TO: **Traci Freeman, Director, Colket Center for Academic Excellence**

FROM: **Steve Getty, Director, Quantitative Reasoning Center**

RE: **Annual Report, 2016-2017, Blocks AB, 1-8**

DATE: **June 9, 2017**

QUANTITATIVE REASONING CENTER (QRC) ANNUAL REPORT, 2016-2017

QRC Use, Academic Year 2016-2017 (Blocks AB, 1-8)

Overview

The Quantitative Reasoning Center (QRC) at Colorado College was open 40 hours per week during the regular academic schedule. During this time and into Summer Session, the QRC staff and Director:

- Recorded work with at least 969 students, or at least 47% of the CC student body,
- Supported at least 2,139 drop-in tutorials at the QRC,
- Assigned 256 individual tutors (one-on-one work) over the course of a block,
- Provided 75 Learning Assistants to Block courses for 670 unique students,
- Assisted students in an array of disciplines: Mathematics and Computer Science, Chemistry, Physics, Biology, Economics, Geology, Psychology, Anthropology, Music, Neuroscience, Sociology, IDM, thesis writing, MAT-Education, and more.
- Continued collaboration with college faculty in coursework development, thesis research, faculty research, and faculty professional development.

During the 2016-2017 academic year, at least 969 students used QRC tutoring resources. Of these students, 508 (52%) were female, 443 (46%) were male, and 18 (2%) did not specify a gender (Figure 1). Broken down by ethnicity, 62% of QRC users for AY 2016-2017 identified as white, 9% identified as Hispanic, 5% identified as Asian, and 3% identified as African American (Figure 2). Of the 969 unique QRC users, 28% were freshman, 32% were sophomores, 22% were juniors, and 15% were seniors (Figure 3).

Drop-in Tutoring

During the academic year 2016-2017, a minimum of about 2139 visits were recorded for staffed drop-in hours from about 516 individual users. This represents a 95% increase in drop in visits over the previous academic year. The QRC recorded the highest numbers of drop-ins during blocks 3 and 5 (Figure 4). Underclassman made up nearly 80% of drop in visits with 871 (41%) freshman drop-ins (Figure 5). Freshman drop-ins increased 167% over the 2015-2016 academic year, suggesting more freshman are aware of and taking advantage of QRC resources. Many underclass students plus juniors (238 total drop-ins) coming to staffed drop-in hours are taking rigorous entry-level courses or an initial round of required math, science, or economics courses in their major.

Disciplinary support was most frequent in Mathematics and Computer Science, followed by Chemistry, Economics, and Physics (Figure 6). While consistent with past patterns of QRC drop-in tutoring, drop-ins for subjects such as Economics, Computer Science, and thesis writing had notable increases, a continuing trend over the past few years. The 2016-2017 academic year was marked by an increased percentage of drop-ins for 100 and 200 level courses, yet students continued coming to the QRC for higher level courses as well (Figure 7).

Individual Tutoring (One-on-One work with peers)
Requests for individual tutoring (one-on-one tutoring over a block) have continued to increase. During the 2016-2017 Academic Year the QRC received 256 requests for individual tutoring from 179 unique students, a 23% increase over the previous year. Blocks 1 and 3 saw the most requests for individual tutors (Figure 8). The increased usage of individual tutoring in block 1 correlated with several economics and computer science courses, while block 3 had large numbers of requests for tutoring in mathematics.

Learning Assistant (LA) Program
In 2016-2017, QRC Learning Assistants (LA) were aligned with 75 courses. Chemistry and Economics had the most courses with LAs (18 and 12 respectively) followed by Math (10), Computer Science (8) and Physics (8). The Learning Assistant program has grown steadily over the last ten years (Figure 9), and now accounts for 30% of student interactions with the QRC (Figure 10). Learning Assistant review sessions include working with small groups or most/all of the class, focused on study hall/homework sessions, labs, and exam review sessions.

At least 670 students attended review sessions and used help provided by Learning Assistants (note: this is likely an underestimate, due to inconsistent sign-in practices at review sessions).

