The Impact of the SDSU Library on Student Success

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BACKGROUND

▪ Studies at other universities show a correlation between student GPA, retention and graduation rate with student use of the physical university library space (Oliveira, 2017).
▪ The higher the number of interactions with the library the greater the correlation with student success factors.
▪ The effect was particularly noticeable for students who started utilizing the library in their first year.
▪ A lack of student interaction with the library could be a risk factor and used to flag students for intervention.

RESEARCH QUESTIONS

▪ Is there correlation between use of the library and student success at SDSU?
▪ Does the year one campus GPA increase as the number of modes of interaction with the SDSU library increases?
▪ What is the impact on the year one campus GPA when students interact with the library through various modes: online tour, instruction session (RWS), circulation checkout of any material and attendance at the Math Learning Center*?
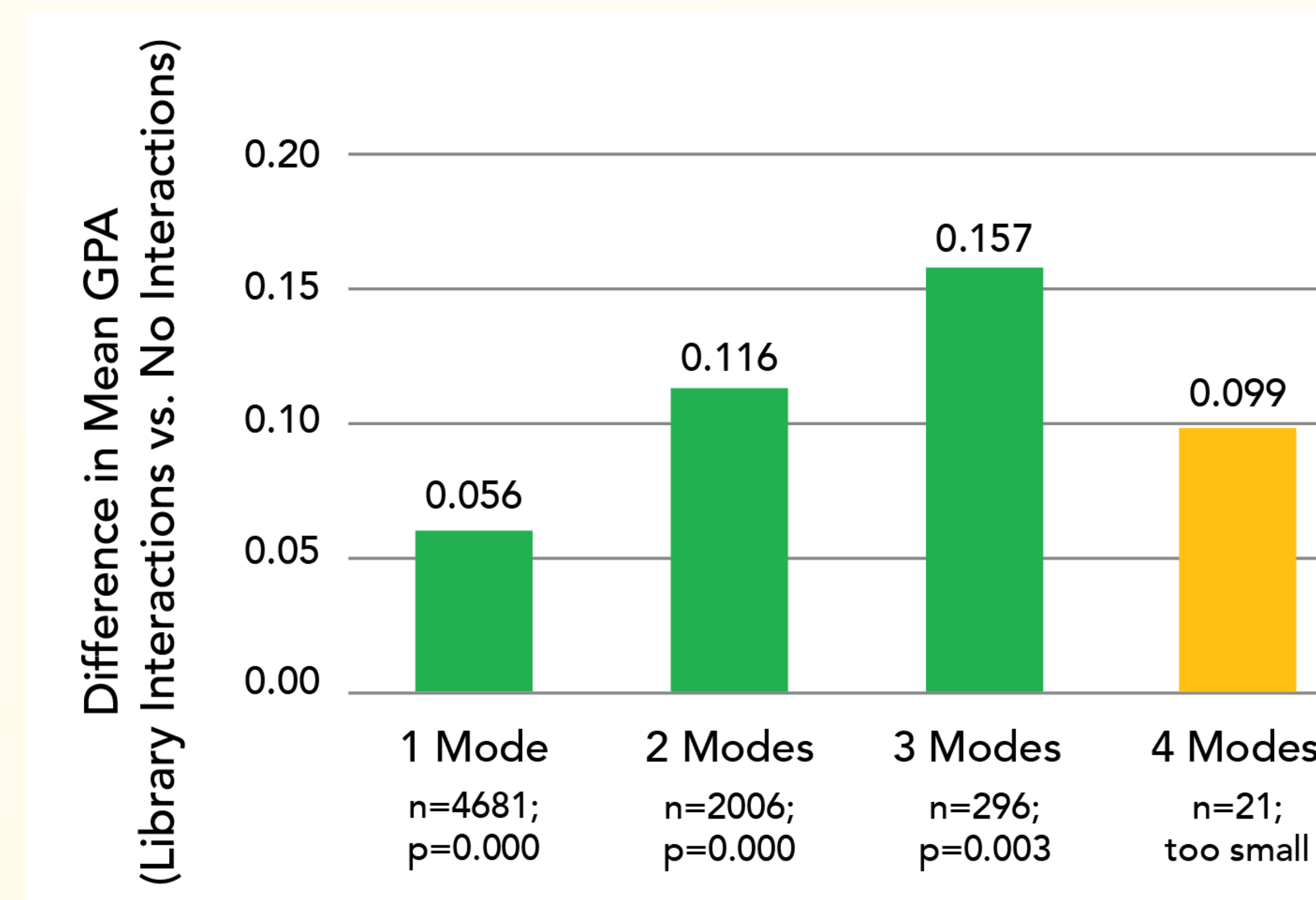
METHODS

