

A photograph of four students in a classroom or study area. In the foreground, a young man with dark hair is looking at a laptop screen. To his left, another young man is looking at a smartphone. Behind them, a young woman with long brown hair is looking down. In the background, another young woman with blonde hair is holding a tablet. They are all sitting on a green couch.

McGraw-Hill Education
2016 Digital Study Trends Survey
Prepared by Hanover Research
October, 2016

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SECTION I:

INTRODUCTION & METHODOLOGY

Introduction and Methodology

- Hanover Research designed and administered a survey on behalf of McGraw-Hill Education with the goal of assessing college students' digital study habits and experiences. This survey examines students' college experiences as well as their preferences and opinions regarding use of mobile electronic devices and digital learning technology (DLT) to study.
- This analysis includes data from 2,780 McGraw-Hill Education customers and 531 online panel respondents reached in August of 2016. To qualify for the survey, all respondents had to be current students at the graduate, bachelors, or associates level.
- Analyses compare responses from similar studies administered in 2014 and 2015 when possible. Please note that due to changes in survey design, only significant differences in questions with identical/very similar phrasing are reported. Responses of “not sure” are excluded from all analyses to ensure consistent and meaningful comparison.

SECTION II:
EXECUTIVE SUMMARY
& KEY FINDINGS

Executive Summary

College students enjoy and regularly use digital learning technology. Overall, college students agree that digital learning technology is helpful across a wide variety of activities, including doing homework, preparing for exams, and doing research. Students most often study on laptops, and consider them to be the most important resource available to them for studying. While students seem to understand the value of digital learning technology, 84% agree that there are still areas where they can use these technologies to further enhance their education.

Mobile devices continue to be important study tools for students. Twenty-two percent of respondents find the ability to study on mobile devices “extremely important,” and mobility continues to be respondent’s favorite aspect of digital learning technology. There is room for improvement in mobile device compatibility, as 45% of respondents indicate that digital learning technology integration with personal devices is a problem they experience.

Increased focus on adaptive features and cost may drive voluntary digital learning technology adoption. While a majority of respondents prefer to enroll in classes using digital learning technology, only 39% would purchase non-required digital learning technology for a class. Ultimately, the understood grade-improving and time-saving benefits of digital study technology may not convince cost-conscious students to voluntarily adopt a product. Improving adaptive features (considered important to many respondents) and costs (the factor most likely to encourage increased use) may help increase digital learning technology adoption rates.

Key Findings – College Experiences and Technology

- **College students are highly satisfied with their college experience.** In 2016, 87% of respondents report being completely or somewhat satisfied with their experience, an increase compared to 2014 and 2015. Although most respondents report earning straight-A's or mostly A's & B's (82%), 43% indicate that college is harder than expected. Their biggest challenges include the cost of tuition/loans (63%) and balancing school and a job (57%).
- **Technology plays an important role in students' study behavior.** Over two thirds of respondents (70%) find it at least moderately important to study on mobile electronic devices, and they report that technology is most helpful with doing homework (81%) or preparing for exams/ tests (79%). Respondents most strongly agree that technology increases their engagement with course materials (71%), professors (58%), and the college community (51%).

Key Findings – Digital Learning Technology

- **A majority of respondents believe that digital learning technology (DLT) is beneficial.** Most students agree that DLT improves their grades (81%), allows them to spend more time studying through increased accessibility (82%), and improves efficiency (81%). Although most feel that they are using the right amount of DLT (70%), a majority also indicate that they could use DLT in more ways to improve their education (84%). A large majority of students feel that their school (87%) and instructors (80%) are effectively integrating DLT into their courses, and the feature students like most about DLT is mobility (65%).
- **Cost is the biggest student concern surrounding DLT.** Most respondents indicate that the price of DLT is at least somewhat of a problem. Less than half of the college students surveyed (39%) report that they would purchase DLT if it was recommended.
- **Respondents value adaptive DLT as an academic tool.** Nearly all students surveyed agree or strongly agree that DLT should be adaptive to their learning style (89%). About half indicate that this personalization is very or extremely important (49%). Two thirds report that online quizzes and adaptive learning technology are very or extremely helpful in retention (66%).

Key Findings – Performance Tracking

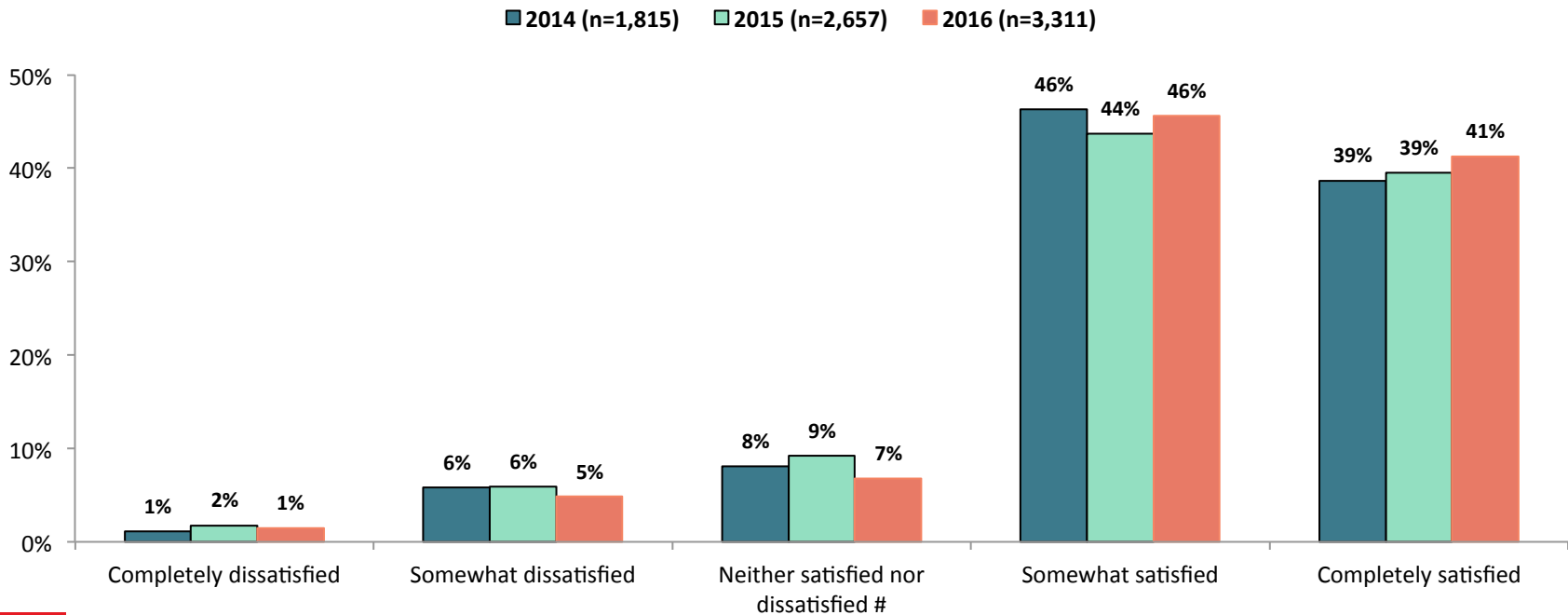
- Students see academic performance tracking technology as beneficial, but many are not using it. Most respondents indicate that access to performance statistics and analytics for a course would have a very or extremely positive impact on their learning experience (62%). However, less than half report currently using academic performance tracking technology (47%).

SECTION III:
COLLEGE EXPERIENCES
& STUDY HABITS

Overall College Experience

- College students are highly satisfied with their overall college experience. In 2014, 85% of students indicated they were completely or somewhat satisfied, compared to 83% in 2015. In 2016, 87% of students indicate this level of satisfaction, significantly higher than 2015.