Additional QRC Student/Faculty Collaborations
Complementing college peer tutor support, the QRC peer tutor staff and the Director engaged in other collaborations with students and faculty, including

- Course support and development (e.g., MAT thesis writing, Taber; Excel modeling in Genetics labs, Hanson/Garcia; Missing data analysis, Fenn; "Math Essentials" quizzes, Physics Dept; Avian identification and research, Wilson/Linkhart; Partial Differential Equations modelling lecture/lab, Brown; Age Dating in Archeology, Ingram),
- Work investigating student success in rigorous entry-level Mathematics courses (MA125, MA126; Brown/Erickson/de Araujo),
- Academic support for college programs, positions (e.g., NSO, WSO, pre-college program, Bridge Scholars Program, Crown Center forums, New Faculty Orientation, Admissions Office parent panels, Break-Out Service Trip; Thesis Adjunct teaching)
- Research collaboration and support for staff, faculty, and Mellon Pedagogy Reseearcher (upon request; multiple depts),
- Increased thesis support for student research (Director and tutors worked with 46 students from 9 departments),
- Collaborative work with Assoc. Dean of College regarding Math preparedness at CC, and
- External research/work by Director on scholarship of teaching and learning.

QRC Peer Tutor Staff Academic Year 2015-2016
A key QRC goal for this past academic year was to recruit (starting at about 100 students), interview (40), and then select and complete training with 28 new QRC peer tutors. Combined with returning tutors, this leads to a current staff of about 52 QRC peer tutors.

Figures:

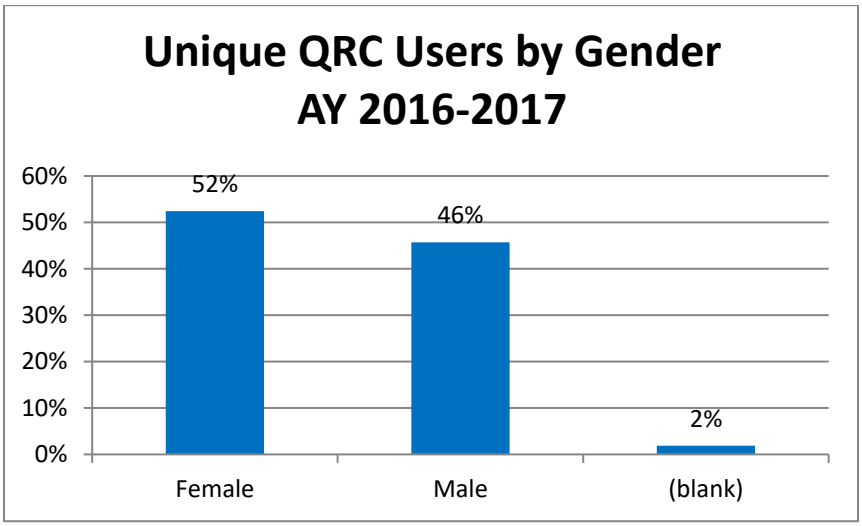

Figure 1: Unique QRC users by gender for AY 2016-2017

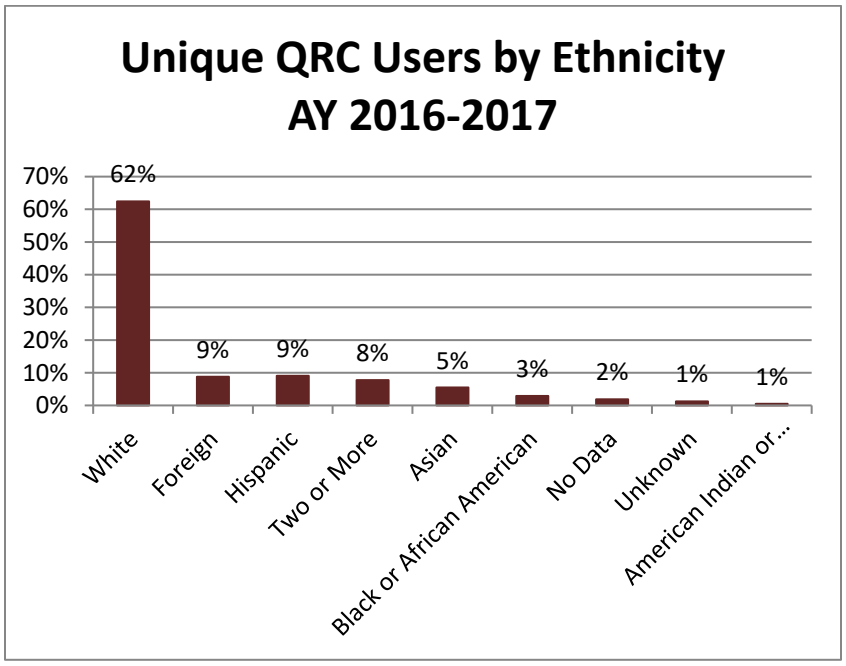

Figure 2: Unique QRC users by ethnicity for AY 2016-2017

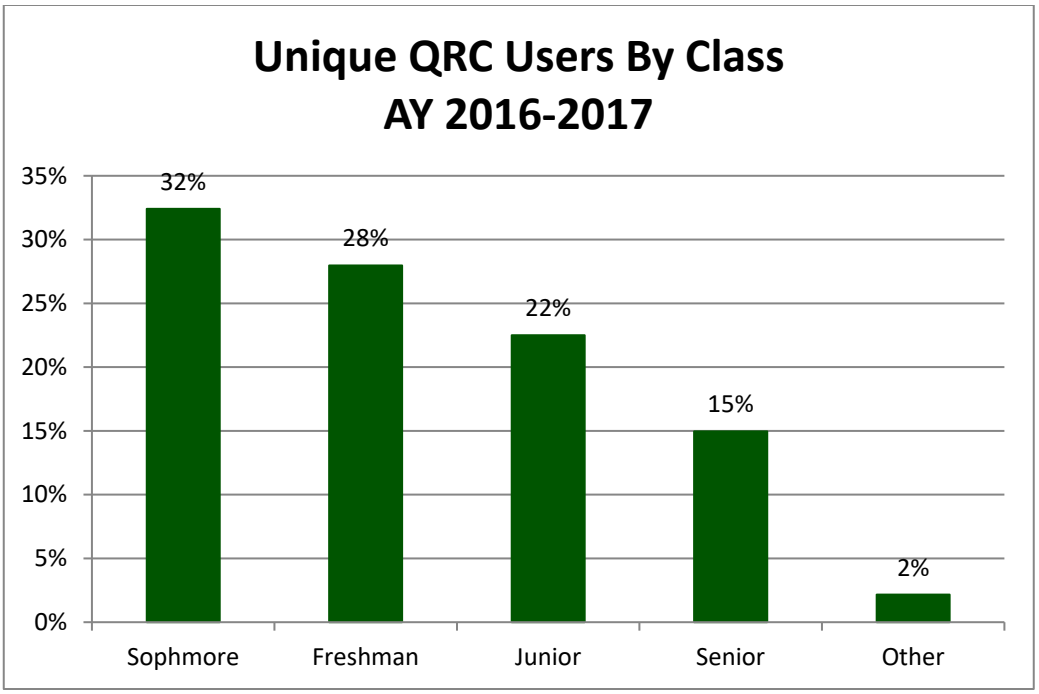

