

Mt. Hood Community College

General Education Assessment: Results of the Collegiate Assessment of Academic Proficiency (CAAP) and the ETS Information and Communication Technology (ETS ICT) Exam: Annual Update – Through Spring 2008

*General Education Outcome Assessment Results
for the CAAP and ETS ICT Exams.*

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General Education Assessment: Results of the Collegiate Assessment of Academic Proficiency (CAAP) and the ETS Information and Communication Technology (ETS ICT) Exam: Annual Update - Through Spring 2008

General Education Outcome Assessment Results for the CAAP and ICT Exams.

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Executive Summary

The following report offers results from the American College Testing, Inc.'s Collegiate Assessment of Academic Proficiency (CAAP) exams. The CAAP was identified by the General Education Assessment Task Force as a cost effective and relatively burden-free method of assessing academic progress in three outcome areas: (1) Communications, (2) Computation, and (3) Critical Thinking. MHCC started implementing the CAAP in the spring of 2004. The test has been administered twice a year since that time. In the spring, the tests are administered to a sample targeting sophomore students. In the fall, the tests are administered to a sample targeting freshman students. Samples are based on fourth week course enrollment.

In the spring of 2008, MHCC also started implementation of the Educational Testing Service's Information and Communication Technology (ETS ICT) Exam. This assessment is used to determine student's familiarity with, and ability to use technology. The ETS ICT is used as an assessment of students' Information Literacy. Results of this exam, although not part of ACT, are included in this report in order to be comprehensive in reporting MHCC's general education assessments.

This report provides analyses for both self-declared (reported on the examination) and targeted classes. The report has presented two separate methods of analysis. The first method is a snapshot that compares how students of self-declared academic standing (freshmen vs. sophomores) compare to like students at similar institutions. The second method – the CAAP to CAAP cross-sectional analysis – involves comparing students within MHCC. Both self-declared class standing and targeted (based on sampling methodology) are used to assess academic progress.

Currently, MHCC is using four different CAAP examinations to assess two of the three outcome areas. The *Writing Skills*, *Reading*, and *Writing Essay* exams are used to evaluation progress in communications. The *Mathematics* exam was discontinued in the spring of 2007; it had been used to evaluate progress in computation. This exam was eliminated as it was felt that it did not appropriately address MHCC students' computational requirements. The General Education Task Force is currently reviewing alternatives and will be selecting a different assessment for MHCC students' computation skills. Finally, the *Critical Thinking* exam evaluates progress in critical thinking. Additionally, the newly implemented ETS ICT Exam evaluates students' information literacy with regard to the use and interpretation of information technology.

Communications

With regard to the Writing Skills exam, sophomores generally performed better than freshmen. For the 2004 administrations of the Writing Skills test, the scores for self-declared sophomores and freshmen were almost identical. By taking a composite score across all administrations of the exam, sophomore average scores were higher than freshmen scores (regardless of whether or not they were self-declared or targeted); this difference was found to be statistically significant. Compared to national scores, self-declared sophomores at MHCC generally tested slightly lower than their counterparts at other two-year public institutions.

For the Reading examination sophomores had slightly higher scores. Self-declared sophomores in the 2006 administration of the exam performed slightly lower than self-declared freshmen. Test data are not available for the Spring 2005 administration of the Reading test. When looking at the average scores for all years combined, the scores for self-declared sophomores were not significantly different from the scores for self-declared freshmen. Scores for the targeted samples, however, were significantly different. When comparing MHCC self-declared sophomores to their counterparts at other two-year public institutions, the scores were inconsistent. For two of the years reported (2004 and 2006), MHCC self-declared sophomores scored above the national average. For the other two years (2005 and 2007), the scores were below the national average.

The Writing Essay exam is perhaps the most problematic with regard to General Education Assessment. Freshmen consistently out-scored sophomores on the essay exam in all cases (both when looking at individual administrations of the exam and looking at how freshmen and sophomores are grouped together). The writing portion of general education assessment needs to be reviewed with scrutiny to determine how this area can be improved or, alternatively, to identify clear reasons for this anomaly. Using aggregate scores across years, the difference between freshmen and sophomores was found to be statistically significant. National scores were much higher than the average score of MHCC self-declared sophomores. However, MHCC has continued to improve in this area.

Computation

The Mathematics portion of the CAAP survey is no longer being used by MHCC. It was felt that the CAAP did not accurately reflect MHCC students required computation attainment. Currently the General Education Assessment Task Force is reviewing alternatives to this exam. Until a new computation assessment is identified, this report will present the CAAP results for past administrations.

The mathematics exam of the CAAP had mixed results but, generally, sophomores performed better than freshmen. For the self-declared groups, the 2004 administration revealed almost identical scores between sophomores and freshmen. When looking at the data across years, the average scores for the self-declared groups were not statistically significant. Based on the targeted group scores, sophomores received a higher grade than freshmen; the difference on the targeted groups' scores was significantly different. National scores were consistently lower than MHCC self-declared sophomore scores. Self-declared sophomores seem to be well prepared in the area of mathematical computation.

Critical Thinking

In all cases (across years and grouping methods) sophomores obtained higher average scores than did freshmen. The one exception is the 2004 targeted administrations; freshmen received a higher average score than targeted sophomores. When averaging scores across years, self-declared sophomores received higher scores than did self-declared freshmen; these differences were statistically significant. Although the scores for targeted groups did not have a statistically significant difference, sophomore targeted average scores were slightly higher. Critical thinking scores of

MHCC self-declared sophomores are consistently higher than national scores; it would seem MHCC is doing a good job of preparing students in this area.

Information Literacy

This year included the first administration of the ETS_ITC exam. Overall, students at MHCC did better than the national scores. The average test score at MHCC was 556. Fifty-three percent of everyone that took the ETS_ITC received a lower score. The distribution of scores revealed that over half (55.7%) of MHCC students received scores that were higher than the national average.

The General Education assessment tools currently used at MHCC indicate that sophomores are achieving academic progress at MHCC. There are several areas that deserve some focus. Most important of these is in the area of essay writing. Concerted effort must be made to determine the factors that are influencing the poorer performance of sophomores. Additionally, as of the publishing of this report, no assessment to replace the mathematics component of the CAAP has been identified. Whatever assessment is going to be used to assess academic progress in the area of computation must be identified.

Introduction

This report is an update of the original analysis conducted in the Fall of 2006. The report includes administrations of the Collegiate Assessment of Academic Proficiency (CAAP) exams through spring 2008 and the first administration of the Educational Testing Services Information and Communication Technology (ETS ICT) exam.

The General Education Assessment Task Force was established in 2002 with the charge of developing revisions of the MHCC General Education Program and implementation of procedures for assessment. For additional information, please see: “Interim Report on Minimum General Education Outcomes: Knowledge-Based Outcomes for MHCC Associate Degrees,” September 2004 (http://www.mhcc.edu/campus/campus_info/allabout/research/assessment/main.htm).

The following report offers results from the American College Testing, Inc.’s Collegiate Assessment of Academic Proficiency (CAAP) exams. MHCC started implementing the CAAP in the spring of 2004. The test has been administered twice a year since that time. In the spring, the tests are administered to a sample targeting sophomore students. In the fall, the tests are administered to a sample targeting freshman students. For a detailed discussion of the CAAP exams, please visit: <http://www.act.org/caap/index.html>.

The General Education Assessment Task Force has defined expected general and specific outcomes for the following areas:

- Communications (reading, writing, and speech)
- Computation (mathematics)
- Human Relations (social sciences)
- Information Literacy
- Critical Thinking

In relation to technology literacy, it should be noted that MHCC received a five-year Title III grant in October, 2003. The grant program included funding to support development of specific skill sets that students should have in the area of technology literacy. Additionally the ETS ICT exam was identified as a tool for assessing information literacy. The first administration of this instrument was conducted in the spring of 2008.

The task force reviewed various strategies for assessing the five general education outcomes. Several alternatives were rejected as it was determined they were either too costly or required an excessive burden on faculty. The CAAP exams were determined to be relatively cost effective and provided separate tests related to three of the outcomes: (1) communications – reading, writing essay, writing skills, (2) computation – mathematics, and (3) critical thinking. A total of one hundred students are being sampled for each of the five exams per administration of the survey – approximately five hundred students per administration.