Ratings of Overall College Experience



Please rate your overall college experience.

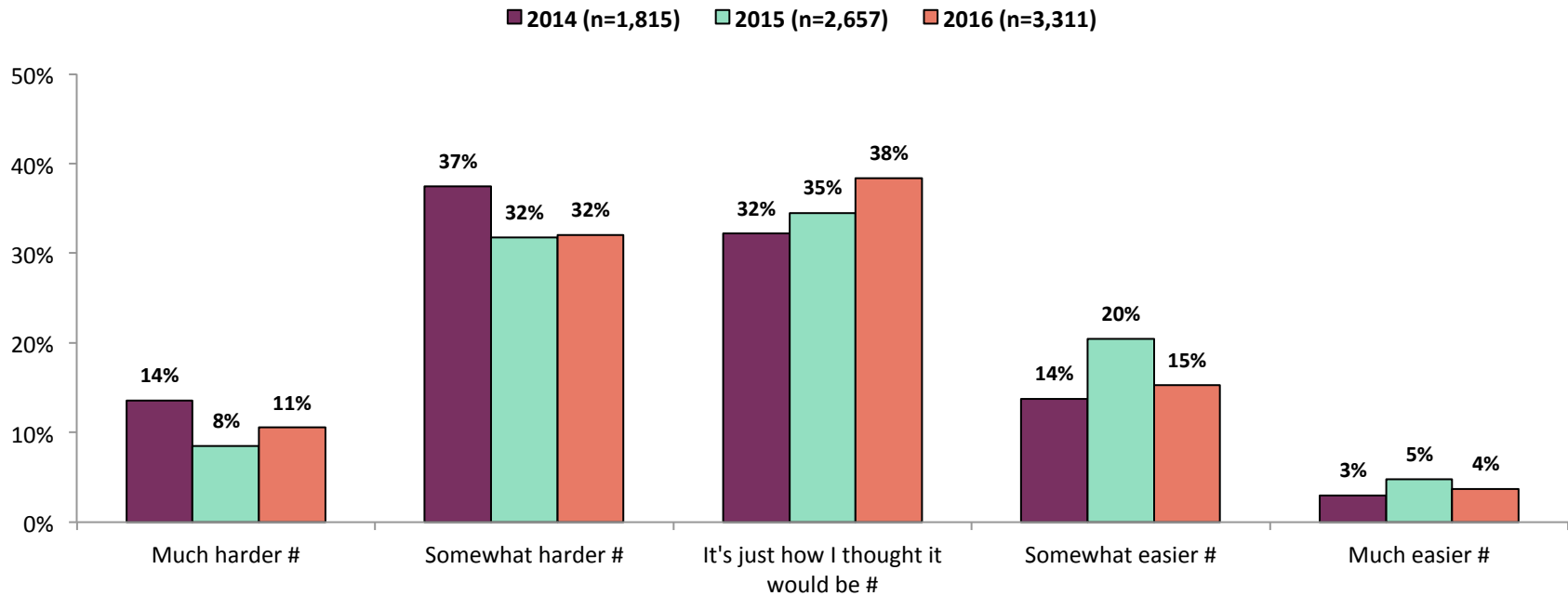
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Perceptions of College Difficulty

- The proportion of students who report that college is somewhat or much harder than they anticipated decreased from half (51%) in 2014, to 40% in 2015, and has remained consistent (43%) in 2016. In 2016, more than a third of all college students surveyed (38%) find the level of difficulty to be what they expected.

Perceptions of College Difficulty



Is college easier or harder than you thought it would be?

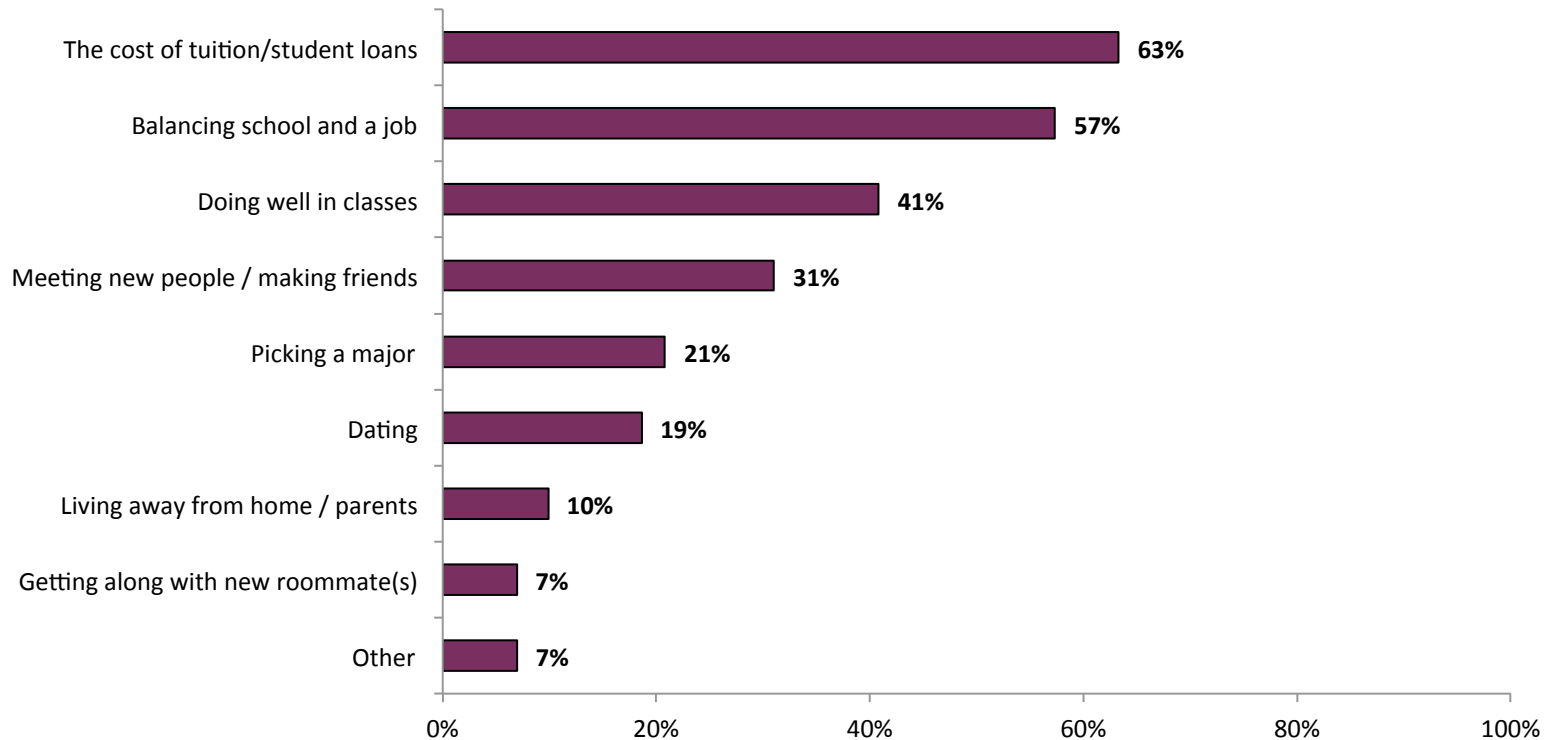
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Students' Challenges at College

- Over half of students mention tuition costs/loans and balancing work with academics as challenges they face at college.

