

November
2020

AB705 Liberal Arts Math Student
Experience Survey: Fall 2019
Report Number 328

College of the Canyons

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Institutional Research, Planning, and
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Introduction

At the request of the Mathematics department, the office of Institutional Research, Planning and Institutional Effectiveness conducted survey research as part of the evaluation of the impact of AB705 implementation.

In Fall 2019, the Mathematics department began offering a new transfer-level course, Liberal Arts Math (MATH-100). The first cohort of students enrolled in the newly-offered were surveyed. The purpose of the survey¹ was to assess student experiences as they relate to their perception of the rigor, why they elected to enroll in the course (as opposed to others that they had access to), and whether they were knowledgeable about the different Math pathways. The research questions guiding the analyses included:

- Who are the students enrolling in Liberal Arts Math with support with regard to major, first-time/high school?
- What are student perceptions of the course (preparedness/rigor)?
- What resources did students use to help with the course?

Method

Instrument

Paper surveys were distributed in class toward the end of the fall 2019 semester. The survey instrument was comprised of mostly closed-ended questions regarding the last Mathematics course, student perceptions of the available options for Mathematics courses, current program of study, reason for enrolling in course and perceptions of various aspects of the course (rigor, preparedness etc.). In the end, students were asked to indicated comments or suggestion about their experience with the course. The surveys did not include any questions asking for personally identifying information and responses could not be connected to a students' course performance or institutional data.

Subjects

A total of 11 sections of Liberal Arts Math with support were identified for the term with a total enrollment of 374 students who had registered for the course. Survey responses were received from 232 students in total, yielding a 62% response rate.

Research Results

Student Profile

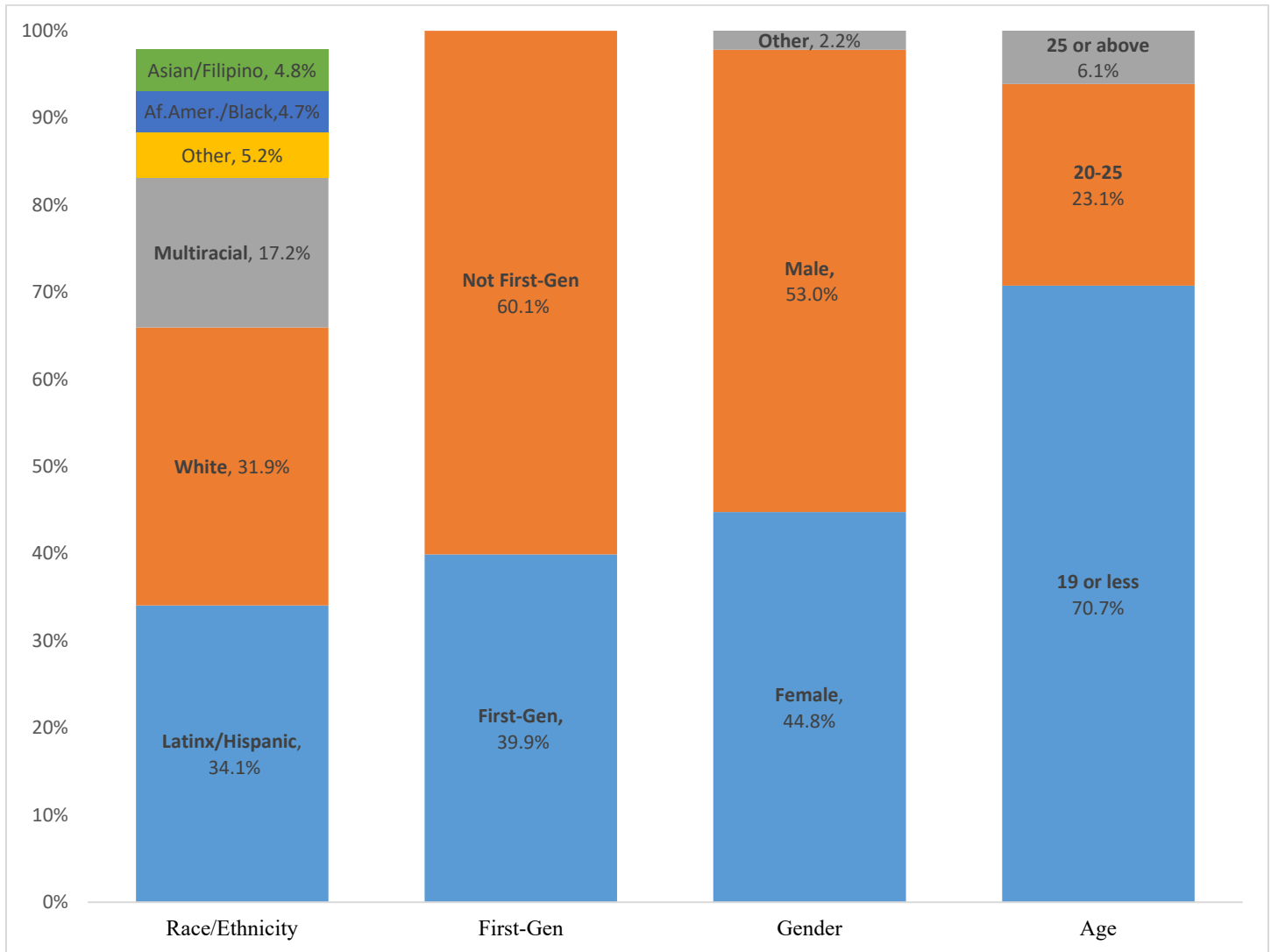
Students surveyed in Liberal Arts Math were somewhat representative of the general student population² during the term in which the survey was administered. The largest group of students were Latinx-identifying (34% of survey respondents, and 44% of all enrolled students, followed by White (32% of survey respondents, and 27% of all enrolled students). First-generation college students comprised 40% of the respondents (and comprised 32% of all enrolled students). With regard to gender, 53% identified as male, 45% identified as female with 2.2% identifying as other/non-binary. Majority of the