A key question from the General Education Task Force was how well the CAAP exams aligned with the proposed outcomes they identified. Task force and discipline-specific faculty reviewed copies of the CAAP examinations and found

them to be in good alignment. The most significant issue is in the area of mathematics. The CAAP exam for mathematics assesses college level – MTH115 and above – math equations; most MHCC students take MTH 60 and MTH 65; the latter is the minimum required for the AAS Degree. As a result of this disparity, the CAAP Mathematics exam was discontinued in the spring of 2007. The General Education Task Force and Mathematics Faculty are currently reviewing alternative assessments.

Students receive results of the examinations; this provides an independent validation of their general education skills. Students scoring above the national average also receive a certification of achievement from ACT. This certificate could be valuable in applying to transfer institutions and for scholarships; it may also be of value in job applications. Faculty are encouraged to provide further incentive to students by offering extra credit for their participation.

Methodology

Sampling

As stated, the CAAP exams are administered twice per year. In the spring, the exams target sophomore students; in the fall, the exams target freshmen students. At the fourth week of the term, enrollment data for all courses are extracted from the CX system. A multi-step process is then employed to identify the courses to be used in the CAAP exams. First, courses identified as Lower Division Collegiate (LDC) are selected. Second, courses taught by instructors who participated in the previous administration of the survey are omitted; an instructor will only be asked to participate in the CAAP once per year. Next, student enrollment is examined and the proportion of freshmen and sophomores is calculated. For the purposes of the CAAP exam, freshmen include students with fewer than fifteen earned credits; sophomores include students with forty-five or more earned credits. Courses are included if the proportion of targeted students (sophomores in spring, freshmen in fall) is greater than sixty percent. The identified courses are randomly ordered and then systematically selected until the cumulative enrollment is greater than one hundred. Alternative courses are provided by division; if a course cannot be used, deans can select a course from their alternative list. Testing times and administration is coordinated with MHCC's testing center and the instructors. The ETS_ICT exam was treated as another version of the CAAP examination and followed the same course sampling methodology.

Analysis

For the CAAP examinations, two methods of analysis are presented in this report: (1) CAAP to CAAP Cross-sectional and (2) Snapshot Comparison. The CAAP to CAAP Cross-sectional analysis measures the impact of the institution's curriculum in a short period of time. This approach uses the sampling methodology to measure the effectiveness of programs by looking at the differences between the two groups (freshmen and sophomores). Although ACT recognizes this as a valid use of the CAAP exam, they recommend caution as it is questionable whether the freshmen and sophomore groups are comparable. Although data are presented on a year-to-year

basis, the combined mean scores (across years) is the more appropriate analysis for this method. The snapshot comparison provides faculty with a point-in-time view of student learning on a group basis. This approach uses the national mean score of like students (self-declared class standing) to compare to the average score of similar students at the institution. This is a more qualitative approach and allows faculty to decide if student achievement levels are appropriate by providing a national group score for comparison. If it is determined that scores are not appropriate, faculty can then focus on specific curricula in the general education program that may improve students' scores. The snapshot comparison analysis is only appropriate for the identified years and self-declared status (freshman/sophomore). For the ETS ICT exam, average scores and distribution of scores are analyzed and compared with national score distributions.

Results

The following tables present the results of the last eight administrations of the CAAP exam by class. Two separate methods for identifying classes are presented. The first is based on students' self-declaration. The CAAP exam asks students to indicate their education level. Students that identified themselves as freshmen were coded as freshmen; students indicating they were sophomores or higher were coded as sophomores. The second method for identifying classes is based on the sampling methodology. The CAAP exams target freshmen in the fall and sophomores in the spring. All students taking the exams in the fall are coded as freshmen; all students taking the exams in spring are coded as sophomores.

For the self-declared tables, data are provided to assess both forms of analyses – for a description of cross-sectional and snapshot analysis, please see the methodology section of the report. The table headings and a brief description are outlined in Figure 1.

For purposes of comparison, two index scores have been calculated for each class and year. Indices provide an indication of how close a particular group is to the overall. The index score is calculated by taking the group's score and dividing it by the overall score and multiplying the result by one hundred. A score of 100 indicates that the group's score was equal to the overall score; a score below 100 indicates that the group performed less well and a score above 100 indicates the group performed better than the overall. It is expected that the sophomore class will have scores over 100 while the freshman class will have scores below 100.

The first Index calculates the identified group's score to the overall score for the identified year. Comparing the Freshmen Index1 score to the Sophomore Index1 score provides an indication of how well each class did relative to the other; this aids in the CAAP to CAAP cross-sectional analysis. The second index score – identified as Index2 in the tables – compares the group's score to the nationally normed score for that year. This score provides an indication of how well the identified class did relative to a national group of like-students; this index score aids in the snapshot comparison analysis.

For all the CAAP tests (except *critical thinking*), ACT provides sub-scores. These sub-scores provide additional insights into test results; they provide a more detailed

look at how students are doing in discreet sub-categories of the specific tests. The sub-scores are also presented in the tables.

Figure 1: List of Table Headings and Their Definitions

Table Heading	Definition
Year	The year the exam was administered.
Overall #	The total number of students that participated in the identified exam for that year.
Overall Scr	The average (mean) score obtained by all students participating in the identified exam for that year.
Freshmen #	The number of students that identified themselves as freshmen and participated in the identified exam for that year.
Freshmen Scr	The average (mean) score obtained by all self-declared freshmen participating in the identified exam for that year.
Freshmen Index ¹	Provides a comparison of the freshmen score to the local overall score.
Freshmen NS	The nationally normed score for self-declared freshmen at all two-year public colleges participating in the identified exam for the year identified (and two previous years).
Freshmen Index ²	Provides a comparison of the freshmen score to the national score.
Freshmen NPAB	The percent of total two-year public college self declared freshmen that scored at or below the score obtained by MHCC self-declared freshmen.
Sophomores #	The number of students that identified themselves as sophomores and participated in the identified exam for that year.
Sophomores Scr	The average (mean) score obtained by all self-declared sophomores participating in the identified exam for that year.
Sophomores Index ¹	Provides a comparison of the sophomore score to the local overall score.
Sophomores NS	The nationally normed score for self-declared sophomores at all two-year public colleges participating in the identified exam for the year identified (and two previous years).
Sophomores Index ²	Provides a comparison of the sophomores score to the national score.
Sophomores NPAB	The percent of total two-year public college self declared sophomores that scored at or below the score obtained by MHCC self-declared sophomores.

Writing Results

Results of the CAAP Writing Exam for self-declared class standing are presented in Table W1a. Generally, sophomores scored higher than self-declared freshmen. However, the scores were very close as indicated by Index1. Sophomores did score slightly lower than freshmen in the 2004 administrations. Comparing freshman scores to the national average score produced mix results; in 2004, freshmen scored higher than the national score for freshmen at two-year public colleges. Since then, MHCC freshmen have scored slightly lower than their counterparts nationally. Comparing MHCC self-declared sophomores to the national score for sophomores at two-year public colleges indicates that local sophomores scored slightly lower in every year the test has been administered. The data indicate that the average MHCC self-declared freshman received a writing exam score higher than or equal to 63% of the 2004 reference group, 42% in the 2005 reference group, 55% in the 2006 reference group, and 38% in the 2007 reference group. The average MHCC self-declared sophomore received a writing exam score equal to or higher than 50% of the 2004 reference group; since then, their scores have been consistently equal to or slightly below the mid-forty percent range.

Table W1a: Results of the CAAP Writing Skills Exam by Year and Class – Self Declared

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Self- Declared	# Tested	21	55	73	59	3	211
	Score	62.24	59.25	60.03	58.66	59.33	59.65
	Index ¹	100.08	98.20	99.06	97.92	96.78	98.23
	NS	60.7	60.7	61.0	61.2		
	Index ²	102.53	97.62	98.41	95.84		
	NPAB	63%	42%	55%	38%		
Sophomore Self- Declared	# Tested	79	82	101	97	89	448
	Score	62.18	61.07	61.01	60.65	61.37	61.22
	Index ¹	99.98	101.21	100.68	101.25	100.11	100.82
	NS	62.4	62.3	62.2	62.1		
	Index ²	99.64	98.03	98.09	97.66		
	NPAB	50%	43%	44%	45%		
Overall Scores	# Tested	100	137	174	156	92	659
	Score	62.19	60.34	60.60	59.90	61.30	60.72

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

The test scores by targeted samples are presented in Table W1b. For the targeted groups, sophomores consistently performed better than their freshmen counterparts. In 2004, the average sophomore targeted writing exam score was 63.15; the freshman targeted score was 61.53. Sophomore's average score was 1.63 points higher than their freshmen counterparts. In 2005, the average score of sophomores was even higher: 1.96 points. The 2006 administrations were slightly less but still consistent with sophomores' average score still over 1 point higher than freshmen's scores.