Students' Most Common Challenges Faced at College

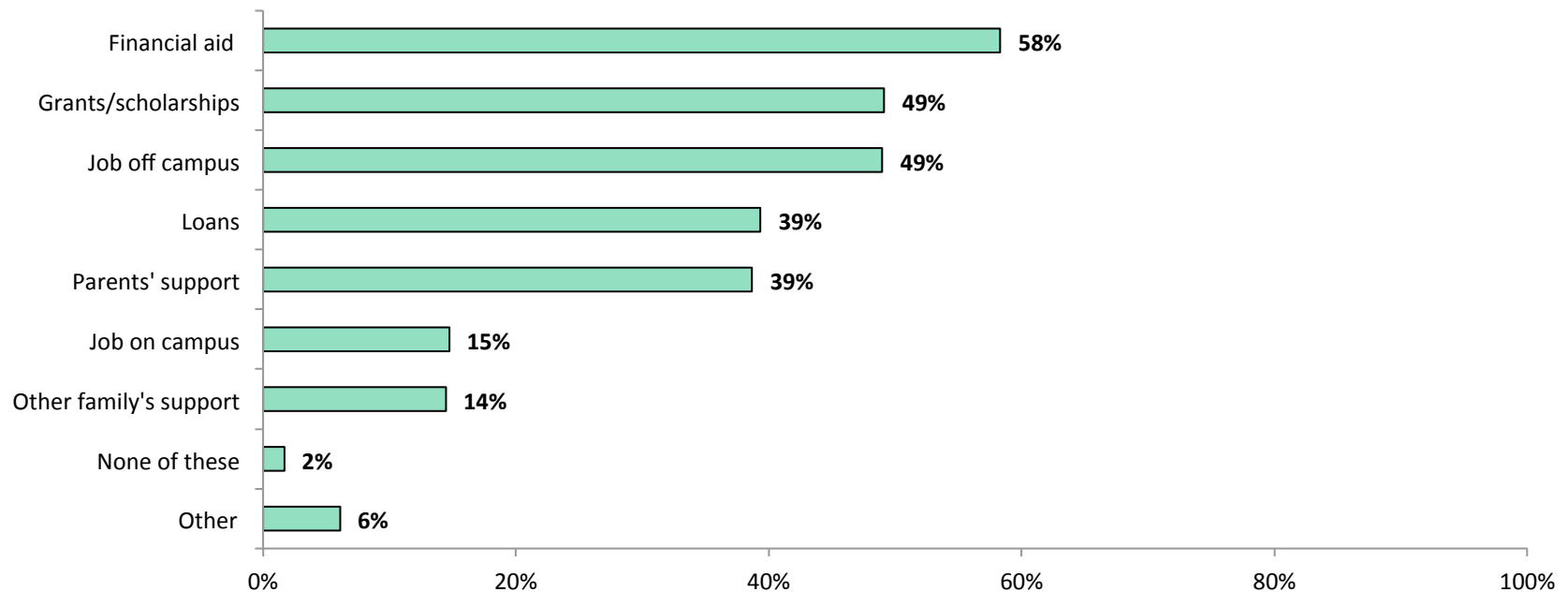


As a college student, which of the following do you find to be particularly challenging?

Student Finances

- A majority of students (58%) report financial aid as a source of money while they are in school. About half also indicate receiving money through grants/scholarships and/or off-campus jobs (49%).

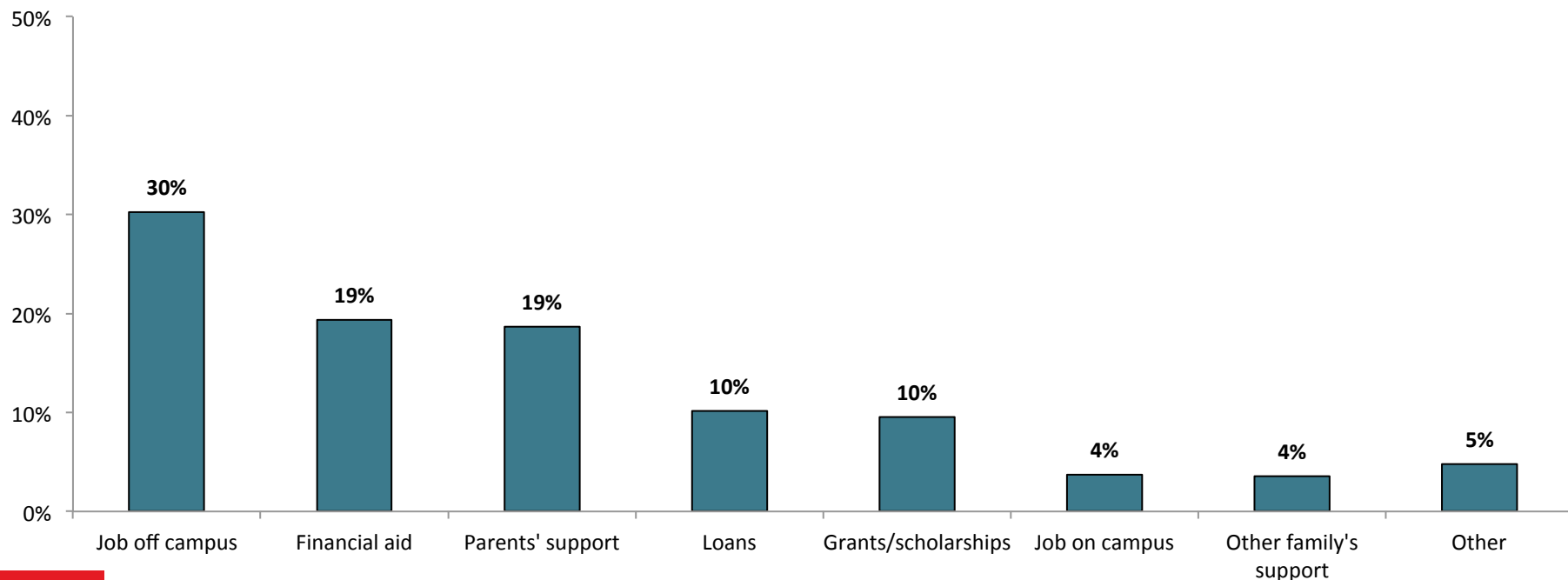
Student Sources of Money/Income



Student Finances

- Students with more than one source of income are most likely to identify off-campus jobs as their primary income source (30%). Financial aid (19%) and parental support (19%) are also relatively common primary sources.

