates in a comparable national sample.

Of the 465 respondents reporting their college status, 51 (11.0%) of them reported having graduated early. Those reporting early graduation were both 1999 and 2000 high school graduates. Figure 3 lists the reasons checked for early graduations by those 51 students. Recognition of CIS credit was by far the most frequent reason for early graduation followed by receiving advanced placement credit.

Figure 3. Reasons Given for Early Graduation from College
(Respondents Could Check More than One Reason, n=51)



The reports of early graduation for a sub-sample of students completing this survey can be compared to a sample reported on in the 2002 *Digest of Education Statistics* published by the National Center for Education Statistics (<http://nces.ed.gov/programs/digest/d02/>). In the current study, 53 students who completed the survey in 2003 graduated from high school three years earlier. Fifty-one of the 53 students attended a four-year college. Of those 51 students who both attended a four-year college and completed the survey three years after high school graduation, 8 students or 15.7% reported that they graduated early from college. The *Digest of Education Statistics* reports that for a sample of students who started a four-year institution in 1995 and reported their status three years later in 1998, only 0.8% had graduated early. If that national sample is restricted to only those students whose parents had graduate degrees, then only 0.3% had graduated early.

How did participants rate their experience with CIS?

The vast majority of respondents rated their experience with CIS and its impact on their subsequent college experience positively. Specific benefits were cited for study habits, meeting academic challenges, and communication skills.

Overall assessments of the CIS experience were quite positive. Figure 4 shows how respondents rated their experience in relation to preparing them for college and Figure 5 shows a more general rating of CIS “looking back.” In both cases, over 90 percent of respondents gave a favorable rating to the program. When asked whether the respondent “would recommend to a high school student that she/he take a CIS course offered through

the University of Minnesota, Twin Cities,” 97.7% indicated they would. Only 0.6% said they would not and 1.7% did not reply.

Figure 4. Proportion of Responses to Statement, “Your experience with College in the Schools sharpened your academic skills in preparation for college” (n=476)

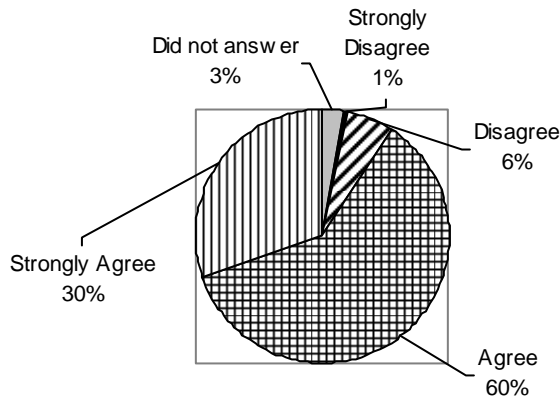
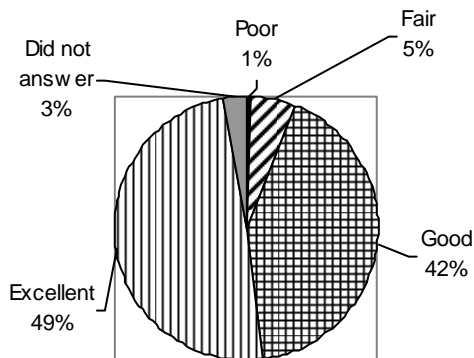
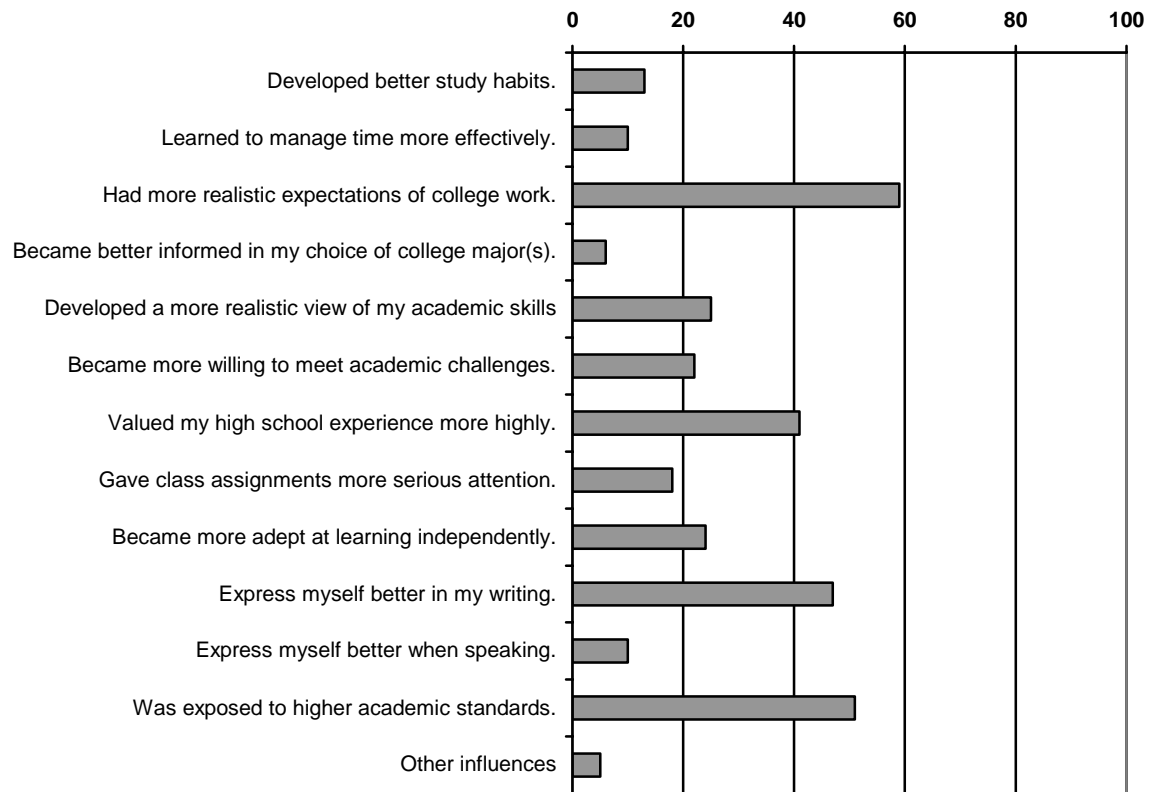