Table W1b: Results of the CAAP Writing Skills Exam by Year and Class – Targeted

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Targeted	# Tested	59	82	83	77		301
	Score	61.53	59.51	59.94	58.65		59.80
	Index ¹	98.93	98.67	99.00	98.09		98.58
Sophomore Targeted	# Tested	41	57	94	87	94	373
	Score	63.15	61.47	61.07	60.79	61.32	61.36
	Index ¹	101.54	101.92	100.88	101.67	100.00	101.15
Overall Scores	# Tested	100	139	177	164	94	674
	Score	62.19	60.32	60.54	59.79	61.32	60.66

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

The sub-scores for the Writing Skills Test are for *usage/mechanics* and *rhetoric*. Table W2a presents the average sub-scores for usage/mechanics by self-declared class standing. Self-declared sophomore scores were better than their freshman counterparts. The 2004 administration of the writing skills test is an exception; self-declared freshmen scored slightly higher than self-declared sophomores with regard to usage/mechanics in this administration. Since the 2005 administrations, the gap between freshmen and sophomore scores has decreased. Compared to the national average scores for self-declared freshmen, MHCC scores were inconsistent. In 2004, self-declared freshmen scored much higher than the national average. For the other three years, self-declared freshmen scored lower. Sophomores consistently scored below the national average for the usage/mechanics portion of the exam. However, they performed much worse than the national average in the 2005 administration of the exam than they did before or after. When comparing the average MHCC self-declared freshman score to the national reference group, the scores have been steadily dropping. Across all four years, the average MHCC self-declared sophomore received a score higher than or equal to 50% of their respective reference group.

Table W2a: Results of the CAAP Writing Exam Sub-Category Usage/Mechanics by Year and Class – Self-Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self- Declared	# Tested	21	55	73	59	3	211
	Score	16.43	14.60	15.03	14.44	14.33	14.88
	Index ¹	101.29	96.35	97.71	95.75	92.99	96.68
	NS	15.5	15.5	15.6	15.7		
	Index ²	105.99	94.19	96.33	91.97		
	NPAB	64%	50%	49%	48%		
Sophomore Self- Declared	# Tested	79	82	101	97	89	448
	Score	16.16	15.52	15.63	15.46	15.45	15.63
	Index ¹	99.66	102.45	101.65	102.51	100.25	101.55
	NS	16.2	16.2	16.1	16.1		
	Index ²	99.78	95.83	97.10	96.02		
	NPAB	53%	53%	55%	55%		
Overall Scores	# Tested	100	137	174	156	92	659
	Score	16.22	15.15	15.38	15.08	15.41	15.39

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Table W2b presents the results of the usage/mechanics scores by targeted class standing. Average scores for the sophomore targeted group were much higher than scores for the freshman targeted group.

Table W2b: Results of the CAAP Writing Exam Sub-Category Usage/Mechanics by Year and Class – Targeted

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	59	82	83	77		301
	Score	15.85	14.73	15.06	14.51		14.98
	Index ¹	97.70	97.37	98.07	96.66		98.10
Sophomore Targeted	# Tested	41	57	94	87	94	373
	Score	16.76	15.70	15.62	15.45	15.41	15.47
	Index ¹	103.31	103.78	101.70	102.93	100.00	101.30
Overall Scores	# Tested	100	139	177	164	94	674
	Score	16.22	15.13	15.36	15.01	15.41	15.27

¹ Index provides a comparison of the identified group to the overall local score.

Table W3a presents average sub-scores for rhetoric by self-declared class standing. In all cases, MHCC sophomores had higher average sub-scores in rhetoric than their freshmen counterparts. For self-declared freshmen, the scores were higher than the national mean score for the 2004 administration; scores were lower than the national average in the other administrations. For self-declared sophomores, scores have been consistently below the national average of sophomores at two year public colleges. Additionally, the spread between the national score and the local score has been

increasing. The average MHCC self-declared freshman scored even to or higher than 52% of the reference group in 2004, 53% in 2005, over 60% in 2006 and just below 50% in the 2007 administration. The MHCC self-declared sophomores were consistent across all years; the average self-declared sophomore scored at or below 53% of the national reference group score.

Table W3a: Results of the CAAP Writing Exam Sub-Category Rhetoric by Year and Class – Self-Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self- Declared	# Tested	21	55	73	59	3	211
	Score	15.95	14.78	15.12	14.44	15.33	14.93
	Index ¹	99.39	96.20	98.59	95.88	96.35	96.50
	NS	15.4	15.3	15.5	15.6		
	Index ²	103.59	96.61	97.57	92.56		
	NPAB	52%	53%	63%	49%		
Sophomore Self- Declared	# Tested	79	82	101	97	89	448
	Score	16.08	15.76	15.50	15.44	15.93	15.72
	Index ¹	100.16	102.55	101.02	102.52	100.12	101.61
	NS	16.3	16.2	16.2	16.1		
	Index ²	98.63	97.26	95.65	95.90		
	NPAB	52%	53%	53%	53%		
Overall Scores	# Tested	100	139	94	156	92	659
	Score	16.05	15.35	15.57	15.06	15.91	15.47

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the rhetoric scores by targeted class standing are presented in Table W3b. Sophomores consistently scored better than their freshmen counterparts in the Rhetoric section of the exam.

Table W3b: Results of the CAAP Writing Exam Sub-Category Rhetoric by Year and Class – Targeted

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	59	82	83	77		301
	Score	15.78	14.91	15.00	14.43		14.98
	Index ¹	98.32	97.15	98.01	96.07		97.02
Sophomore Targeted	# Tested	41	57	94	87	94	373
	Score	16.44	15.98	15.57	15.54	15.93	15.81
	Index ¹	102.42	104.10	101.76	103.46	100.00	102.39
Overall Scores	# Tested	100	139	177	164	94	674
	Score	16.05	15.35	15.31	15.02	15.93	15.44

¹ Index provides a comparison of the identified group to the overall local score.

Mathematics Results

The CAAP Mathematics Examination has been eliminated from General Education Assessment. It was felt that this assessment did not appropriately measure MHCC computational requirements for a degree. The General Education Assessment Task Force and mathematics faculty are reviewing alternative assessments. Results of previous administrations of the CAAP exam are reported and maintained here.

Mathematics scores for self-declared class standing are presented in Table M1a. Self-declared sophomores performed slightly better than self-declared freshmen (except for the 2004 administration where scores were almost equal). With regard to performance relative to the national mean scores for freshmen at two-year public institutions, freshmen scored higher than the national mean in 2004 and lower than the nation mean in 2005, 2006 and 2007. Additionally, the local mean score for self-declared freshmen has moved further away from the national mean score. For self-declared sophomores, the mathematics scores have been higher than the national mean scores; except in the most recent administration of the exam where self-declared sophomores slipped to one tenth of one point below the national average. The average MHCC self-declared freshman scored higher than or equal to 75% of the reference group in 2004, 54% of the reference group in 2005, 43% in 2006, and 24% in 2007. The average self-declared sophomore scored higher than 85% of the reference group in 2004, 76% in 2005, 66% in 2006, and 52% in 2007.

Table M1a: Results of the CAAP Mathematics Exam by Year and Class – Self Declared

		Year				
		2004	2005	2006	2007	Total
Freshman Self- Declared	# Tested	24	102	62	14	202
	Score	58.79	57.09	55.94	53.86	56.71
	Index ¹	100.15	99.55	99.09	96.85	99.31
	NS	57.1	57.1	57.0	57.0	
	Index ²	102.96	99.98	98.14	94.49	
	NPAB	75%	54%	43%	24%	
Sophomore Self- Declared	# Tested	74	73	101	50	298
	Score	58.68	57.71	56.76	56.10	57.36
	Index ¹	99.95	100.63	100.54	100.88	100.45
	NS	56.1	56.1	56.1	56.2	
	Index ²	104.59	102.87	101.17	99.82	
	NPAB	85%	76%	66%	52%	
Overall Scores	# Tested	98	175	163	64	500
	Score	58.70	57.35	56.45	55.61	57.10

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Table M1b presents the results of the mathematics scores by targeted class standing. Sophomore targeted exam results show much higher average scores than the freshman targeted average scores. The freshmen targeted group's mean score was

1.22 points lower than the overall score in 2004, 1.64 points lower than the overall score in 2005, and 0.69 points lower than the overall score in 2006.