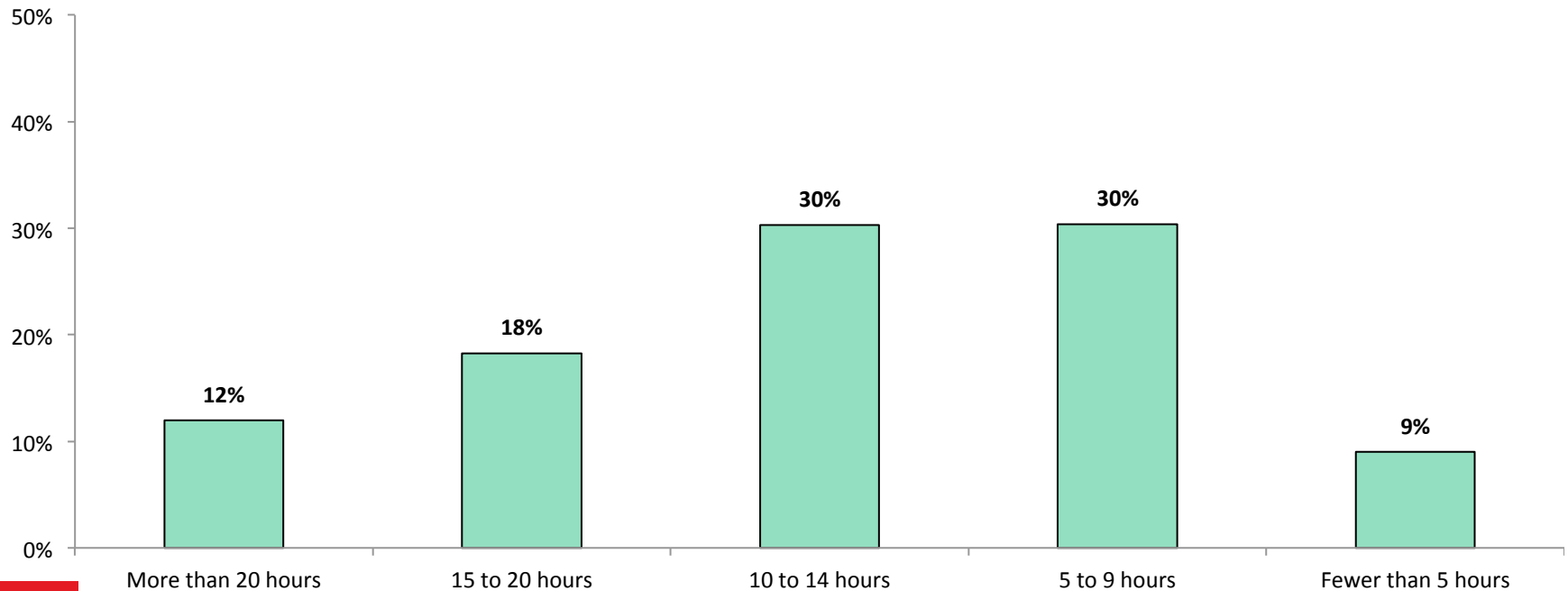
Students' Primary Money/Income Sources



Students' Study Habits

- Nearly one-third of students report studying 15 or more hours per week (30%). In 2016, a majority of students (60%) study between 5-14 hours per week.

Average Weekly Hours Students Spend Studying

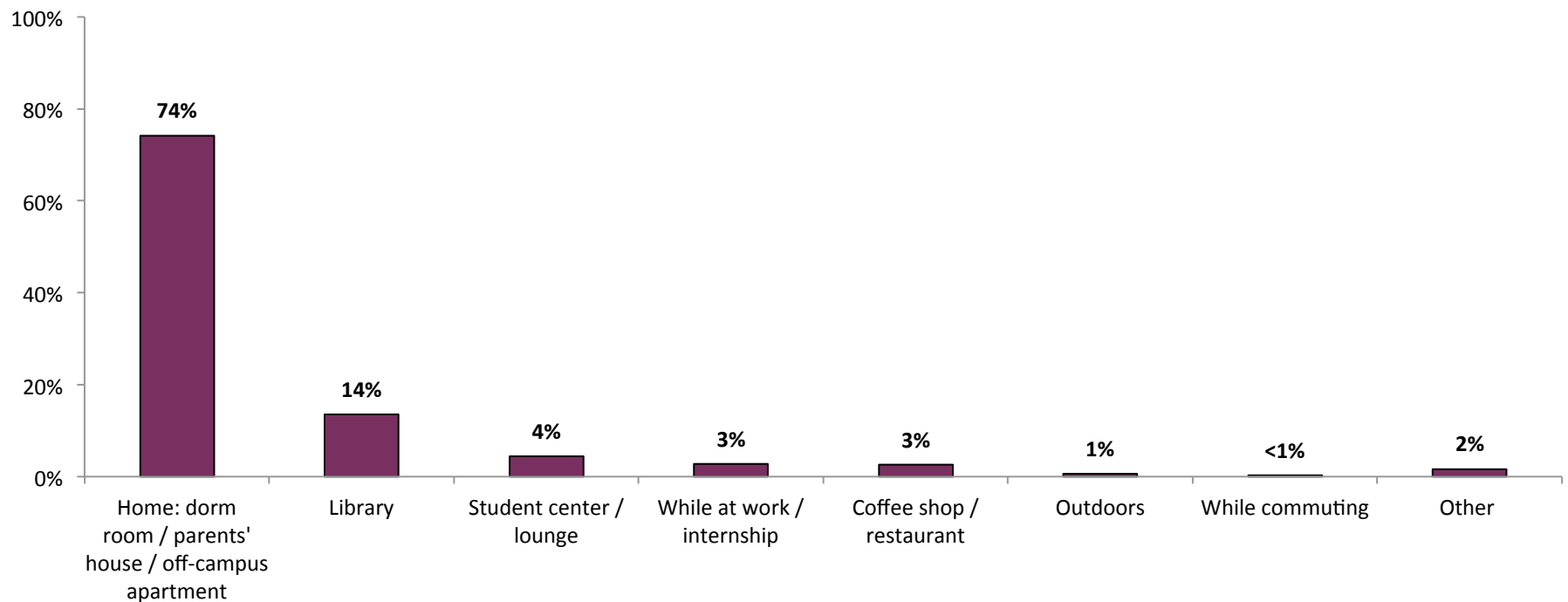


About how many hours per week do you study, on average?

Where Students Study

- Students study most often at home, followed by at the library. Relatively few report studying in other locations.

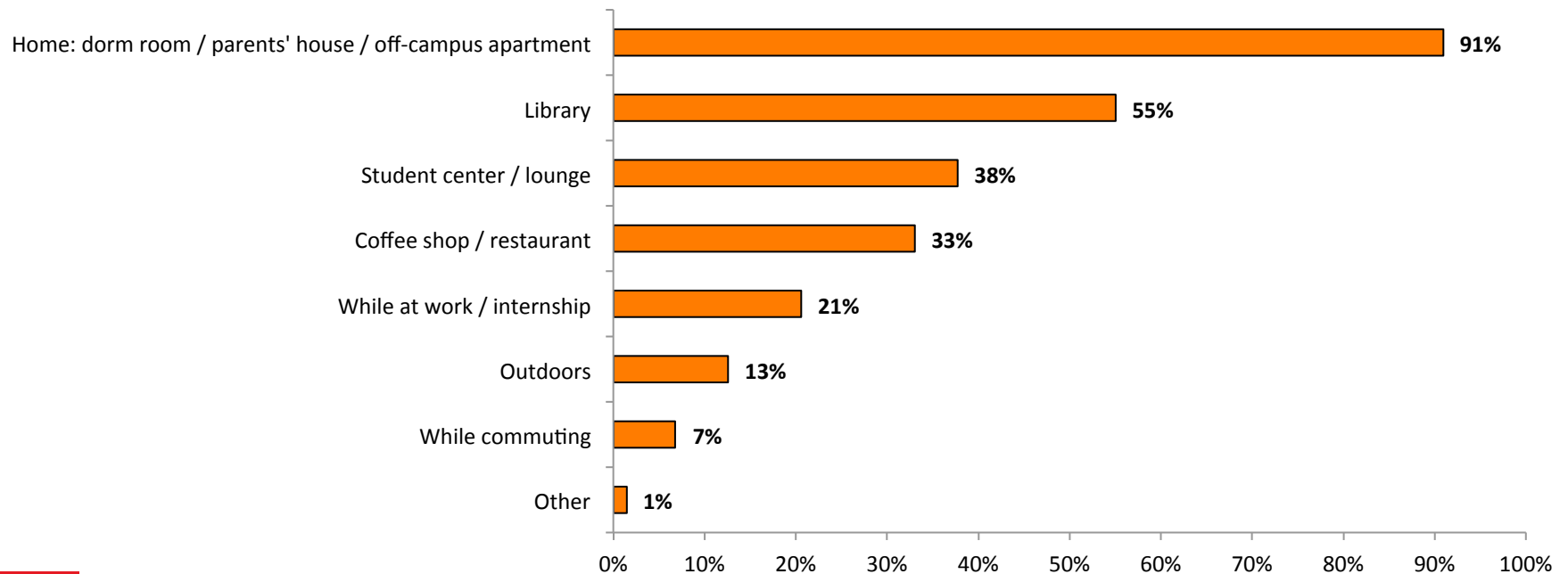
Students' Top Study Locations



Locations for Technology-Contingent Studying

- Nearly all students (91%) report that their study experience at home is contingent on access to Wi-Fi, personal devices, and digital learning platforms, and over half indicate similar contingencies at the library.