▪ Propensity score matching.
▪ For each student in test group the best match is found in the control group such that the only difference remaining for comparison is whether there was known** library interaction.
▪ Variables controlled: incoming SAT, GPA, units, and enrolled units, gender, housing, STEM, local/non-local.
▪ Cannot control all unknowns; i.e. self selection to visit, if student attended class on day of instruction.
▪ Population was first time freshmen entering SDSU from fall 2014 through fall 2016.
▪ Interactions occurred within the first year of enrollment.
▪ Cumulative year one campus GPA was studied.

Descriptive Statistics of the Variables Used for Matching

Variable	n =
Male (Female)	5698 (7201)
Local (Non-Local)	4286 (8613)
Housing: On Campus (Off)	9368 (3531)
STEM (Not STEM)	3777 (9122)
	Mean
Term 1 Units Enrolled	15.01
Incoming GPA	3.697
Incoming Units	10.44
SAT Score	1144
Outcome: Year 1 Cumulative Campus GPA	2.95

FINDINGS

Graph 1: Number of Modes of Library Interaction (With MLC)

Y-axis: Difference in Mean GPA (Library Interactions vs. No Interactions)

1 Mode	2 Modes	3 Modes	4 Modes
0.056	0.116	0.157	0.099
n=4681; p=0.000	n=2006; p=0.000	n=296; p=0.003	n=21; too small

1 mode = tour or instruction or circulation checkout or MLC visit
2 modes = circulation checkout and tour, etc.

Mean year one GPA is slightly higher for students with 1 mode of library interaction than for students with no interaction; increase grows slightly with 2 and 3 modes of library interaction.
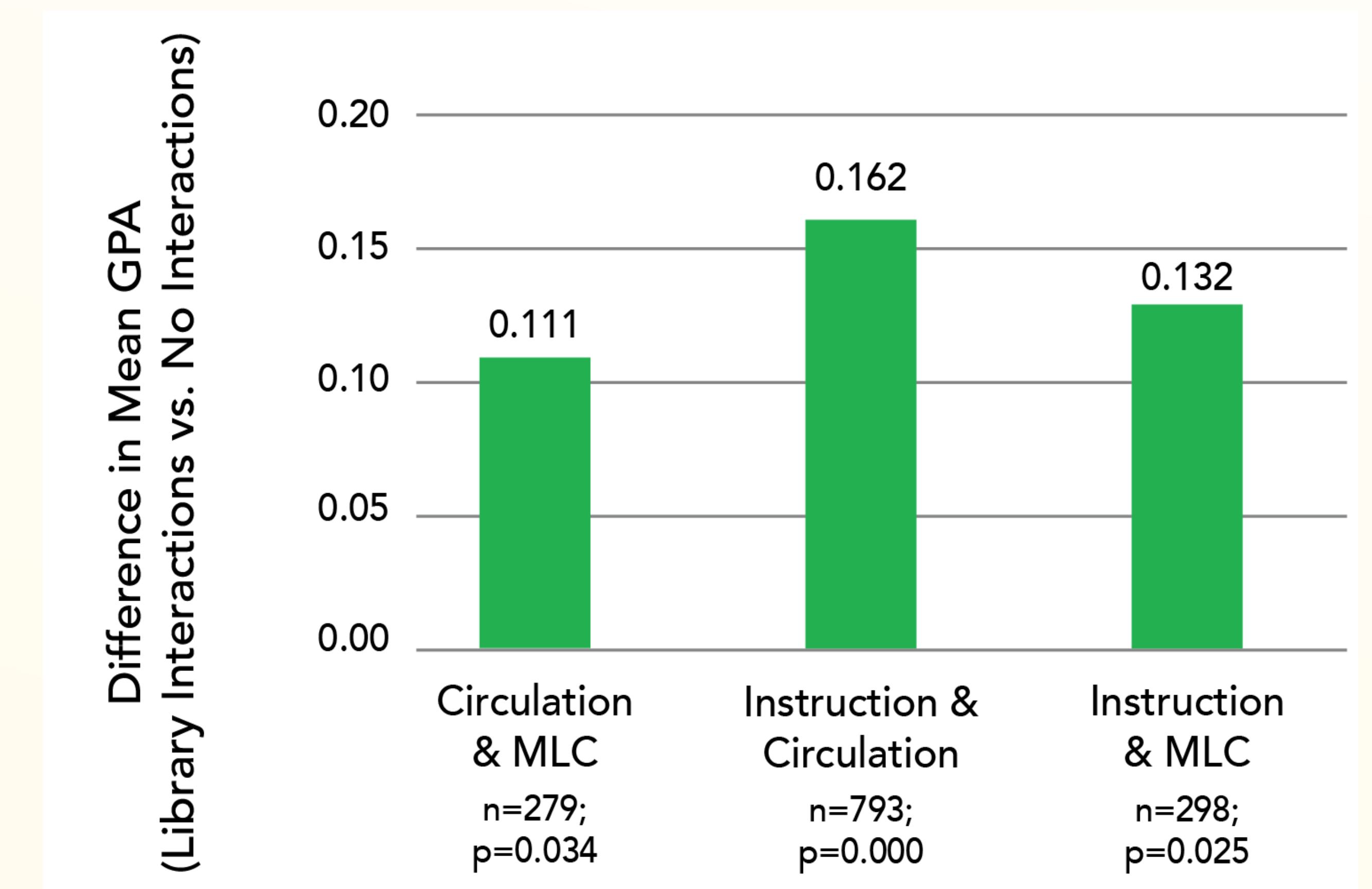
Graph 2: By Mode – One Library Interaction