¹ Survey instrument is available upon request.

² Excludes ISAs; https://www.canyons.edu/resources/documents/administration/irpie/datahighlights2020_final.pdf

respondents reported being 19 years or younger (71% compared to 35% represented among all enrolled students) with 23% being 20-25 years old (29% among all enrolled) and only 6% indicating they were 25 years or older (36% among all enrolled).

Figure 1. Demographics of Survey Respondents in Liberal Arts Math



Most students surveyed reported being New/first-time students at COC (70%), followed by those who were continuing students defined as 2 or more semesters (29%) and the rest indicating they were high school students.

Students were asked to indicate the type of Math course that they were last in, and 79% reported that their last course was in high school and that MATH-100 was their first college-level Math course. Those who reported being continuing students indicated that their last courses were MATH-058, Pre-Algebra and MATH-070, Intermediate Algebra.

Table 1. Last Math course reported by student type

Student Type	Total	Last Math class was in High School	Math-058, Pre-Algebra	Math-060, Elem. Algebra	Math-075, Interm. Algebra for Statistics	Math-070, Interm. Algebra	Math-083, Geometry	Math-140, Intro to Statistics	Don't know/ Other
New/First-time student	36	31	0	0	0	1	0	0	4
Continuing student	28	2	10	1	2	12	5	5	1
High School student	2	1	0	0	0	0	0	1	0

With regard to the program of study that students in Liberal Arts Math are pursuing, most students selected a major in Visual & Performing Arts School, with Art and Film/Media Arts the most common. Table 2 provides the distribution of additional majors selected organized by the schools they are housed in.