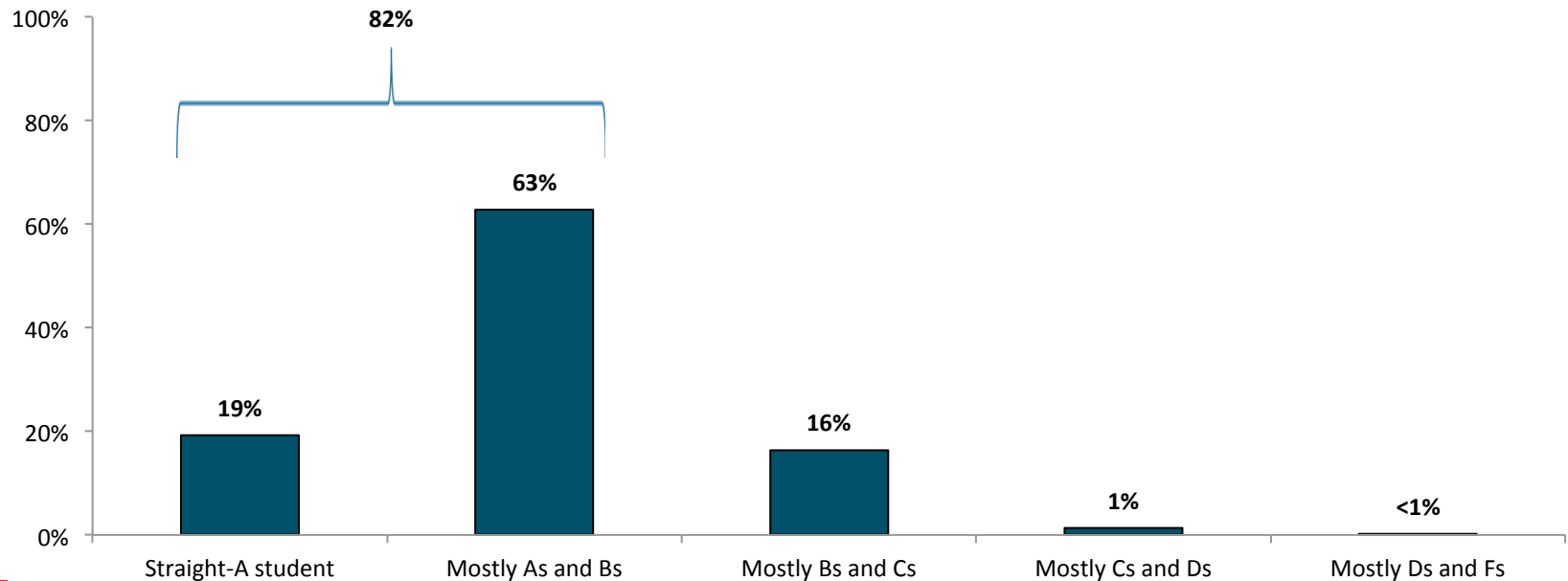
Locations where Studying is Contingent on Technology



Student Records

- More than three-quarters of students (82%) report receiving straight As or mostly A's and B's in 2016.

Students' Grades



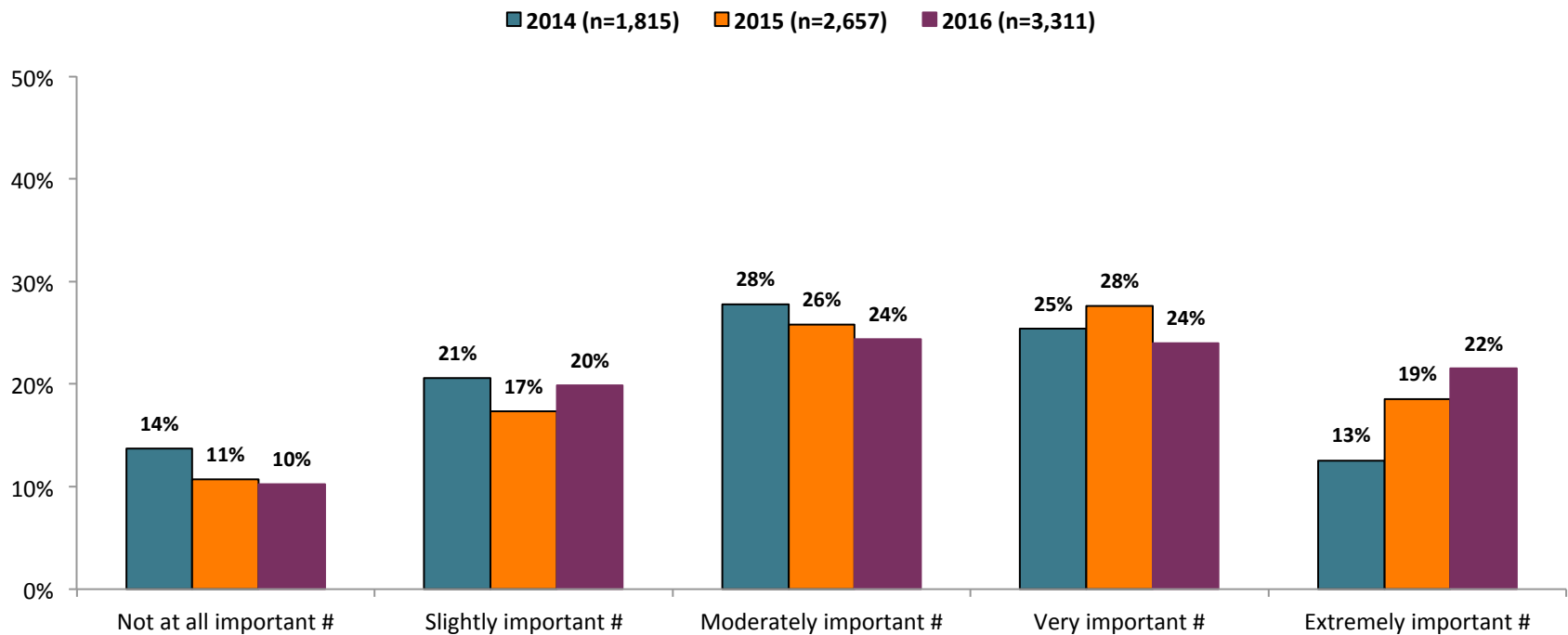
How would you classify your student record?

SECTION IV:
OPINIONS ABOUT
DIGITAL LEARNING TECHNOLOGY

Importance of Mobile Electronic Devices for Studying

- Compared to both 2014 (13%) and 2015 (19%), students in 2016 are significantly more likely to consider it extremely important to be able to study on a mobile electronic device (22%). Just under half (46%) of students surveyed in 2016 indicate that it is very or extremely important to have this capability.

Importance of Using Mobile Electronic Devices to Study



How important is it to you to be able to study on a mobile electronic device?