Figure 3: Unique QRC users by class for AY 2016-2017

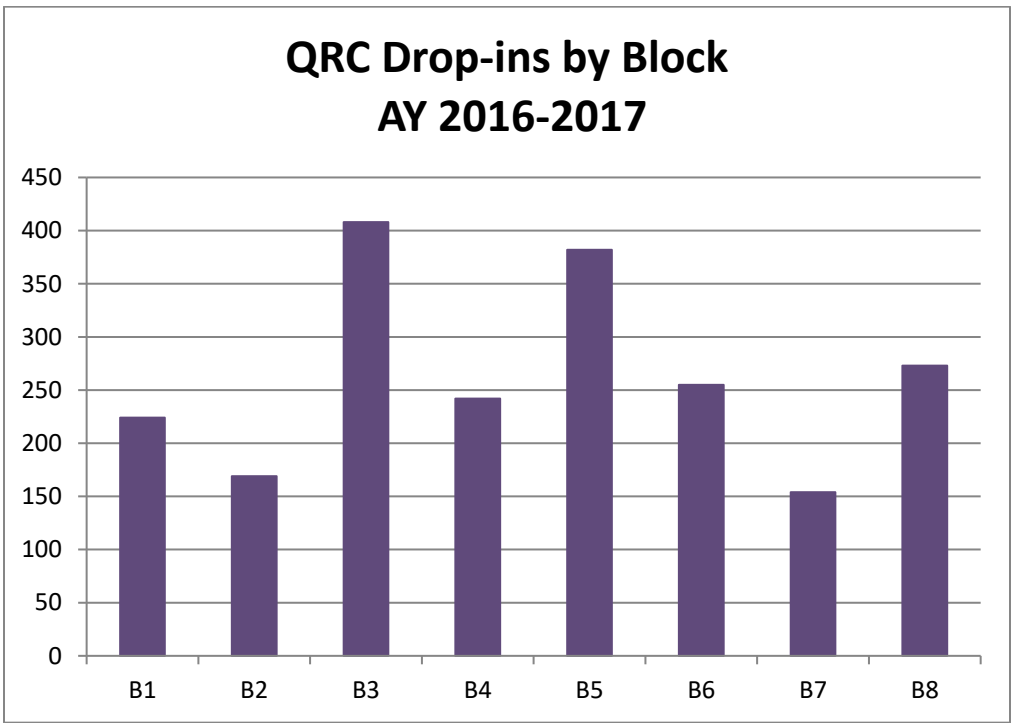

Figure 4: QRC Drop-ins by Block for AY 2016-2017

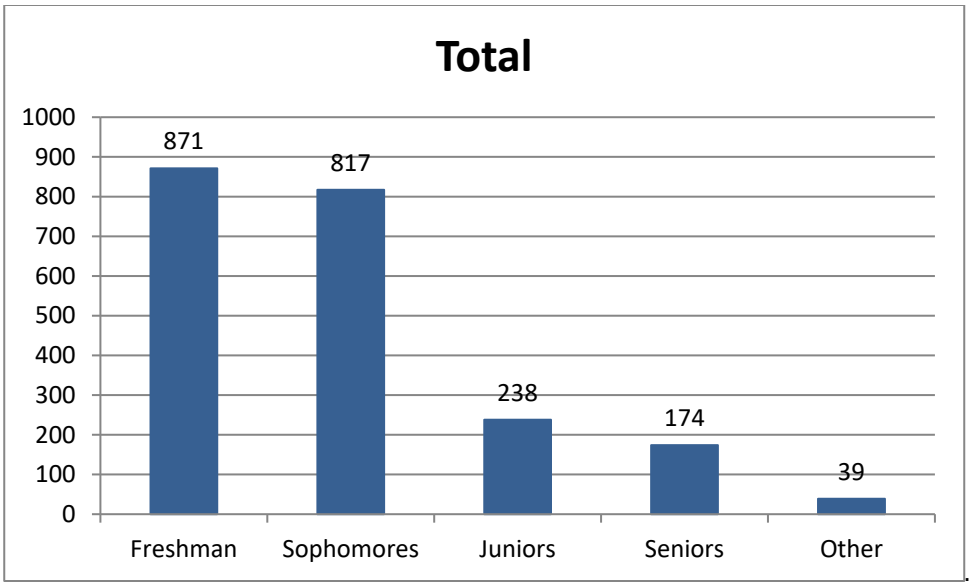

Figure 5: QRC Drop-ins by Class Standing for AY 2016-2017.