Table M1b: Results of the CAAP Mathematics Exam by Year and Class – Targeted

		Year				Total
		2004	2005	2006	2007	
Freshman Targeted	# Tested	59	84	73		216
	Score	57.49	55.71	55.71		56.20
	Index ¹	97.92	97.15	98.78		98.45
Sophomore Targeted	# Tested	41	91	92	67	291
	Score	60.46	58.86	56.95	55.64	57.74
	Index ¹	102.99	102.63	100.97	100.00	101.15
Overall Scores	# Tested	100	175	165	67	507
	Score	58.71	57.35	56.40	55.64	57.08

¹ Index provides a comparison of the identified group to the overall local score.

Sub-scores in the CAAP Mathematics Exam are for *basic algebra* and *college algebra*. Results of the sub-scores for basic algebra by self-declared class standing are presented in Table M2a. Self-declared sophomores scored higher than self-declared freshman on the sub-category basic algebra in all administrations of the CAAP Mathematics Exam. Regarding comparisons of self declared freshmen to the national mean score for self declared freshmen at two-year public colleges, local freshmen achieved a much higher mean score than the national score in 2004. In both 2005 and 2006 administrations of the math exam, self-declared freshmen scored much lower than the national mean scores. Sophomores scored extremely well on the basic algebra portion of the CAAP Mathematics Exam. The self-declared sophomores received an average score of 16.05 in 2004 while the national average for that year was 14.2; a difference of 1.85 points. In the 2006 administration of the exam the difference was still substantial; 1.13 points higher than the national mean score. In the 2007 administration, sophomores scored slightly below the national mean score.

Table M2a: Results of the CAAP Mathematics Exam Sub-scores Basic Algebra by Year and Class – Self Declared

		Year				Total
		2004	2005	2006	2007	
Freshman Self- Declared	# Tested	24	102	62	14	202
	Score	15.92	14.46	14.35	12.64	14.48
	Index ¹	99.37	98.10	97.48	91.33	97.35
	NS	14.8	14.8	14.7	14.7	
	Index ²	107.56	97.70	97.65	85.98	
	NPAB	76%	46%	46%	31%	
Sophomore Self- Declared	# Tested	74	73	101	50	298
	Score	16.05	15.12	14.95	14.18	15.14
	Index ¹	100.18	102.57	101.54	102.45	101.80
	NS	14.2	14.2	14.2	14.2	
	Index ²	113.02	106.47	105.29	99.85	
	NPAB	85%	70%	71%	53%	
Overall Scores	# Tested	98	175	163	64	500
	Score	16.02	14.74	14.72	13.84	14.87

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

The basic algebra sub-scores by targeted class standing are presented in Table M2b. Interestingly, for the targeted tests, sophomore targeted average scores were much higher than the freshman targeted test scores.

Table M2b: Results of the CAAP Mathematics Exam Sub-Scores Basic Algebra by Year and Class – Targeted

		Year				Total
		2004	2005	2006	2007	
Freshman Targeted	# Tested	59	84	73		216
	Score	15.37	13.64	14.19		14.30
	Index ¹	95.84	92.57	96.56		94.17
Sophomore Targeted	# Tested	41	91	92	67	291
	Score	17.00	15.75	15.10	13.90	15.29
	Index ¹	105.99	106.85	102.73	100.00	102.84
Overall Scores	# Tested	100	175	165	67	507
	Score	16.04	14.74	14.70	13.90	14.87

¹ Index provides a comparison of the identified group to the overall local score.

For the college level algebra sub scores of the mathematics exam, self-declared freshman generally scored higher than their self-declared sophomore counterparts in the first two administrations. Overall, the average score for self-declared freshmen was 14.06; for sophomores the average scores was 13.90. The gap between the two classes has been decreasing over time.

Table M3a: Results of the CAAP Mathematics Exam Sub-Scores College Algebra by Year and Class – Self Declared

		Year				
		2004	2005	2006	2007	Total
Freshman Self- Declared	# Tested	24	102	62	14	202
	Score	14.58	14.43	13.48	13.00	14.06
	Index ¹	100.93	101.06	99.32	97.31	100.67
	NS	14.6	14.6	14.5	14.5	
	Index ²	99.89	98.85	92.99	89.66	
	NPAB	69%	56%	42%	41%	
Sophomore Self- Declared	# Tested	74	73	101	50	298
	Score	14.41	14.07	13.63	13.46	13.90
	Index ¹	99.70	98.52	100.42	100.75	99.55
	NS	14.1	14.0	14.0	14.0	
	Index ²	102.17	100.49	97.38	96.14	
	NPAB	66%	66%	67%	48%	
Overall Scores	# Tested	98	175	163	64	500
	Score	14.45	14.28	13.58	13.36	13.97

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the CAAP mathematics exam college algebra sub-scores are presented in Table M3b. The data clearly demonstrate that the sophomore targeted group consistently performed better than their freshmen counterparts.

Table M3b: Results of the CAAP Mathematics Exam Sub-Scores College Algebra by Year and Class – Targeted

		Year				
		2004	2005	2006	2007	Total
Freshman Targeted	# Tested	59	84	73		216
	Score	13.85	13.90	13.41		13.72
	Index ¹	95.90	97.37	99.01		98.39
Sophomore Targeted	# Tested	41	91	92	67	291
	Score	15.29	14.63	13.65	13.33	14.11
	Index ¹	105.91	102.43	100.79	100.00	101.19
Overall Scores	# Tested	100	175	165	67	507
	Score	14.44	14.28	13.55	13.33	13.95

¹ Index provides a comparison of the identified group to the overall local score.

Reading Results

Results of the CAAP Reading Exam are presented in Table R1. The average scores across years indicate little difference between self-declared freshmen and sophomores. Self-declared sophomores scored lower than self-declared freshmen in the 2007 administration of the reading exam. The average MHCC self-declared freshman scored even with or higher than 68% of the 2004 reference group, 49% of their 2005 reference group, 73% of their 2006 reference group, and 51% of their 2007 reference group. The average MHCC self-declared sophomore scored even with or higher than 64% of the 2004 reference group, 38% of the 2005 reference group, 57% of the 2006 reference group, and 39% of the 2007 reference group.

Table R1a: Results of the CAAP Reading Exam by Year and Class – Self Declared

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Self- Declared	# Tested	38	42	85	45	10	220
	Score	60.55	57.57	59.59	58.38	59.50	59.12
	Index ¹	98.58	99.84	98.99	100.39	99.16	99.06
	NS	59.2	59.3	59.3	59.1		
	Index ²	102.28	97.09	100.49	98.78		
	NPAB	68%	49%	73%	51%		
Sophomore Self- Declared	# Tested	44	17	104	55	86	306
	Score	62.18	57.88	60.69	57.96	60.06	60.08
	Index ¹	101.23	100.38	100.82	99.67	100.1	100.67
	NS	60.5	60.5	60.6	60.5		
	Index ²	102.78	95.67	100.15	95.80		
	NPAB	64%	38%	57%	39%		
Overall Scores	# Tested	82	59	189	100	96	526
	Score	61.43	57.66	60.20	58.15	60.00	59.68

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the CAAP Reading Exam by targeted class standing are presented in Table R1b. Sophomore-targeted scores were not available for the 2005 administration of the CAAP Reading Exam. It is unknown why these scores are not available. In other administrations, the sophomore-targeted group scored higher on the reading examination than their freshman-targeted counterparts.

Table R1b: Results of the CAAP Reading Exam by Year and Class - Targeted

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	58	59	91	52		260
	Score	61.07	57.66	59.13	57.73		58.95
	Index ¹	99.56	100.00	98.31	99.31		98.84
Sophomore Targeted	# Tested	25		99	49	96	269
	Score	61.96		61.08	58.55	60.00	60.32
	Index ¹	101.02		101.55	100.72	100.00	101.14
Overall Scores	# Tested	83	59	190	101	96	529
	Score	61.34	57.66	60.15	58.13	60.00	59.64

¹ Index provides a comparison of the identified group to the overall local score.