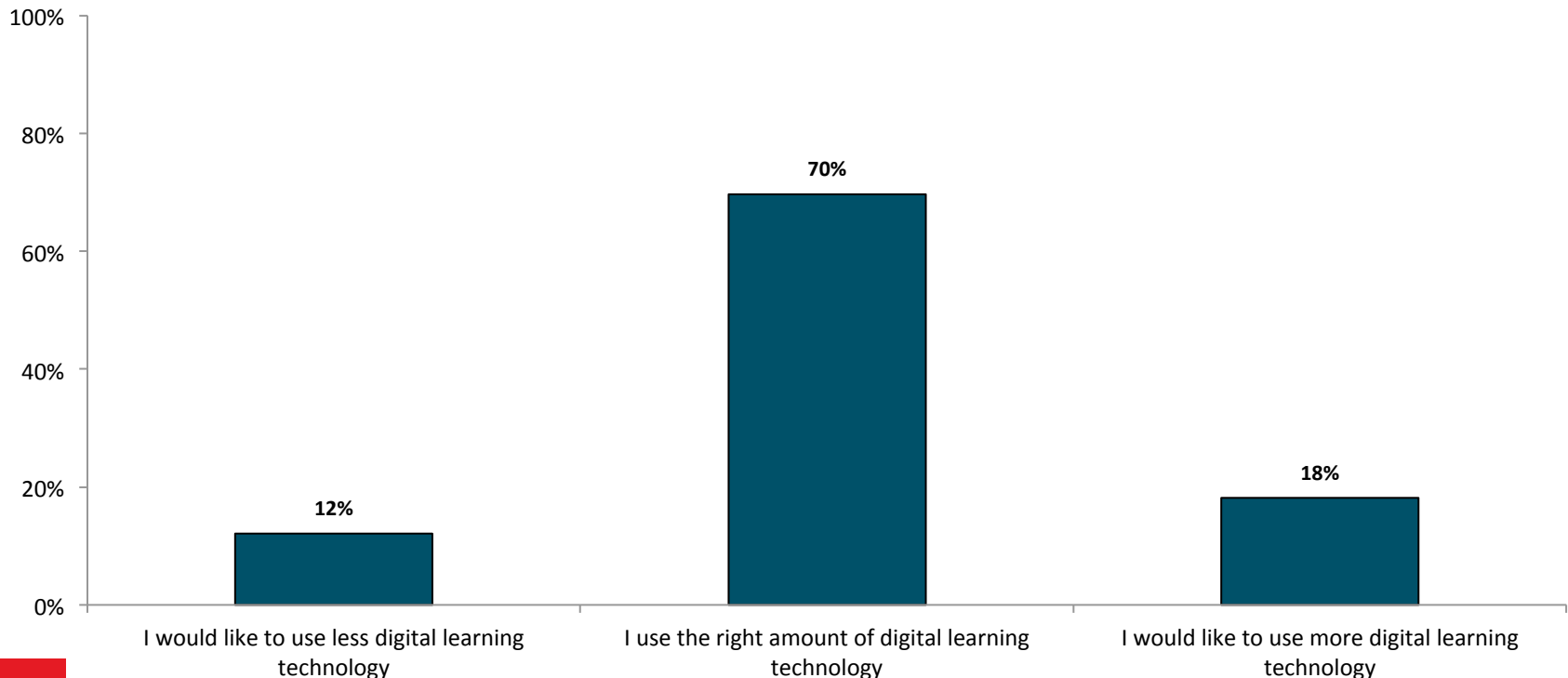
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Students' Views on the Amount of Digital Learning Technology Used

- Most respondents feel that they use the right amount of Digital Learning Technology (DLT) in their schoolwork.

Students' Opinions about their Use of Digital Learning Technology

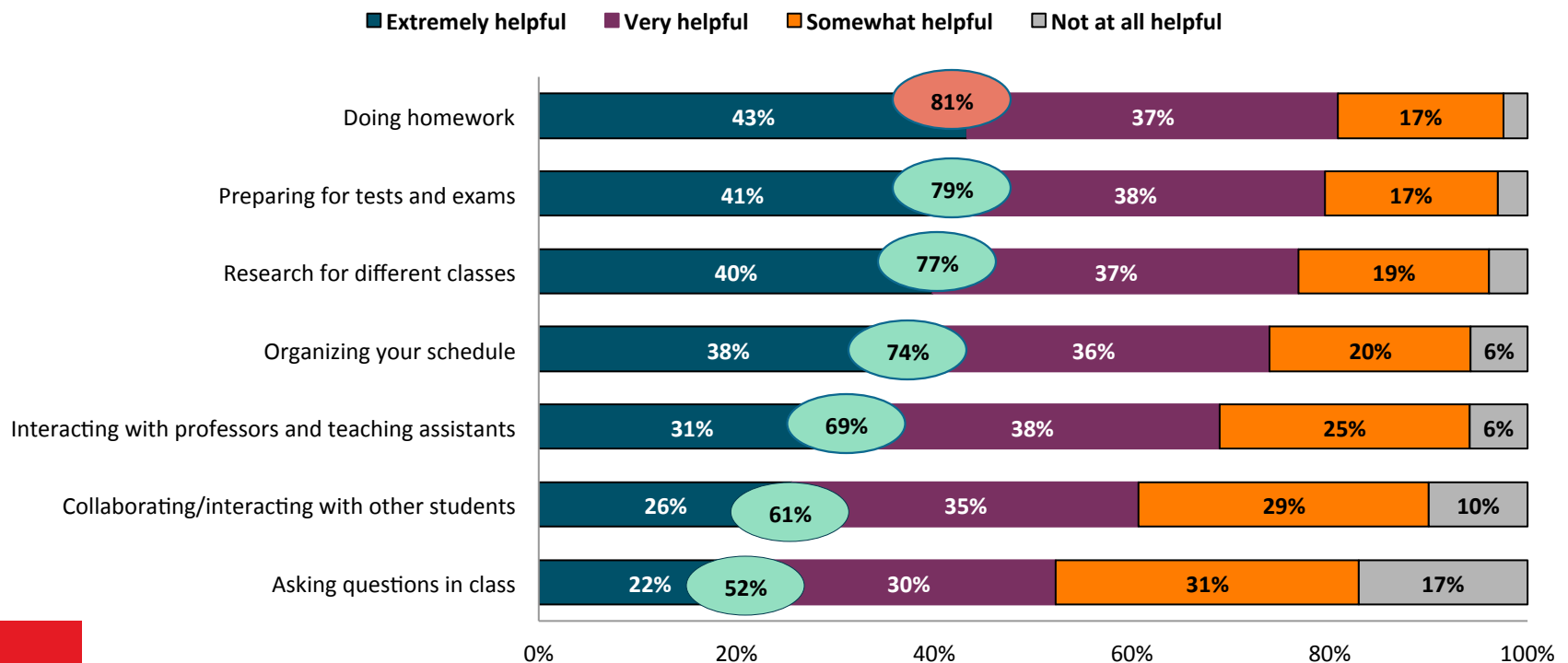


How do you feel about the amount of digital learning technology you currently use in your schoolwork?

Technology Helpfulness for Aspects of Academic Life

- College students find technology most helpful when doing homework (81%) and preparing for exams (79%). They are least likely to find technology useful for asking questions in class (52%).