Y-axis: Difference in Mean GPA (Library Interactions vs. No Interactions)

Tour Only	Instruction Only	Circulation Only	MLC Only
0.005	- 0.05	0.177	0.140
n=518; p=0.894 More data needed	n=2967; p=0.010 Decreases	n=1273; p=0.000	n=503; p=0.001
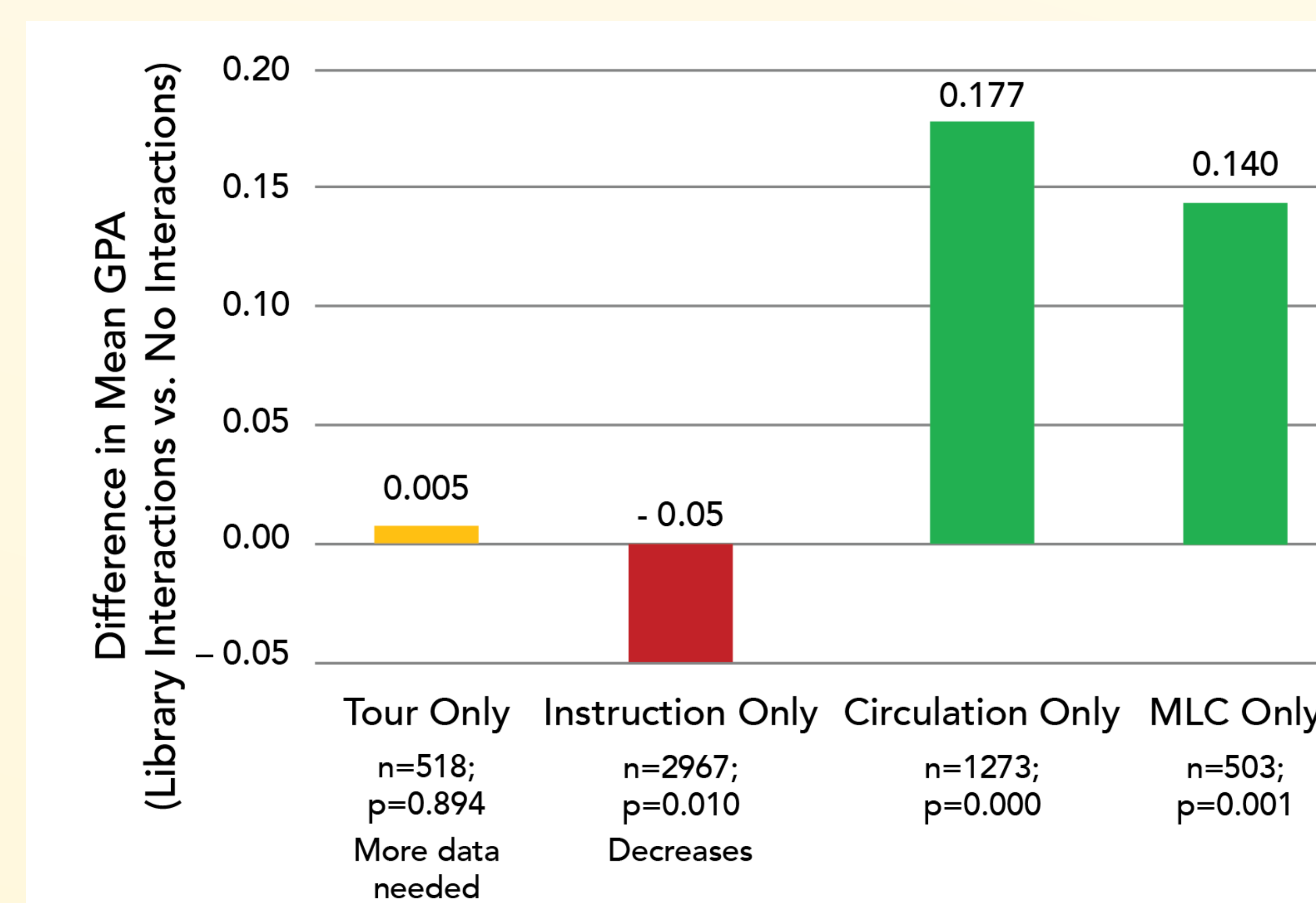
Mean year one GPA is .177 higher for students who checked out at least one item and .140 higher for students who visit the MLC.