Two sub-scores are provided for the CAAP Reading Exam: *Arts/Literature* and *Social Sciences*. Results of the arts/literature sub-scores are presented in Tables R2. For the self-declared groups, the sophomores scored higher than their freshmen counterparts except for the 2007 spring administration. The average MHCC self-declared freshmen scored even with or higher than 67% of all self-declared freshmen at two year public institutions in 2004, 55% of the 2005 reference group, 66% of the 2006 reference group, and 55% of the 2007 reference group. The average MHCC self-declared sophomore scored even with or higher than 60% of their reference group in 2004, 46% of the 2005 reference group, 59% of the 2006 reference group, and 32% of the 2007 reference group.

Table R2a: Results of the CAAP Reading Exam Sub-Score Arts/Literature by Year and Class – Self Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self-Declared	# Tested	38	42	85	45	10	220
	Score	14.76	13.79	14.38	13.89	14.80	14.25
	Index ¹	97.47	98.83	98.66	102.73	102.35	99.72
	NS	14.4	14.4	14.4	14.3		
	Index ²	102.52	95.73	99.84	97.13		
	NPAB	67%	55%	66%	55%		
Sophomore Self-Declared	# Tested	44	17	104	55	86	306
	Score	15.48	14.35	14.73	13.22	14.42	14.46
	Index ¹	102.18	102.89	101.09	97.78	99.72	101.18
	NS	14.9	14.9	14.9	14.9		
	Index ²	103.87	96.33	98.86	88.72		
	NPAB	60%	46%	59%	32%		
Overall Scores	# Tested	82	59	189	100	96	526
	Score	15.15	13.95	14.57	13.52	14.46	14.29

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the arts/literature sub scores by targeted class standing are presented in table R2b. For the targeted groups, sophomores scored higher where data is available.

Table R2b: Results of the CAAP Reading Exam Sub-Score Arts/Literature by Year and Class – Targeted

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	58	59	91	52		260
	Score	15.02	13.95	14.25	13.52		14.21
	Index ¹	99.56	100.00	97.97	100.07		99.02
Sophomore Targeted	# Tested	25		99	49	96	269
	Score	15.24		14.82	13.51	14.46	14.49
	Index ¹	101.03		101.86	100.00	100.00	100.97
Overall Scores	# Tested	83	59	190	101	96	529
	Score	15.08	13.95	14.55	13.51	14.46	14.35

¹ Index provides a comparison of the identified group to the overall local score.

Social Science sub-scores for the CAAP Reading Exam are presented in Tables R3. Although the overall average scores indicate that self-declared sophomores scored higher than self-declared freshman, the scores by year are inconsistent (except for the 2004 administrations). The average score based on targeted groups indicate that the sophomore targeted group scored much higher than the freshmen targeted group. The average MHCC self-declared freshmen scored even with or higher than 74% of the 2004 reference group, 49% of the 2005 reference group, 81% of the 2006 reference group, and 49% of the 2007 reference group. The average MHCC self-declared sophomore scored even with or higher than 74% of their 2004 reference group, 30% of their 2005 reference group, 63% of their 2006 reference group, and 27% of the 2007 reference group.

Table R3a: Results of the CAAP Reading Exam Sub-Score Social Science by Year and Class – Self Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self-Declared	# Tested	38	42	85	45	10	220
	Score	15.71	14.24	15.15	14.67	14.70	14.95
	Index ¹	97.37	100.36	97.54	99.39	94.89	97.58
	NS	14.8	14.8	14.9	14.8		
	Index ²	106.15	96.20	101.70	99.12		
	NPAB	74%	49%	81%	63%		
Sophomore Self-Declared	# Tested	44	17	104	55	86	306
	Score	16.50	14.06	15.85	14.84	15.58	15.58
	Index ¹	102.27	99.10	102.01	100.54	100.58	
	NS	15.5	15.5	15.5	15.4		
	Index ²	106.45	90.70	102.23	96.36		
	NPAB	74%	39%	63%	51%		
Overall Scores	# Tested	82	59	189	100	96	526
	Score	16.13	14.19	15.53	14.76	15.49	15.32

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the CAAP reading exam social science sub-section by targeted class are presented in Table R3b.

Table R3b: Results of the CAAP Reading Exam Sub-Score Social Science by Year and Class – Targeted

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	58	59	91	52		260
	Score	16.00	14.19	14.86	14.46		14.88
	Index ¹	99.33	100.00	95.75	98.03		97.19
Sophomore Targeted	# Tested	25		99	49	96	269
	Score	16.36		16.12	15.06	15.49	15.72
	Index ¹	101.56		103.90	102.10	100.00	102.67
Overall Scores	# Tested	83	59	190	101	96	529
	Score	16.11	14.19	15.52	14.75	15.49	15.31

¹ Index provides a comparison of the identified group to the overall local score.

Critical Thinking Results

Results of the CAAP Critical Thinking Exam by self-declared class standing are presented in Table CT1. For the 2007 and Spring 2008 administrations of the critical thinking exam, sophomores scored lower than self-declared freshmen. However, scores do not appear to be dramatically different. Compared to the national scores, MHCC self-declared freshmen scored higher than like students nationally with the exception of the 2006 administration. Self-declared sophomores at MHCC scored much higher than their national reference group on the critical thinking exam in every year except the 2007 administration. The average MHCC self-declared freshman scored higher than or equal two 69% of the 2004 reference group, 67% of the 2005 reference group, 53% of the 2006 reference group, and 70% of the 2007 reference group. The average MHCC self-declared sophomore scored higher than or even with 61% of the 2004 reference group, 54% of the 2005 reference group, 72% of the 2006 reference group, and 54% of the 2007 reference group.

TableCT1a: Results of the CAAP Critical Thinking by Year and Class – Self Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self- Declared	# Tested	17	46	76	61	7	207
	Score	61.00	61.09	59.28	60.79	64.29	60.43
	Index ¹	98.52	99.68	95.80	100.28	102.92	98.08
	NS	59.0	59.3	59.4	59.5		
	Index ²	103.39	103.01	99.79	102.16		
	NPAB	69%	67%	53%	70%		
Sophomore Self- Declared	# Tested	115	66	110	77	88	456
	Score	62.05	61.42	63.67	60.49	62.32	62.14
	Index ¹	100.22	100.23	102.90	99.78	99.77	100.86
	NS	60.5	60.8	60.9	60.9		
	Index ²	102.57	101.03	104.55	99.32		
	NPAB	61%	54%	72%	54%		
Overall Scores	# Tested	132	112	186	138	95	663
	Score	61.92	61.29	61.88	60.62	62.46	61.61

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the CAAP Critical Thinking Exam by targeted class standing are presented in Table CT1b. The targeted group scores were mixed with the freshmen targeted group scoring higher than the sophomore targeted group in 2004; in 2005 and 2006 administrations, the sophomore targeted group scored higher.

Table CT1b: Results of the CAAP Critical Thinking Exam by Year and Class – Targeted

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Targeted	# Tested	60	93	91	82		326
	Score	62.08	61.12	60.35	60.38		60.90
	Index ¹	100.27	99.64	97.54	99.52		98.83
Sophomore Targeted	# Tested	72	20	95	57	95	339
	Score	61.78	62.35	63.34	61.09	62.46	62.32
	Index ¹	99.78	101.65	102.36	100.69	100.00	101.13
Overall Scores	# Tested	132	113	186	139	95	665
	Score	61.92	61.34	61.88	60.67	62.46	61.62

¹ Index provides a comparison of the identified group to the overall local score.

Essay Results

Results of the CAAP Essay Exam are presented in Table E1a. Interestingly, in the last two years of administrations of the essay exam, self-declared sophomores have scored higher than their freshmen counterparts. This is a reversal of the trend that occurred in the first three years of administering the CAAP Essay Exam. The overall average score for self-declared sophomores is 2.66; the overall average score for self-declared freshmen is 2.87. Compared to national scores both self-declared freshmen and sophomores fell in the 2007 administrations. As indicated by the index² score, freshmen dropped significantly compared to the national score. Sophomores dropped slightly when compared with their like-group national score. The trend is also evident when comparing the students' score to the national percentiles. The average MHCC self-declared freshmen scored even to or better than 26% of the 2004 reference group, 60% of the 2005 reference group, and 75% of the 2006 reference group but only 24% of the 2007 reference group. The average MHCC self-declared sophomore scored even to or better than 12% of the 2004 reference group, 24% of the 2005 reference group, and 67% of the 2006 reference group. For 2007, sophomores scored slightly lower than the previous year: 63% at or below their reference group.