Students' Views on the Helpfulness of Study Technologies

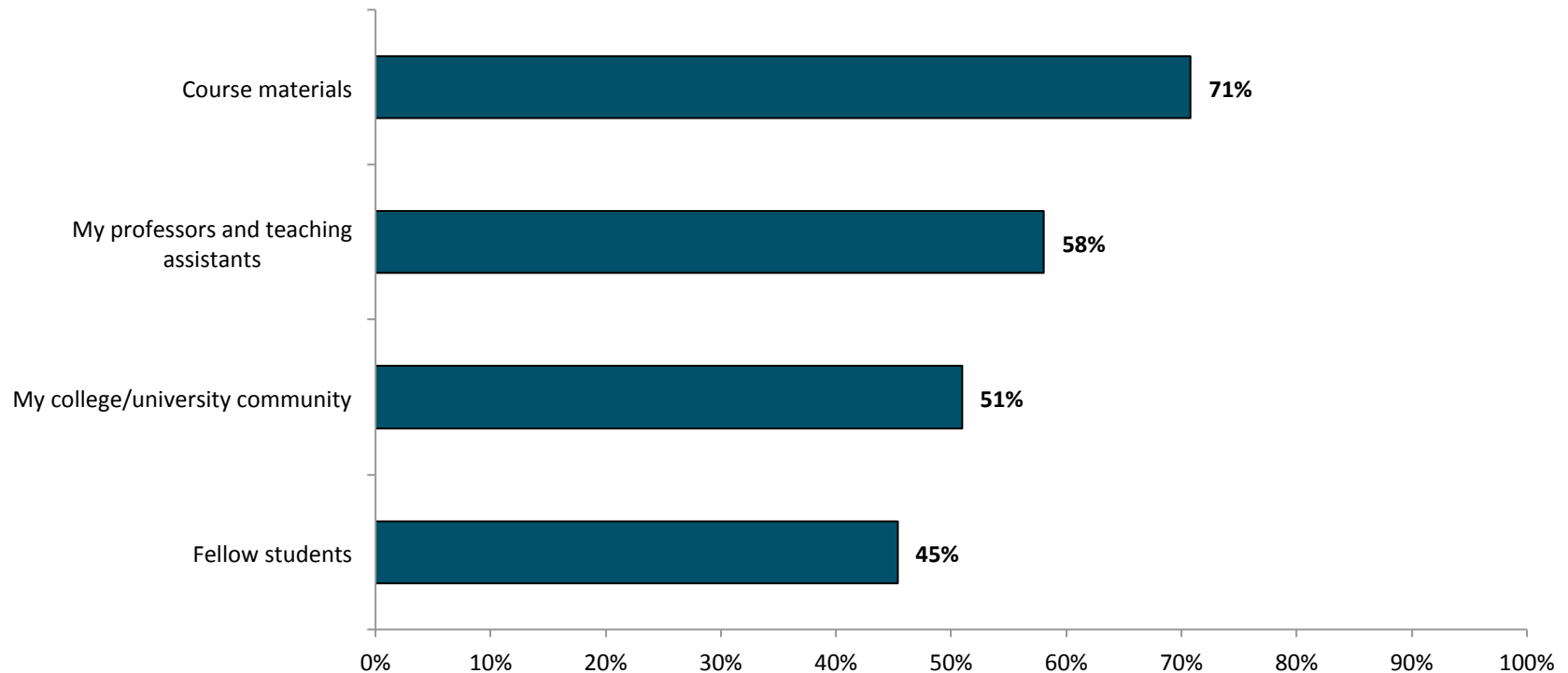


Overall, how helpful do you feel technology in general (including both digital learning technology and technological devices like smartphones and laptops) is in each of the following aspects of your academic life?

Impact of Technology on Engagement

- Students in 2016 report feeling the most engagement with course materials (71%), their professors and teaching assistants (58%), and their school community (51%).

Impact of Technology on Student Engagement



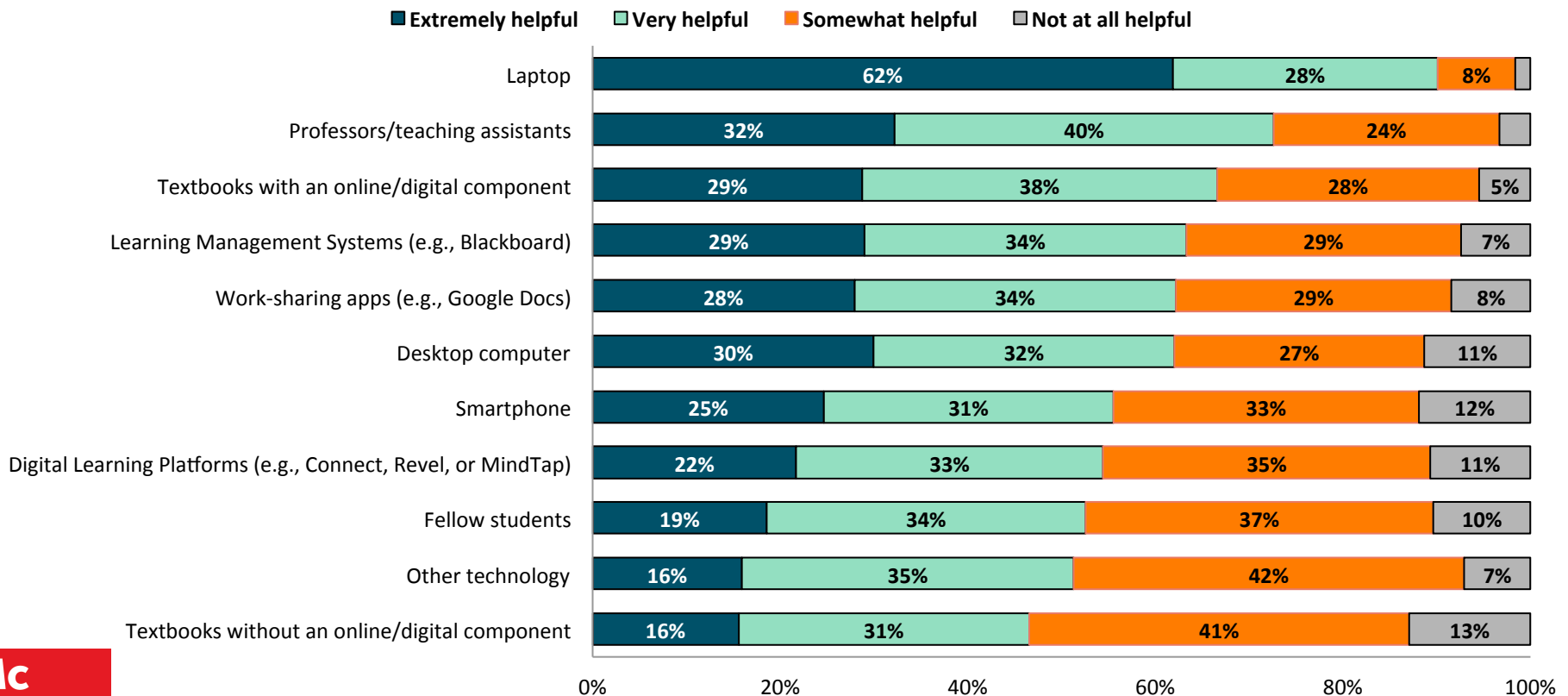
In general, how has technology (including both digital learning technology and technological devices like smartphones and laptops) impacted your engagement with the following?

Showing responses of Greatly Increases + Somewhat Increases.

Helpfulness of Academic Resources/Technologies

- Overall, college students identify laptops as most helpful to their studies, followed by professors and textbooks with online/digital features.