Figure 5. Proportion of Responses to Question, “In looking back, how would you rate your experience with CIS?” (n=476)



Respondents were given a list of 12 possible benefits from having participated in CIS plus they were allowed to write in their own (under “other”). They were asked to check the four boxes the best described the personal impact of CIS (see Figure 6).

Figure 6. Proportion of Respondents Indicating a Benefit of Taking CIS Courses (Respondents Could Choose Up to Four, n=476)



A correlational analysis of responses listed in Figure 6 using phi correlation coefficients revealed three weakly related categories of benefits. The first category is the benefit of CIS to study habits. Benefits that were weakly correlated with one another under this category include:

- “Developed better study habits”
- “Learned to manage time more effectively”
- “Had more realistic expectations of college work”

The second category is the benefit of CIS to meeting academic challenges. Benefits that were weakly correlated with one another under this category include:

- “Became more willing to meet academic challenges”
- “Gave class assignments more serious attention”

The third category is the benefit of CIS to communication skills. Benefits that were weakly correlated with one another under this category include:

- “Express myself better in my writing”
- “Express myself better when speaking”

How did students differ by number and type of CIS courses taken?

Students who took more than one CIS course and/or took English Composition tended to be more positive in their assessment of their CIS experience.

In the following analyses, a more stringent level of statistical significance is used than is typical to account for the multiple significance tests run. Since each outcome is tested against seven types of CIS courses plus having taken multiple CIS courses, the standard significance level of .05 is divided by eight equal to 0.00625. This is known as Bonferroni inequality and is an adjustment used to guard against the possibility that the results are significant simply by virtue of running many significance tests. Only results where the chance of having obtained a result that extreme by chance is less than 0.625% or less ($p < .00625$) are reported.

Students who reported taking two or more CIS classes expressed stronger agreement with the statement, “Your experience with College in the Schools sharpened your academic skills in preparation for college,” based on a Mann-Whitney test ($z=3.129$, $p=.002$). Students who reported taking English Composition also expressed stronger agreement with this statement than those did not take the course based on a Mann-Whitney test ($z=4.554$, $p < .001$). Differences in response to this statement did not vary by other types of CIS courses.

Students who took English Composition gave more positive responses to the question, “In looking back, how would you rate your experience with CIS?” than students who had not taken English Composition based on a Mann-Whitney test ($z=3.216$, $p=.001$). No other differences in responses to this question were found by number or type of course taken.

Three of the most popular benefits were taken from the list of twelve shown in Figure 6 and examined to see if students naming them varied by the number and type of CIS course. These three benefits were: “Had more realistic expectations of college work”, “Became more willing to meet academic challenges” and “Expressed myself better in writing”. The proportion naming “Had more realistic expectations of college work” as a benefit increased by taking U.S. History ($X=8.313$, $p=.004$). No other differences by number or type of course taken were found. The proportion naming “Became more willing to meet academic challenges” as a benefit did not vary by the number or type of CIS course taken. The proportion naming “Expressed myself better in writing” as a benefit decreased with having taken Economics (14.082 , $p < .001$) or Intermediate German ($X=7.618$, $p=.006$), but increased with those taking English Composition ($X=28.772$, $p < .001$) or English Literature (13.889 , $p < .001$).