Table E1b: Results of the CAAP Essay Exam by Year and Class – Self Declared

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Self- Declared	#	65	60	61	17	7	210
	Score	2.75	3.08	2.95	2.35	2.71	2.87
	Index ¹	111.23	105.75	102.05	85.14	98.90	104.36
	NS	3.1	3.1	3.0	3.0		
	Index ²	88.83	99.46	98.36	78.33		
	NPAB	26%	60%	75%	24%		
Sophomore Self- Declared	#	59	23	68	71	82	303
	Score	2.17	2.48	2.84	2.86	2.74	2.66
	Index ¹	87.63	85.00	98.16	103.62	100.00	96.72
	NS	3.1	3.0	2.9	3.0		
	Index ²	69.98	82.61	97.87	95.33		
	NPAB	12%	24%	67%	63%		
Overall Scores	#	124	83	129	88	89	513
	Score	2.48	2.92	2.89	2.76	2.74	2.75

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Results of the CAAP Essay Exam by targeted class standing are presented in Table E1b. The average score for the sophomore targeted group was 2.42; the average score for freshmen targeted group was 2.94. As with the reading test, data are missing for the sophomore targeted essay test in 2005 and freshmen targeted essay test in 2007. Either these data were not collected or the data was not submitted for analysis.

Table E1b: Results of the CAAP Essay Exam by Year and Class – Targeted

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Targeted	# Tested	58	83	67			208
	Score	3.05	2.92	2.88			2.94
	Index ¹	123.26	100.00	100.10			107.29
Sophomore Targeted	# Tested	66		64	88	89	307
	Score	1.97		2.88	2.76	2.74	2.61
	Index ¹	79.56		99.90	100.00	100.00	95.25
Overall Scores	# Tested	124	83	131	88	89	515
	Score	2.48	2.92	2.88	2.76	2.74	2.74

¹ Index provides a comparison of the identified group to the overall local score.

For the CAAP Essay Exam, sub-scores were provided for *Essay I* and *Essay II*. Sub-scores for essay one by self-declared class standing are presented in Table E2a. Sophomores scored lower than self-declared freshmen in the first three years the test was administered. In the last two years, sophomores scored higher than freshmen. It should be reiterated that the data were not collected in the fall 2007 administration nor the fall 2008 administration. Compared to national scores in the given years, MHCC self-declared freshmen did very well in 2005 and 2006 scoring .15 and .3 (respectively) higher than the national scores. The 2007 administration indicates that freshmen did much worse than the national score. Self-declared MHCC sophomores did score higher than their national reference group in 2006 and 2007 by .03 points and .07 points (respectively).

Table E2a: Results of the CAAP Essay Exam Sub-Score Essay 1 by Year and Class – Self Declared

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Self- Declared	#	65	60	61	17	7	210
	Score	2.80	3.25	3.05	2.53	2.71	2.98
	Index ¹	112.00	104.96	100.34	85.15	96.44	103.83
	NS	3.1	3.1	3.0	3.1		
	Index ²	90.32	104.84	101.64	81.61		
	NPAB	66%	80%	83%	23%		
Sophomore Self- Declared	#	59	23	68	71	82	303
	Score	2.17	2.70	3.03	3.07	2.82	2.79
	Index ¹	86.78	87.06	99.69	103.36	100.35	97.21
	NS	3.1	3.0	3.0	3.0		
	Index ²	69.98	89.86	100.98	102.33		
	NPAB	12%	23%	73%	70%		
Overall Scores	#	124	83	129	88	89	513
	Score	2.50	3.10	3.04	2.97	2.81	2.87

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Table E2b presents the results of the Sub-score essay one by targeted class standing. Little information can be obtained as the 2005 sophomore administration and the 2007 and 2008 administrations of the freshmen data were not collected.

Table E2b: Results of the CAAP Essay Exam Sub-Score Essay I by Year and Class

		Year					
		2004	2005	2006	2007	2008	Total
Freshman Targeted	# Tested	58	83	67			208
	Score	3.14	3.10	3.01			3.08
	Index ¹	125.52	100.00	99.23			107.31
Sophomore Targeted	# Tested	66		64	88	89	307
	Score	1.94		3.06	2.97	2.81	2.72
	Index ¹	77.58		100.80	100.00	100.00	94.77
Overall Scores	# Tested	124	83	131	88	89	515
	Score	2.50	3.10	3.04	2.97	2.81	2.87

¹ Index provides a comparison of the identified group to the overall local score.

Results of the CAAP Essay Exam sub-scores for the essay two are present in Table E3. Again, sophomore scores were substantially lower than freshmen scores. For the sub-score essay two, self-declared MHCC freshmen showed improvement relative to the national score reference group; they actually scored higher than the national score

in the 2006 administration. MHCC self-declared sophomores have also shown improvement over time but not as substantial as their freshmen counterparts.

Table E3a: Results of the CAAP Essay Exam Sub-Score Essay II by Year and Class – Self Declared

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Self- Declared	#	65	60	61	17	7	210
	Score	2.82	2.92	2.89	2.29	2.57	2.81
	Index ¹	111.18	106.18	101.97	84.81	96.98	104.46
	NS	3.1	3.1	2.9	3.0		
	Index ²	90.82	94.09	99.49	76.33		
	NPAB	66%	71%	76%	27%		
Sophomore Self- Declared	#	59	23	68	71	82	303
	Score	2.22	2.30	2.78	2.80	2.66	2.61
	Index ¹	87.68	83.89	98.23	103.70	100.37	97.02
	NS	3.1	3.0	2.9	3.0		
	Index ²	71.62	76.81	95.84	93.33		
	NPAB	12%	24%	77%	73%		
Overall Scores	#	124	83	129	88	89	513
	Score	2.53	2.75	2.83	2.70	2.65	2.69

¹ Index provides a comparison of the identified group to the overall local score.

² Index provides a comparison of the identified group to the national (mean) score of like-students at two year public colleges.

Table E3b presents the results of the CAAP Essay Exam sub-scores for targeted class standing. Again, little information can be discerned from this table as the 2005 sophomore administration and the 2007 and 2008 administrations of the freshmen data were not collected.

Table E3: Results of the CAAP Essay Exam Sub-Score Essay II by Year and Class

		Year					Total
		2004	2005	2006	2007	2008	
Freshman Targeted	# Tested	58	83	67			208
	Score	3.12	2.75	2.81			2.87
	Index ¹	123.24	100.00	99.89			106.69
Sophomore Targeted	# Tested	66		64	88	89	307
	Score	2.02		2.81	2.70	2.65	2.56
	Index ¹	79.58		100.12	100.00	100.00	95.16
Overall Scores	# Tested	124	83	131	88	89	515
	Score	2.53	2.75	2.81	2.70	2.65	2.69

¹ Index provides a comparison of the identified group to the overall local score.

Information Literacy

This round of the General Education Assessment included a new test which is not part of the CAAP Exams. The Educational Testing Service Information and Communication Technology (ETS_ICT) Literacy Test is designed to:

- measures students' ability to navigate, critically evaluate and make sense of the wealth of information available through digital technology.
- assess critical thinking in the digital environment.
- test the range of ICT literacy skills aligned with nationally recognized [Association of College and Research Libraries \(ACRL\) standards](#).
- help identify where further curriculum development is needed so students have the ICT literacy skills they need to succeed.

It was determined that MHCC needed to examine how well students used information technology as part of its general education assessment in the area of information literacy. The sampling procedure for the ETS_ICT followed the process used for selecting participants in the CAAP exams. For the ETS_ICT, the majority (97.5%) of students identified themselves as sophomores or above.

Results of the first administration of the ETS_ICT are presented in Table T1. For 2008, the average (mean) score for MHCC was 556 (out of a possible 700). This score was higher than 53% of the all the scores reported nationally. The standard deviation on this mean was 37.61. The lowest score received by a MHCC student was 470; only one percent of all examinees scored lower. The highest score was 630; 99% of all examinees scored lower. The table also presents the count of scores relative to national quartiles. Twenty-one of MHCC's seventy-nine examinees received a score placing them in the lowest 25% of all national scores. Fourteen of the examinees received scores placing them between 25% and less than 50% of all national scores. Twenty received scores placing them in the 50% to less than 75%. Twenty four students received scores placing them in the higher than 75% of the national scores. In other words, more than half of the MHCC students (55.7%) scored higher than or equal to half of all students that took the test.