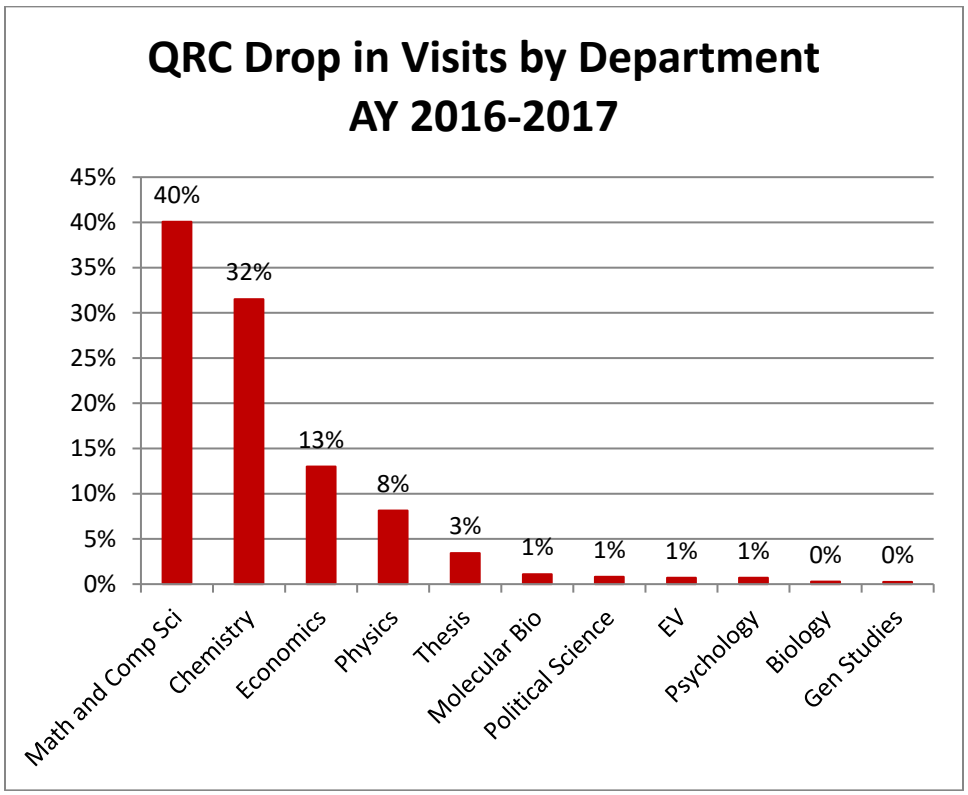

Figure 6: QRC Drop-in Visits by Department or program for AY 2016-2017.