What additional comments did students volunteer about their experience with CIS?

The majority of respondents volunteered positive comments about their CIS experience. The most frequently mentioned included educational benefits (e.g. credits earned), a realistic view of college, and enjoyment of the academic experience (e.g. good teachers). A small minority of students expressed frustration with CIS credit transfer or the CIS teachers' abilities.

At the end of the survey, students were invited to share comments about their CIS experience. The survey stated, "Offer anything that you would like to share with us, or that might be of interest to high school students considering CIS." An open-ended space was then provided.

A total of 348 entries were written by the respondents, which is 73% of the total number of persons returning the survey (348/476). Of the 348 responses, 92% of them (n=319) were positive. Thematic analysis of the comments revealed that the vast majority (74%) spoke of the educational benefits of having participated in CIS. The general benefits were of four types (listed in descending order of frequency of being named as a benefit):

- Credits earned
- Preparation for college-level work
- Academic learning (skills, content, writing)
- Staying in the high school setting instead of leaving for PSEO (Post-Secondary Enrollment Option in which the student had to travel to a local institution of higher education for the college-level classes)

The theme concerning the credits earned accounted for 40% of all of the comments about benefits. The 94 responses about credits were evenly split between two kinds of benefit: a) the benefit of having earned college credit before the start of their Freshman year, and b) the benefit of earning college credit for free, saving them time and money. Those that spoke of the pre-college credits noted the following:

- *"The best thing about taking a CIS class was getting credit for the class, which allowed me to register earlier than the other students."*
- *"[CIS] gave me more credits to transfer to college that gave me a higher class standing for registering for classes and room draw."*
- *"To receive credit and exemption for a CIS class frees up slots in the college schedule than can allow for further exploration of topics that are of interest to you."*
- *"I ended up being a semester ahead upon entering college, and this now allows me more freedom in the courses I choose to take."*
- *"It is a nice way to free up credit in college so you can pursue a second major or a minor."*

The comments about earning college credits without having to pay for them had more than just a monetary, money-saving tone. Many of the respondents spoke of being able to graduate early, thereby saving money in tuition or getting a head start on a job search. Several others referred to the fact that they were able to earn a double major or minor,

thereby easily securing a job right out of college. Finally, many noted that they were able to graduate on time, in four years, as a result of entering college with some credits already on their transcript. Illustrative comments include:

- *“The extra college credit I received has contributed to my ability to complete my undergrad education on time.”*
- *“[CIS] classes helped me to bypass my English lit. and comp. requirements, thus I spent less time fulfilling my undergrad requirements.”*
- *“Being a student that receives financial aid and whose family is considered low-income, even the one class I took through CIS helped lessen the tuition costs for me.”*
- *“CIS freed up some of my college requirements, allowing me to focus in on my majors. Even with a double major, I am graduating in 4 years.”*
- *“I saved thousands of dollars by graduating a semester early from college thanks to the [CIS] credits.”*
- *“I never thought it was possible to get a BA in 3 years –and I greatly thank the entire CIS experience.”*

The second most common benefit noted by the respondents concerned the fact that CIS classes were sufficiently rigorous to provide a good preview of what college-level demands might be. The apprehension of what to expect in college was lessened by taking a CIS class and once in college, the demands of the work there were often no different from what had been expected by a CIS class. A total of 78 responses (33% of the benefit comments) remarked about the “reality check” that a CIS class provided:

- *“CIS is a wonderful opportunity to experience college as a high school student. It prepares you for what college is really like, not what high schools tell/show you.”*
- *“My [CIS] class was an intense class that made me feel accomplished, so that when I go to college, I had a ‘Been there, done that’ attitude.”*
- *“It’s a great idea to take college courses to bridge the gap between high school and college.”*
- *“Because of how deep the experience was, I was able to grow as a person via the CIS class that I took—thus preparing me for my growth in college.”*

There were 14 comments, or 6% of the benefits theme, which specifically made note of the benefit of being able to take the CIS classes in their high school setting. Several noted that it allowed them to also continue with other after-school activities and to stay connected with their friends and peer group. Also, several others remarked that it was their belief that they received better instruction from their high school teachers in CIS than they otherwise would have received by college professors whom they think do not understand the instructional preferences of teenagers.