Table T1: Results of the ETS ITC assessment of technology.

	2008	
	Scores	NPAB
Mean Score	556	53%
s.d.	37.61	
Minimum	470	1%
Maximum	630	99%
MHCC Score Counts to National Quartiles	21	<25%
	14	25-<50%
	20	50-<75%
	24	>=75%

Overall Results

The overall results comparing freshman exam scores to sophomore exam scores are presented in Tables O1 and O2. Table O1 presents the data based on self-declared status while Table O2 presents the scores based on the targeted class. The tables provide scores and sub-scores for specific areas addressed in each exam. The scores combine all administrations of the CAAP in order to provide substantial sample sizes. Additionally, indices have been calculated for each score. These indices provide an indication of how close the identified group's score was to the overall. The index is calculated by dividing the overall score into the group's score and multiplying the result by 100. An index of 100 indicates that the group scored the same as the overall score; an index over 100 indicates the group scored higher than the overall; an index below 100 indicates the group scored below the overall average score. It is expected that all sophomore indices would be above 100 while all freshman indices would fall below 100.

Although ACT does not recommend making direct comparisons between classes, a specific objective of the General Education Assessment Task Force was to assess if sophomores perform better on the exams than their freshmen counterparts. Tables O1 and O2 provide results of independent samples t-tests for each of the exams. For the self-declared groups (see Table O1), statistically significant differences were found for three of the exams: (1) Writing Skills ($t=-3.7$, $p=.000$), (2) Critical Thinking ($t=-3.5$, $p=.001$), and (3) Writing Essay ($t=3.5$, $p=.001$). For the writing skills and critical thinking exams, self-declared sophomores had an average score higher than self-declared freshmen; for the writing essay exam, self-declared sophomores received a lower average score than their self-declared freshmen counterparts. No statistically significant differences were found between self-declared freshmen and self-declared sophomores for mathematics or reading.

The targeted class groups (see Table O2) resulted in statistically significant differences in all five of the exams: (1) Writing Skills ($t=-4.0$, $p=.000$), (2) Mathematics ($t=-4.4$, $p=.000$), (3) Reading ($t=-2.7$, $p=.006$), (4) Critical Thinking ($t=-3.2$, $p=.002$), and (5) Writing Essay ($t=3.7$, $p=.000$). As with the self-declared groups, the sophomore targeted average test scores were higher than the freshmen targeted scores except for the Writing Essay which had lower scores for sophomores than freshmen.

Motivation scores are also reported in the tables. The CAAP exams ask respondents to indicate how motivated they were to take the test. Students are provided a scale ranging from 1= "Tried my best" to 4= "Gave no effort" at the end of the exam. One hypothesis was that sophomores (particularly on tests where they obtained lower average scores than freshmen) were less motivated to take the test. For both the self-declared and targeted groups, this does not appear to be the case. For the self-declared groups, only the reading exam resulted in higher motivation scores for self-declared sophomores. For the targeted groups, freshmen indicated higher motivation scores for all available tests. Unfortunately, the motivation question is not asked of the essay participants.

Table O1: Results of CAAP Exams by Self-Declared Class (All Years Combined).

Test	Sub-Scores	Overall	Self-Declared Freshmen		Self-Declared Sophomore		T, Sig.	Motivation Scores ¹	
			Average Score	Index ²	Average Score	Index ²		Freshman	Sophomore
Writing Skills	Overall	60.85	59.65	98.23	61.22	100.82	-3.7, .000	1.68	1.65
	Usage / Mechanics	15.39	14.88	96.68	15.63	101.55			
	Rhetoric	15.47	14.93	96.50	15.47	101.61			
Mathematics	Overall	57.10	56.71	99.31	57.36	100.45	-1.8, .076	1.84	1.76
	Algebra - Basic	14.87	14.48	97.35	15.14	101.80			
	Algebra - College	13.97	14.06	100.67	13.90	99.55			
Reading	Overall	59.68	59.12	99.06	60.08	100.67	-1.9, .058	1.85	1.87
	Arts / Literature	14.29	14.25	99.72	14.46	101.18			
	Social Studies / Sciences	15.32	14.95	97.58	15.58	101.69			
Critical Thinking	Overall	61.61	60.43	98.08	62.14	100.86	-3.5, .001	1.65	1.62
	N/A								
	N/A								
Writing Essay Composite	Overall	2.75	2.87	104.36	2.66	96.72	2.3, .021		
	Writing - Essay I	2.87	2.98	103.83	2.79	97.21			
	Writing - Essay II	2.69	2.81	104.46	2.61	97.02			

¹ Motivation Scores are an average of student scores and are based on a four point scale: 1="Tried My Best" 2="Gave Moderate Effort" 3="Gave Little Effort" and 4="Gave No Effort"

² Index scores provide a comparison of the group to the overall; the scores are calculated by taking the identified group's score and dividing it by the overall score and multiplying the result by 100. A score of 100 would indicate that both freshman and sophomores scored the same on this test.

Table O2: Results of CAAP Exams by Target Class (All Years Combined).

Test	Sub-Scores	Overall	Freshmen Targeted		Sophomore Targeted		T, Sig.	Motivation Scores ³	
			Average Score	Index ⁴	Average Score	Index ⁴		Freshman	Sophomore
Writing Skills	Overall	60.66	59.80	98.58	61.36	101.15	-4.0, .000	1.71	1.60
	Usage / Mechanics	15.27	14.98	98.10	15.47	101.30			
	Rhetoric	15.44	14.98	97.02	15.81	102.39			
Mathematics	Overall	57.08	56.20	98.45	57.74	101.15	-4.4, .000	1.82	1.76
	Algebra - Basic	14.87	14.30	94.17	15.29	102.84			
	Algebra - College	13.95	13.72	98.39	14.11	101.19			
Reading	Overall	59.64	58.95	98.84	60.32	101.14	-2.7, .006	1.90	1.83
	Arts / Literature	14.35	14.21	99.02	14.49	100.97			
	Social Studies / Sciences	15.31	14.88	97.19	15.72	102.67			
Critical Thinking	Overall	61.62	60.90	98.83	62.32	101.13	-3.2, .002	1.59	1.55
	N/A								
	N/A								
Writing Essay Composite	Overall	2.74	2.94	107.29	2.61	95.25	3.7, .000		
	Writing - Essay I	2.87	3.08	107.31	2.72	94.71			
	Writing - Essay II	2.69	2.87	106.69	2.56	95.16			

³ Motivation Scores are an average of student scores and are based on a four point scale: 1="Tried My Best" 2="Gave Moderate Effort" 3="Gave Little Effort" and 4="Gave No Effort"

⁴ Index scores provide a comparison of the group to the overall; the scores are calculated by taking the identified group's score and dividing it by the overall score and multiplying the result by 100. A score of 100 would indicate that both freshman and sophomores scored the same on this test.

Figure O1 presents the index scores for the five areas addressed by the CAAP exams by self-declared class. In all but one case, self-declared sophomores' tests resulted in higher scores than the self-declared freshmen tests. In the writing essay exam, the self-declared freshman appeared to score better than their self-declared sophomore counterparts.

