National Survey of Student Engagement2023
Selected Items Related to Critical Thinking and Reasoning

Dates of Administration: **March 2023 - April 2023**
Method of Administration: **Web survey (Administered through NSSE)**

Demographics and Response Rates:

	First Years	Seniors
Overall Response Rate	**34% (82/241)**	**32% (67/209)**
% Female	51%	50%
% Am. Indian or AK Native	0%	0%
% Asian	13%	12%
% Black or African American	2%	5%
% Hispanic or Latino	25%	16%
% White	28%	39%
% International/foreign born	9%	10%
% Two or more races	19%	9%
% Unknown	2%	8%

Background:

HMC participates in the National Survey of Student Engagement (NSSE) on a cycle[1] with other institutional level surveys. NSSE surveys are sent in the spring to all first years and seniors asking them about the characteristics and quality of their undergraduate experience. It includes 10 Engagement Indicators (Higher-Order Learning, Reflective and Integrative Learning, Learning Strategies, Quantitative Reasoning, Collaborative Learning, Discussions with Diverse Others, Student-Faculty Interaction, Effective Teaching Practices, Quality of Interactions, and Supportive Environment) and High Impact Practices (Learning Communities, Service-Learning, Research with Faculty, Internships, Study Abroad, and Capstones). Additionally, NSSE allows campuses to add additional topical modules to their survey. This year, HMC participated in Inclusiveness & Engagement with Diversity module.

NSSE results are used throughout the campus in departmental program reviews to evaluate growth and development on student learning outcomes and by the college overall in its improvement efforts.

[1] Assessment and Accreditation Committee has worked with OIRE to develop a cycle for the modules that are relevant to HMC.

Highlights:

- Challenging intellectual work is central to our mission, and HMC first year students indicate that their courses have challenged them to do their best work (5.9 for first years and 6.0 for seniors) on a scale where 1 corresponds to "not all" and 7 corresponds to "very much". They are both significantly higher than peers at other institutions report (5.5 for first years and 5.4 for seniors). In addition, HMC first years are significantly higher on reaching conclusion based on analyzing numerical information as compared to first years in our peer group (3.0 and 2.7, respectively, $p < .001$). This difference persists into the senior year (3.2 and 2.7, respectively, $p < .001$).

- FIrst years and seniors rated themselves similarly to peers with respect to: "examining the strengths and weaknesses of their own views on a topic or issue", "learning something that changed the way they understood an issue or concept", "Identifying key information from reading assignments", "reviewing their notes after class", and "summarizing what they learned in class or from course material".

- HMC first years reported that they "used numerical information to examine a real-world problem or issue" significantly more than their peers (2.8 vs 2.6, $p<0.001$) . HMC seniors reported saw the same difference (2.8 vs 2.6) but the difference did not reach statistical significance, most likely due to sample size. HMC first years reported they were more likely to "evaluate what others have concluded from numerical information" than their peers (2.7 vs 2.5, $p<0.01$). However, HMC seniors were no different than peers.

- When it comes to higher order learning, both HMC first years and seniors indicate their coursework is more likely to ask them to "apply facts, theories or methods to practical problems or in new situations" than their peer group., although the gap was smaller for seniors. p. Both HMC first years and seniors also reported their course work was *less* likely to ask them to "evaluate a point of view, decision, or information source" than first year students and seniors in the peer group.

- Several items within the outcome of Critical Thinking and Reasoning deal specifically with quantitative reasoning. Both HMC first year and senior respondents indicate that they are more likely to "analyze numerical and statistical information" than their peers. .

FIRST YEARS				
	HMC	**Peer**	**Comp**	**Sig**
	n = 81	n =6,459		
During the current school year, about how often have you done the following?				
1 = never; 2 = sometimes; 3 = often; 4 = very often				
Examined the strengths and weaknesses of your own views on a topic or issue	2.8	2.9		
Learned something that changed the way you understand an issue or concept	3.1	3.0		
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics)	3.0	2.7	▲	p < .001
Used numerical information to examine a real-world problem or issue	2.8	2.5	▲	p < .001
Evaluated what others have concluded from numerical information	2.7	2.5	△	p < .01
Identified key information from reading assignments	3.2	3.2		
Reviewed your notes after class	2.9	2.8		
Summarized what you learned in class or from course material	2.8	2.9		
1 = not at all; 2, 3, 4, 5, 6, 7= very much				
During the current school year, to what extent have your courses challenged you to do your best work	5.9	5.5	▲	p < .001
During the current school year, how much has your coursework emphasized the following				
1 = very little; 2 = some; 3 = quite a bit; 4 = very much				
Applying facts, theories or methods to practical problems or in new situations	3.4	3.1	▲	p < .001
Analyzing an idea, experience or line of reasoning in depth by examining its parts	3.3	3.1		
Evaluating a point of view, decision, or information source	2.8	3.1	▼	p < .001
Forming a new idea or understanding from various pieces of information	3.2	3.1		
How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?				
1 = very little; 2 = some; 3 = quite a bit; 4 = very much				
Thinking critically and analytically	3.2	3.2		
Analyzing numerical and statistical information	3.2	2.6	▲	p < .001

SENIORS				
	HMC	Peer	Comp	Sig
	n = 67	n = 4,725		
During the current school year, about how often have you done the following?				
1 = never; 2 = sometimes; 3 = often; 4 = very often				
Examined the strengths and weaknesses of your own views on a topic or issue	2.9	3.0		
Learned something that changed the way you understand an issue or concept	3.1	3.1		
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics)	3.2	2.7	▲	p < .001
Used numerical information to examine a real-world problem or issue	2.8	2.6		
Evaluated what others have concluded from numerical information	2.8	2.7		
Identified key information from reading assignments	3.3	3.3		
Reviewed your notes after class	2.5	2.7		
Summarized what you learned in class or from course material	2.7	2.8		
1 = not at all; 2, 3, 4, 5, 6, 7= very much				
During the current school year, to what extent have your courses challenged you to do your best work	6.0	5.4	▲	p < .001
During the current school year, how much has your coursework emphasized the following				
1 = very little; 2 = some; 3 = quite a bit; 4 = very much				
Applying facts, theories or methods to practical problems or in new situations	3.3	3.1	△	p < .01
Analyzing an idea, experience or line of reasoning in depth by examining its parts	3.3	3.2		
Evaluating a point of view, decision, or information source	2.9	3.1	▼	p < .001
Forming a new idea or understanding from various pieces of information	3.0	3.1		
How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?				
1 = very little; 2 = some; 3 = quite a bit; 4 = very much				
Thinking critically and analytically	3.6	3.5		
Analyzing numerical and statistical information	3.5	3.0	▲	p < .001

▲ HMC students' average was significantly higher (p<.001)
△ HMC students' average was significantly higher (p<.01)
△ HMC students' average was significantly higher (p<.05)
▼ HMC students' average was significantly lower (p<.001)
▽ HMC students' average was significantly lower (p<.01)
▽ HMC students' average was significantly lower (p<.05)