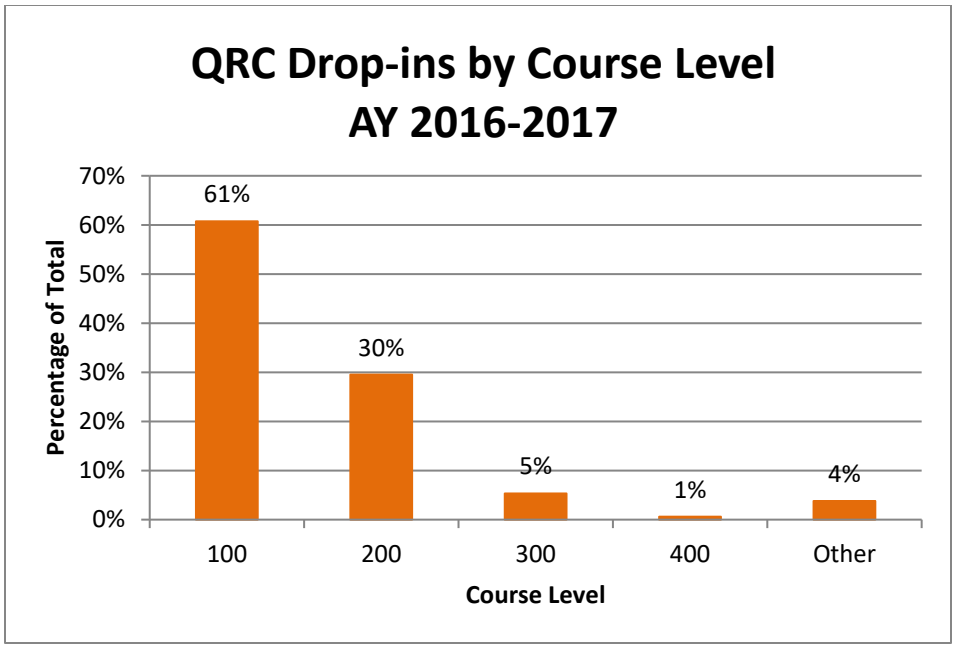

Figure 7: QRC Drop-ins by Course Level for AY 2016-2017.

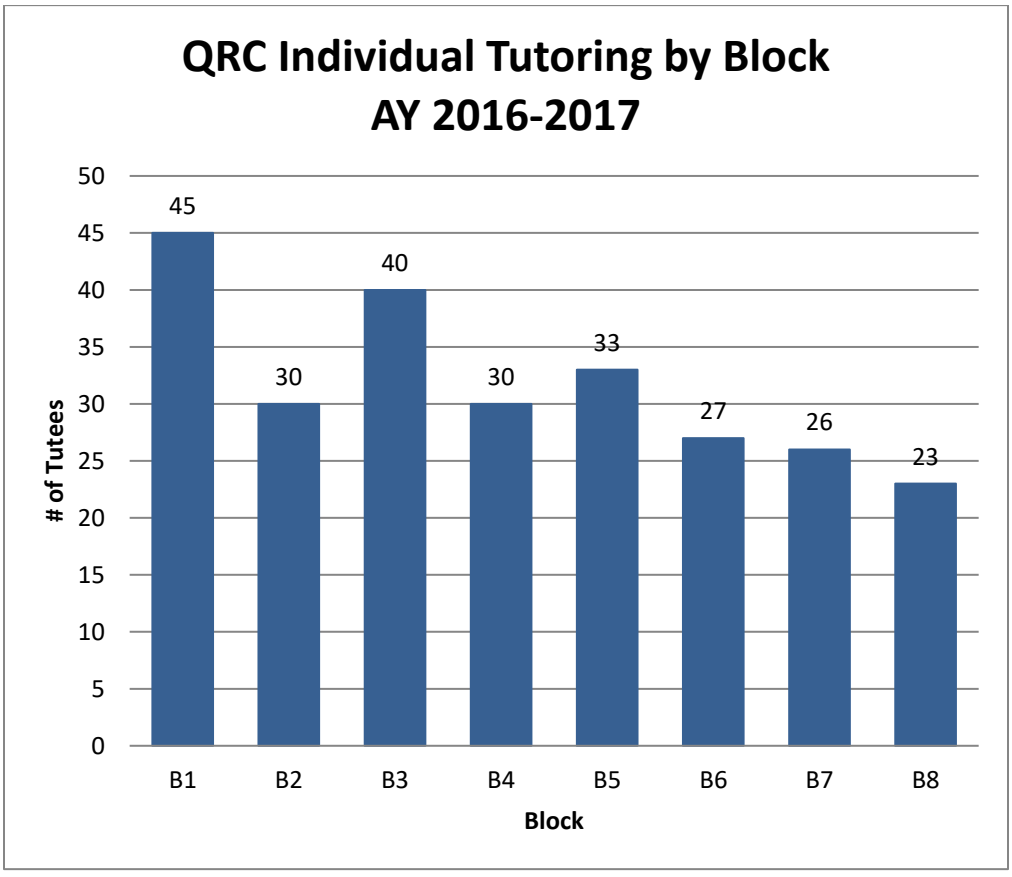

Figure 8: QRC Individual Tutoring by Block for AY 2016-2017.