Figure O1: Index Scores by Exam Type For Self-Declared Classes

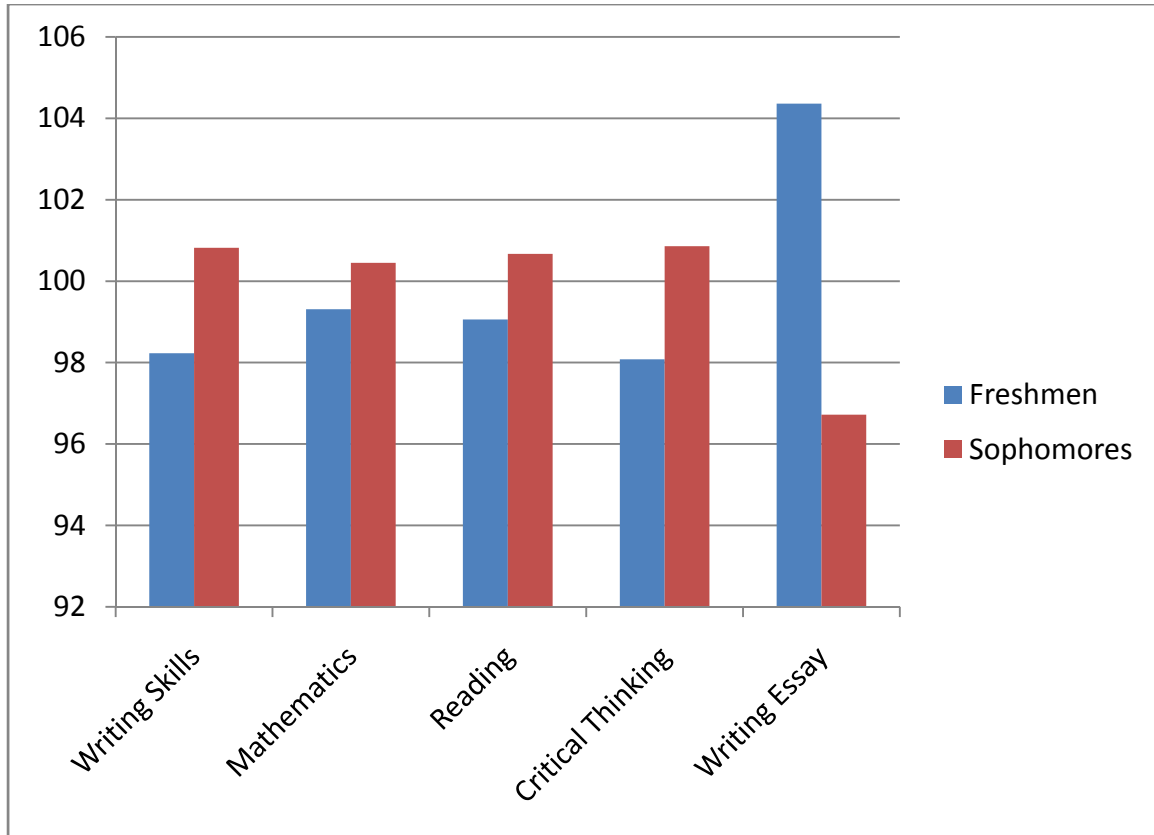
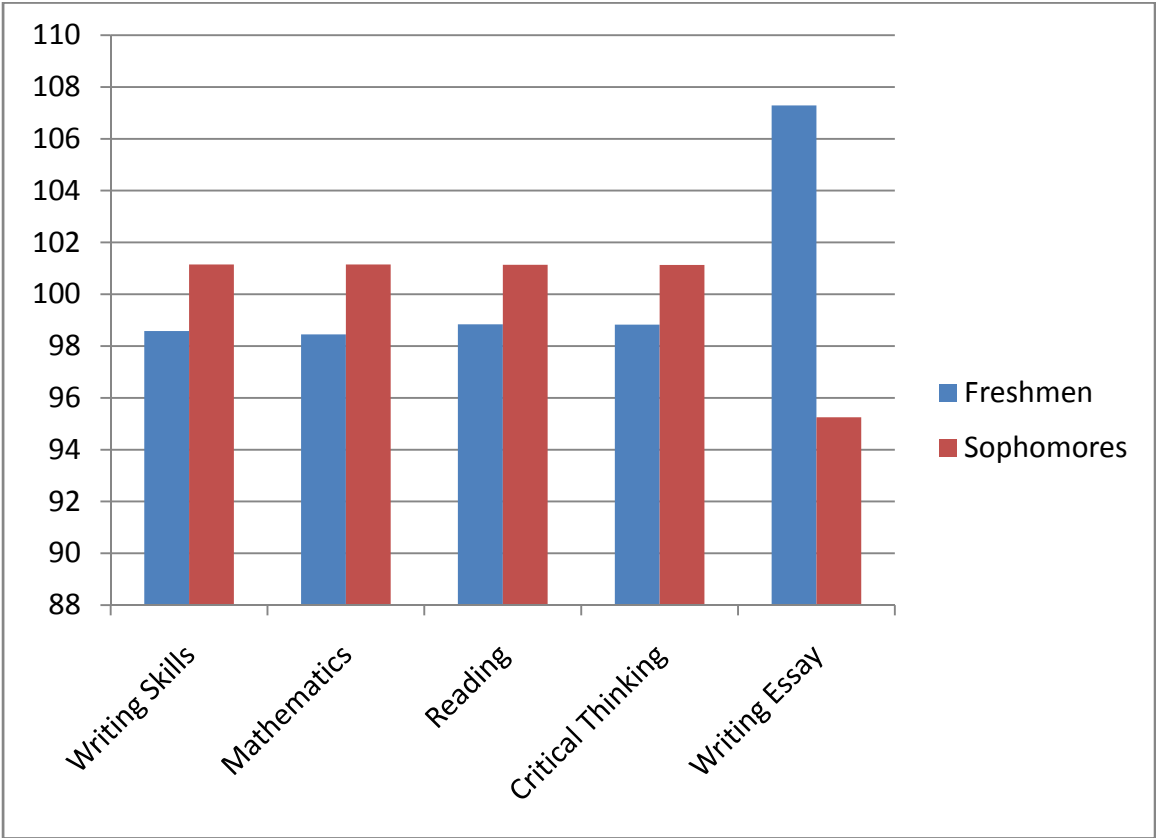


Figure O2 presents the index scores for each test by the targeted class. As with the self-declared grouping, indices for sophomore targeted tests were higher than freshmen targeted tests. The exception is the essay exam where freshmen consistently scored higher than their sophomore counterparts.

Figure O2: Index Scores by Exam Type for Targeted Classes



Discussion

This report has assessed results of the ACT Collegiate Assessment of Academic Proficiency (CAAP) Examinations for five areas: (1) Writing Skills, (2) Mathematics, (3) Reading, (4) Critical Thinking, and (5) Writing Essay. The report has presented two separate methods of analysis. The first method is a snapshot that compares how students of self-declared academic standing (freshmen vs. sophomores) compare to like students at similar institutions. The second method – the CAAP to CAAP cross-sectional analysis – involves comparing students within MHCC. Both self-declared class standing and targeted (based on sampling methodology) are used to assess academic progress.

Additionally, the report provides data from Education Testing Services Information and Communication Technology (ETS ICT) exam. Like the CAAP exams, this test has been identified and is being used to assess students' information literacy (one of the five outcome areas identified by the General Education Assessment Task Force). This information was included in this report to be comprehensive with regard to data being collected for general education assessment.

Snapshot Analysis

The snapshot analysis – comparing students at MHCC to nationally normed scores of like students at other public two-year institutions – revealed that MHCC students are doing very well in mathematics and critical thinking. Overall mathematics scores by self-declared sophomores were consistently higher than national scores for all years the exam was administered. Likewise, the critical thinking exam scores were higher than the scores reported for all self-declared sophomores at 2-year institutions. MHCC is doing very well in these two areas. For the self-declared sophomores, the reading exam was inconsistent. For two of the years tested, the scores were above the national average. For two of the years tested, the scores were substantially below the national average. The two writing tests (writing skills and writing essay) seem to be the most problematic for MHCC sophomores. For the writing skills test, self-declared sophomores consistently scored below the national average across all years tested. The writing essay exam was the most problematic for the college. Self-declared sophomores scored much lower than their counterparts at other two-year public institutions. Although self-declared sophomores have consistently scored below the national average, the average MHCC score for this group has steadily increased and shown marked improvement.

The Educational Testing Service's Information and Communication Technology (ETS ICT) also provides an opportunity to compare MHCC students to nationally normed scores. This exam allows MHCC to assess another of the five outcome areas it has identified for general education: information literacy. The first administration of this exam has revealed that MHCC students are prepared in the area of information literacy. The majority (over 55%) of MHCC students received scores better than half of everyone taking the exam.

CAAP to CAAP Cross-sectional Analysis

In general, the CAAP exams reflect academic progress being made by MHCC students. Regardless of looking at students self-declaring their class standing or at results of targeted administrations, sophomores received higher average scores than their freshmen counterparts. The one exception is the writing essay examination. The writing essay is problematic and deserves careful review. Faculty resistance to the administration of the exams, student motivation, and the exam itself may all be factors resulting in the lower test scores of sophomores. It is interesting to note that the nationally normed data provided by ACT for the 2006-2007 school year indicates that self-declared freshmen (attending 2-year public colleges) have a higher mean score on the composite essay than their sophomore counterparts.

Although scores are higher for sophomores, no statistically significant differences were found for three of the tests. Both the mathematics and reading exams produced scores that were not significantly different for self-declared classes. The critical thinking exam produced scores that were not statistically different based on the targeted classes. These three tests may deserve additional examination as well.