Table 2. Program of Study by School

School	N	Program	N
Visual & Performing Arts	99	Art	33
		Film/Media Arts	26
		Music	10
		Animation	9
		Journalism	7
		Graphic Multimedia Design	5
		Theatre	5
		Photography	3
		Performing Arts	1
Social & Behavioral Sciences	26	Communications	11
		Early Childhood Education	6
		History	4
		Sociology	2
		Elementary Teacher Education	1
		Political Science	1
		Special Education	1
Humanities	25	American Sign/Deaf Studies	12
		English	9
		Spanish/ Linguistics	2
		Cinema	1
		Philosophy	1
Mathematics, Sciences & Health Professions	21	Administration of Justice	14
		Fire Science/Technology	5
		Computer Science	1
		Nursing AND-RN	1
Undecided	20		
Applied Technologies	13	Automotive Technology	7
		Interior Design	3

School	N	Program	N
		Welding	2
		Construction Management Technology	1
Other	12	Liberal Arts/Liberal Studies	4
		Criminal Justice	2
		B.A. Degree Fire Dept. Admin & Tech CSULA.	1
		Dental Hygiene	1
		Design, Fashion design	2
		Game Development	1
		Studying to a child protective services social worker	1
Business	7	Culinary	4
		Business – Accounting, HR, Marketing	2
		Administration Asst.	1
Kinesiology & Athletics	6	Kinesiology	4
		Recreation Management	2

Student Awareness and Perceptions

Students answered questions surrounding the topic of awareness of varying Math courses based on major and whether they indicated that they were given options for types of Math courses to enroll in. Specifically the question asked, “Are you aware that the Math courses you need to take are different based on your major?” Majority of respondents indicated that “yes”, they were aware that the Math courses vary (84%) followed by students indicating that they were ‘not sure’ (11%).

In terms of their perception of being given multiple options for Math courses either through the placement or by a counselor, 69% indicated that they did receive options, with 23% indicating that they did not receive options, following by 8% who were ‘not sure’.

Most students reported that the main reason they enrolled in the course was that they were advised by a counselor/adviser (38%) and 27% reported that it was a requirement for their major/degree. Table 3 provides additional information on the reason for enrolling in the course.

Table 3. Main Reason for enrolling in Course

Reason for Course Enrollment	N
Was advised to by Counselor/Adviser	86
It’s a requirement for my major/degree	60
It’s a requirement for my Transfer institution	35
It was an option on my placement result.	27
Other, please explain	17
“It seemed easy”	8
“I chose it on accident/ Chose it at random”	2
“Seemed interesting”	1
“To get through my general ed. Classes”	1
“It wouldn't let me register for Math 140, so I chose this one.”	1

Reason for Course Enrollment	N
“Someone told me about it, and how it's for non-STEM people.”	1
“I was dropped for non-payment from Stats. This was the only course available for my schedule”	1
“I thought it would be basic HS math however, it was much harder and I couldn't pass the course.”	1
“It teaches stuff I need to know in life.”	1

Figure 2. Student Perceptions of Rigor level in Liberal Arts Math

Students’ perceptions of the rigor/difficulty level of the course were that it was a course ‘at or around my level’ (60%) followed by ‘above my level’ (25%).