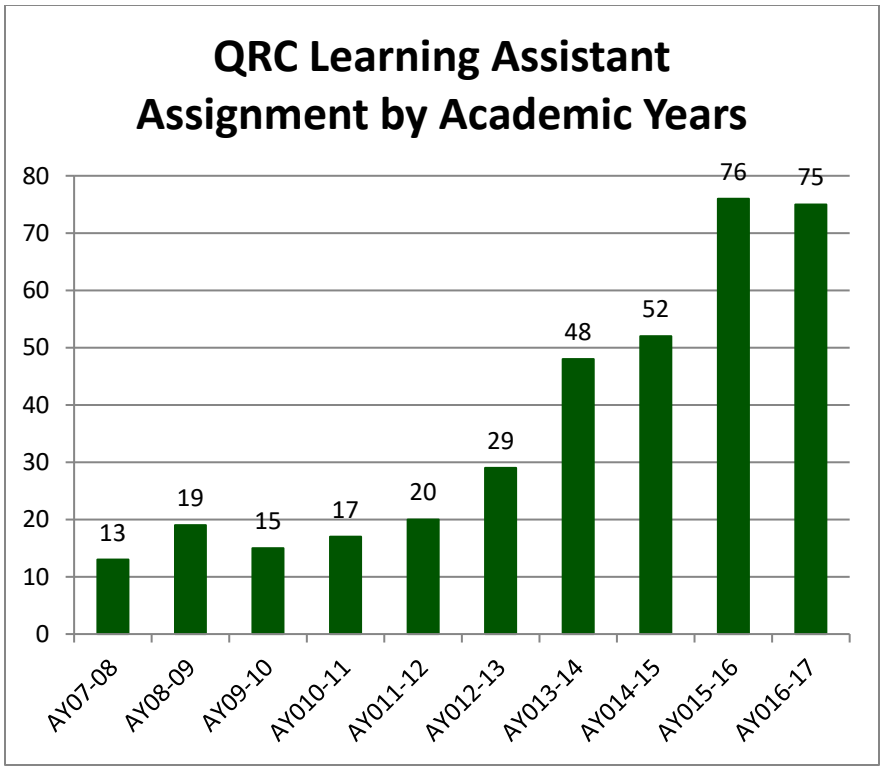

Figure 9: Assignment of Learning Assistant for **Academic Years between 2007-2017**.

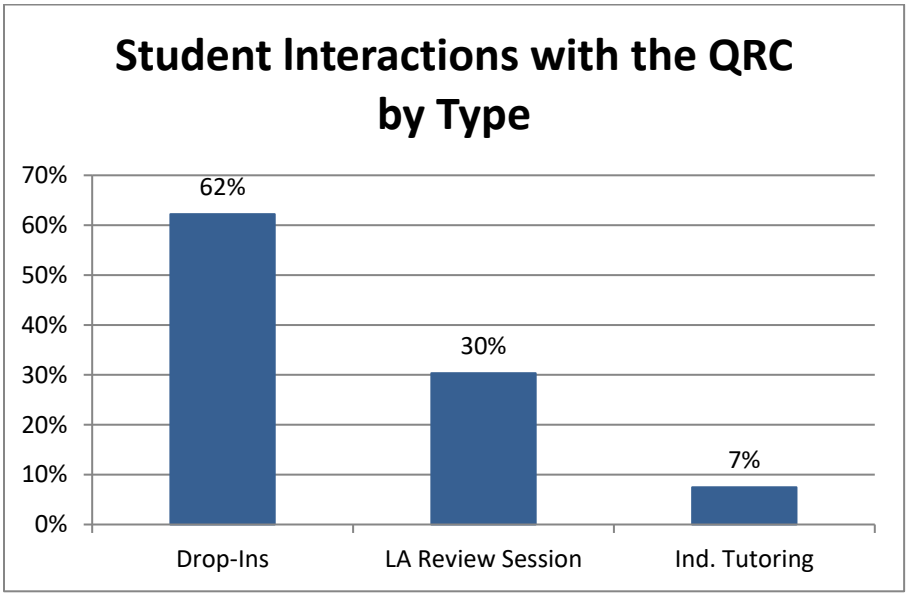

Figure 10: Student Interactions with the QRC by type for AY 2016-2017.