- *“I thought it was better than going PSEO – I earned college credits in a high school setting.”*
- *“CIS allows you to join the academic programs of college without leaving the great social atmosphere of high school, which I think is very important for students that age.”*
- *“[CIS] is a good alternative to PSEO, where students miss some of the high school experience.”*

Positive responses were also found in the other major theme that emerged besides the educational benefits noted above. That theme is the pure enjoyment in learning and experiencing excellent teaching that over 24% (n=75) of the respondents chose to spontaneously write about. It seems noteworthy in the analysis that one-quarter of all respondents sought to specifically make note of the intellectual stimulation found in their CIS classes:

- *“To this day, the CIS class I took is the best English class I have ever had, and I have a minor in English!”*
- *“CIS was a wonderful opportunity for me. I had experiences in that course that I will never forget. I was allowed to connect with my peers and instructor in a mature & professional environment. It put me on the path to realizing my future and what it would hold.”*
- *“They were the best classes that I took in high school. They really challenged me, but I was also finally treated like an adult for the first time in these classes.”*
- *“I preferred the environment where the [CIS] teacher gave us more responsibility and treated us more as young adults who were significantly responsible for our own learning.”*
- *“It is important for students like me to have CIS. I had a hard time paying attention in class & really bombed the classes that were not interesting or challenging. The CIS and AP classes were the only ones I really felt good about.”*
- *“Because I was not happy in high school, CIS let me shoot higher academically in my future. I was able to look outside of my high school for new ideas.”*
- *“My experience taking CIS courses was wonderful! My instructors were outstanding, and I still maintain contact with them to this day.”*

Only 29 comments expressed either frustration with (3.5%) or criticism of (4.5%) the CIS program and the class(es) that they took. The responses expressing frustration (n=13) were all about the difficulty or the inability to transfer credits into the college where they attended. If the credits did not transfer, the students had to take the same or similar class over again, which seemed to be a waste of time and money in college. The 16 responses that were critical of their CIS class were related to having had an ineffective teacher (e.g., *“disorganized”*; *“I was not impressed with my [CIS] teacher. More careful picking of instructors or minimum requirements could be useful”*) or noted that the content was not challenging: *“[CIS classes] were a waste of time; they were not different from a normal honors class at my school;”* *“I don’t think I learned very much from this course”*).

Finally, at least eight respondents made comments about CIS that indicated surprise about CIS, now that they are looking back on the experience. A sample of those comments includes:

- *“After 2.5 years of college, my CIS class stands as possibly my college class with the greatest workload thus far. Also, the teacher was possibly the toughest grader I’ve encountered.”*
- *“I think that the CIS classes were actually more challenging than class I took on college campuses.”*

- *“I thought the teaching was great. It was a nice change in academic demands from the monotony of daily high school life.”*
- *“CIS taught me to do things that helped me do well in other classes. If I could go back, I would take all the CIS classes that were offered.”*
- *“Participating in CIS increased my awareness of the importance of setting high academic standards and gave me the confidence to pursue them.”*
- *“Thank you!”*

Discussion

The overwhelming response of former CIS students completing the survey was that the CIS program had a positive impact on their subsequent postsecondary education. This outcome is supported by early graduation rates as well as students’ responses to close and open-ended questions about their CIS experience. A significant minority of students (15%) had graduated early from their postsecondary institution after three years compared with a 0.8% of students reporting graduating early from a four-year postsecondary institution after three years nationally. Most of these students attributed recognition of their CIS credit by their college as a reason for early graduation. When asked about the overall role of CIS in preparing them for college, over 90% of students indicated it had. More positive assessments were given by students who had taken more than one CIS course and/or taken English Composition than students who had not.

Other benefits from CIS reported by students tended to cluster into three areas: study habits, meeting academic challenges, and communication skills. The strong and diverse response to a request for additional comments at the end of the survey suggests the survey may not have sufficiently covered all perceived benefits in its close-ended questions. While the close-ended questions asked mainly about the benefits to academic skills attributable to CIS – the comments volunteered by students suggested they perceived other kinds of benefits to be equally significant. These included the flexibility provided in college coursework by the transfer of CIS credits, a helpful preview of college, and enjoyment of the CIS course for its own sake.

The main limitation of this study is the low response rate of 26.9%. This is below the standard of a 40% response rate commonly held for mail-in surveys. Since these surveys were mailed to the home addresses of students at the time they took a CIS course (in 1999 or 2000), the most likely source of the low response rate was an inaccurate and out-of-date mailing list. But since the relative anonymity of a mail-in survey assures less response bias than other survey methods, the low response rate does not lead to a sample biased towards positive reports (see the American Statistical Association brochure, *More About Mail Surveys*: <http://www.amstat.org/sections/srms/brochures/Mail.pdf>). In other words, the results of this survey are likely to be roughly representative of the students who the program intended to survey.