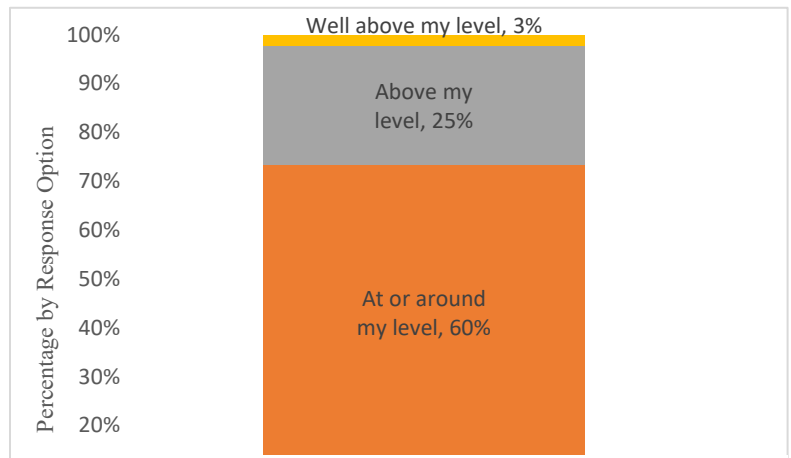
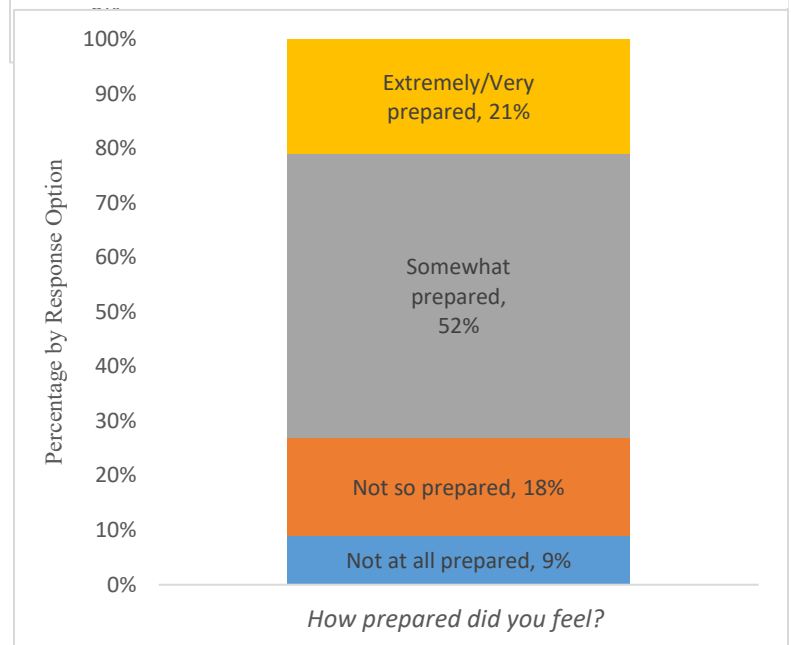


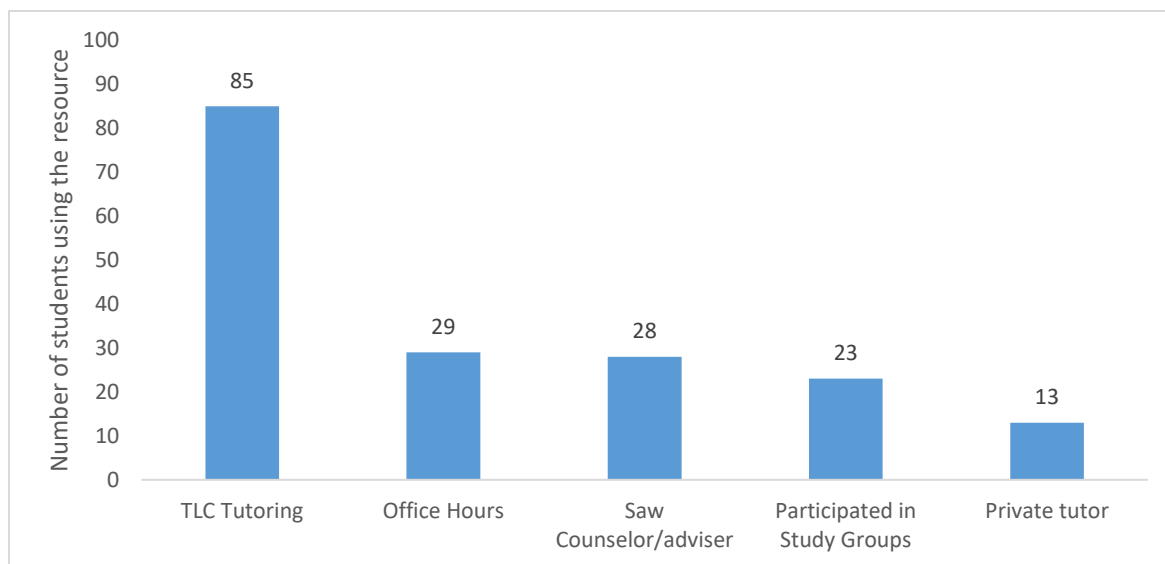
Figure 3. Student Perceptions of Preparedness for Liberal Arts Math

With regard to their preparedness for the course, over half of the students indicated that they felt they were ‘somewhat prepared’ (52%). Others reported that they were ‘not so prepared/not at all prepared’ (27%) and extremely/very prepared (21%).