[Note: Tour and instruction modes do not show a statistically significant positive impact alone, yet the larger study shows that more modes of interaction with the library positively impacts student success. Study limitations, like sample size and data availability, were noted.]

Graph 3: By Mode – Two Library Interactions

Y-axis: Difference in Mean GPA (Library Interactions vs. No Interactions)

| Circulation & MLC	Instruction & Circulation	Instruction & MLC
0.111	0.162	0.132
n=279; p=0.034	n=793; p=0.000	n=298; p=0.025

Positive correlation was found between the above library interactions and the mean year one GPA.

CONCLUSIONS & FUTURE DIRECTIONS

▪ Create a data preservation plan (begun)
▪ Appoint an assessment team (begun)
▪ Student level data (versus largely aggregate)
▪ Address cultural concern of collecting patron data
▪ Promote the benefit of engaging with the library to students
▪ Explore lack of library interaction as a need for intervention
▪ Study library impact on retention, student employment and by demographic
▪ Instruction results are not a determination of the quality of instruction and further analysis needs to be done
▪ The library welcomes students of all majors so provides a unique opportunity to impact student success
▪ Develop ongoing relationship with ASIR

REFERENCES

Oliveira, Silas M. 2017 "The Academic library's role in student retention: a review of the literature." *Library Review* V. 66, N 4-5, pp. 310-329.
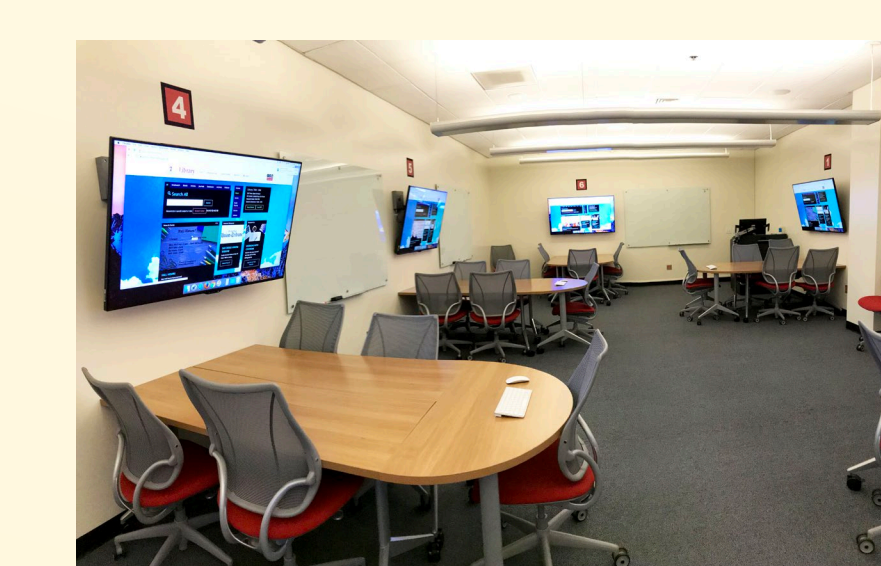
* Although the library doesn't operate the Math Learning Center (MLC) it was included in the study. Literature shows centers residing in the library increase library usage (Oliveira, 2017). Data was run with and without MLC.
    Results for Graph 1 above excluding MLC: 1 mode =.040, 2 modes = .115, 3 modes = .214 (n=82, p=.019; larger sample needed).
** Due to lack of data it was not possible to locate a control group that we know has never interacted with the library. The control group is students with no known use of the library according to data available.