The most common resource used to help students with the course was tutoring at the TLC (43 students) and the least common was seeing a private tutor (13 students).

Figure 4. Resources used to help with Liberal Arts Math



Comments

In an open-ended question, students were asked to write in suggestions/comments/questions about the course. A total of 142 students (61%) provided a response. The following are sample quotes from the responses provided once they were coded under broader common themes of positive assessments (50% of comments), suggestions (23% of comments, and course rigor (25% of comments). All open-ended responses are available upon request.

Positive Assessments of Co-requisite support (50% of comments)

Students commented on their positive assessment of the course in general, and with regard to supporting professors, the topics being useful, and the course being ‘easy’.

- There's a lot of stuff I didn't know was necessary for the real world.
- This is a great math class for people who are taking non-math specific majors
- It's valuable life skills.
- This Math-100 is actual math that is going to be used in life.
- None, I really liked this class. It isn't too difficult and it makes you think.
- It's less hard than other math classes.
- Nothing so far. I thought it was great and [PROFESSOR NAME] was amazing with teaching and helping us understand.
- Professor was very accommodating with providing additional support. [THEIR] style of teaching is very rewarding and I have gained more knowledge of math.
- The course is quite fair if students pay attention and instructors manage time well
- The way it was taught was perfectly great. The homework and exams were also great. I feel it should go the same way.
- This course is very informative and I learned more things here than in any other math class.
- This math course is good. It's not that hard and helpful.

Course Rigor (23% of comments)

Another common theme among responses was related to the difficulty level of the course. Comments about difficulty were not necessarily coupled with negative assessments and some students acknowledged that the course was new. Sample quotes are provided below.

- “This class is difficult for me because it’s a mixture of a lot of different maths so it’s not the easiest to follow but I really like my professor [THEY] try [THEIR] best to help us all understand. It’s just hard because the class is new!”
- “A lot of info. on material not needed for tests.”
- “I felt that some topics were not explained too thoroughly and no one knew what to expect for exams, which made it harder to know what was necessary to memorize (i.e. z-score table, certain formulas).”
- “This class was manageable although a bit "random" with what we learn, if you miss a class or do not understand a concept the class still moves on.”
- “The pace of the course is a bit fast.”
- “This course was particularly fast paced. I do not feel I had enough time to process the information to ask questions and then understand before moving on to the next section. I also felt there was too much information that was not relevant being taught in the course. That is information that we were told we would not be tested on.”

Suggestions (22% of comments)

Among students who made suggestions, the most common type was related to the length of the course and narrowing down topics for exams.

- It's a good course, but I think it should be 2 hours instead of 1 hour 20 minutes.”
- “Teacher is great, need more in class time to fully grasp concepts.”
- Should be a longer class because it is hard learning each section every class.
- “Wish there was a study guide suited for some of the lessons.”
- “Centralize the topics within the unit more. Most of them made sense, but this past unit was like the Fibbanacci Sequence, voting methods, exponential growth, fractals, pH scale, and the golden ratio...”
- “Cover more of what is actually on the test. Prepare students further don't just have them jump in.”
- “Only teach for what will be on are exams so then it won't be too much information.”
- “Maybe lessen the amount of non-important found in the presentations.”

Recommendations

Upon review of the results of the student survey in the newly offered Liberal Arts Math, the following recommendation should be taken into consideration:

- Consider exploring options for addressing the length of the course and re-organizing course topics.
- Consider exploring options for expanding tutoring and support services for the course.

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