Students' Views on the Helpfulness of Various Academic Resources and Technologies

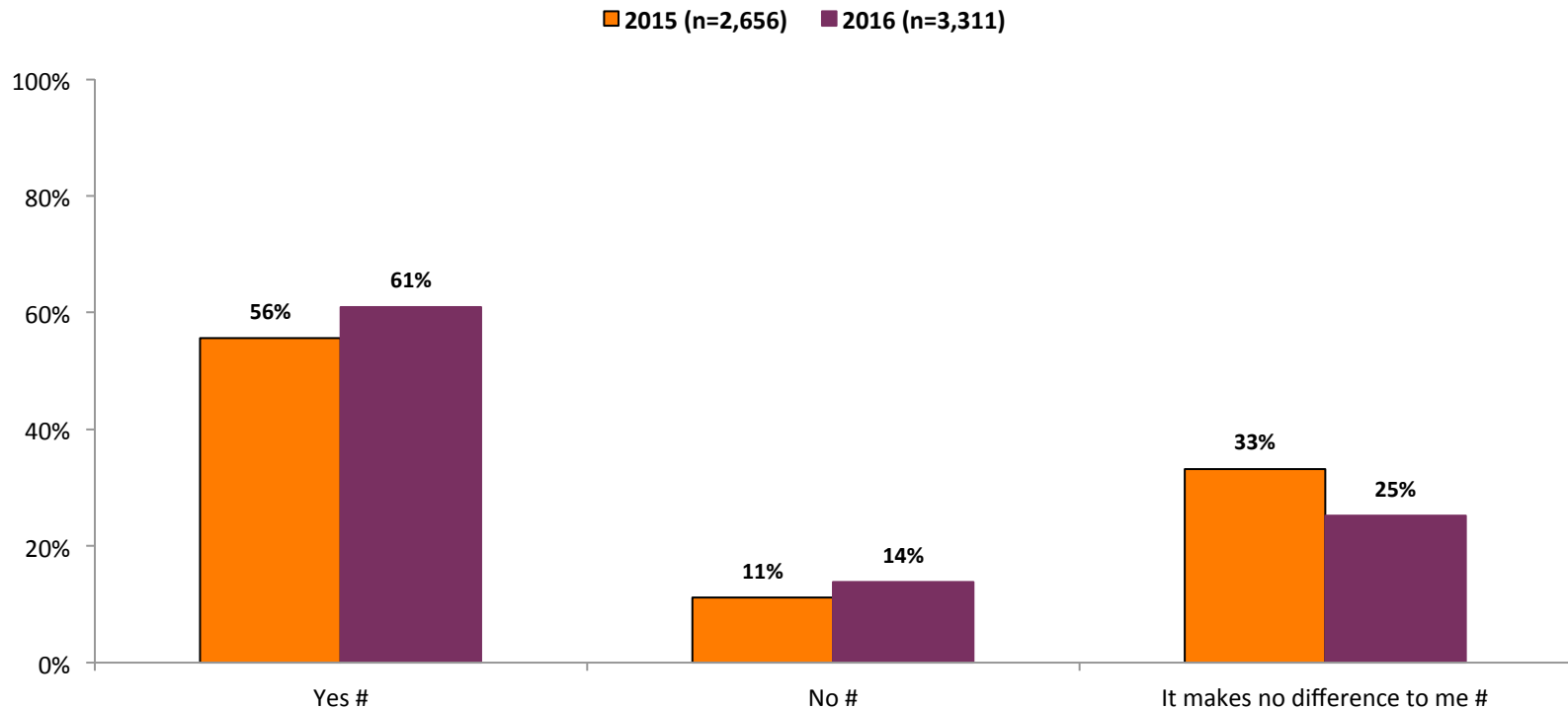


Please rate the following on how helpful each entity in general is to you and your academic studies.

Preference for Classes with Digital Learning Technology

- Compared to 2015, students in 2016 are significantly more likely to prefer classes using DLT (56% vs. 61%). The majority of college students surveyed (61%) prefer to enroll in classes that use DLT, although a quarter (25%) indicate no preference.

Student Preferences for Classes Using Digital Learning Technology



2015: Do you prefer to be enrolled in classes that utilize study technology?

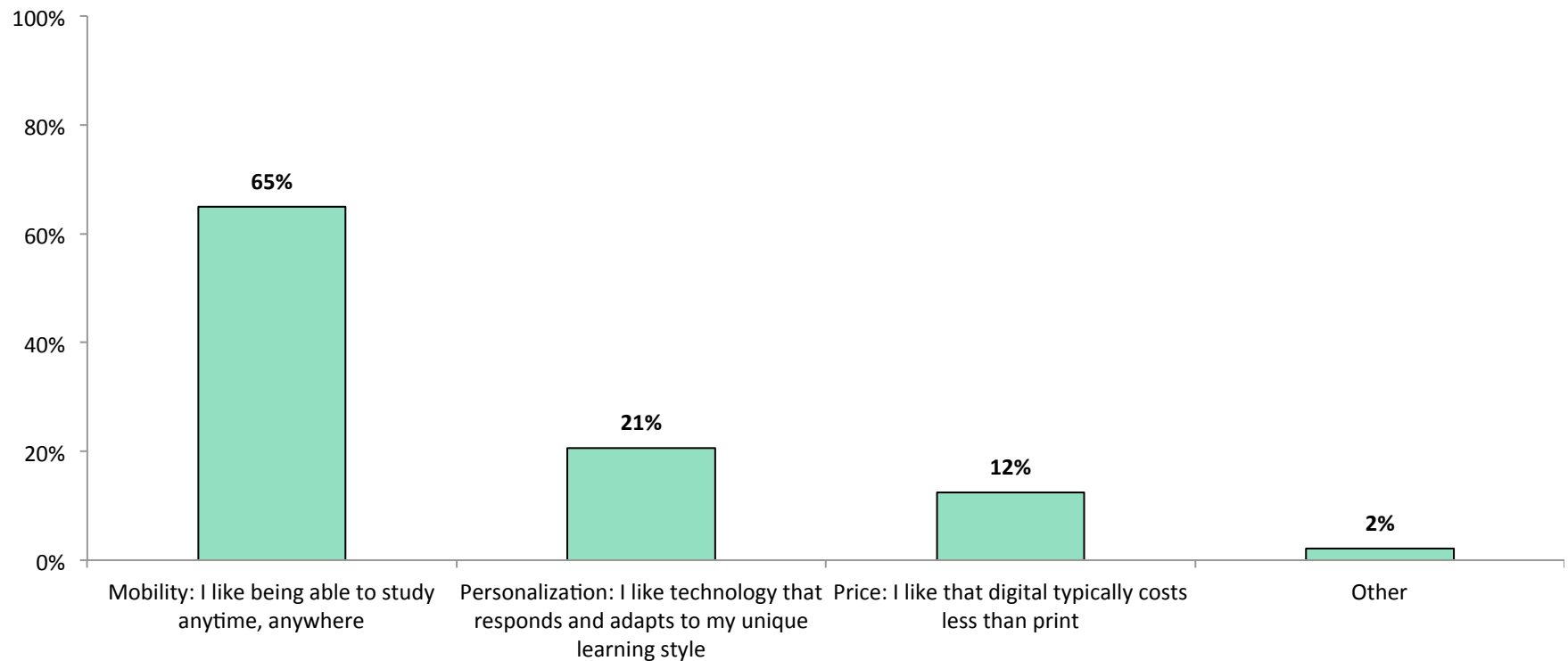
2016: Do you prefer to be enrolled in classes that utilize digital learning technology?

Denotes statistically significant differences between groups. Question not asked in 2014.

Best-Liked Digital Learning Technology Features

- Being able to study on the go is the top DLT feature for about two-thirds (65%) of students, while many (21%) enjoy its personalization.

Students' Best-Liked Digital Learning Technology Features

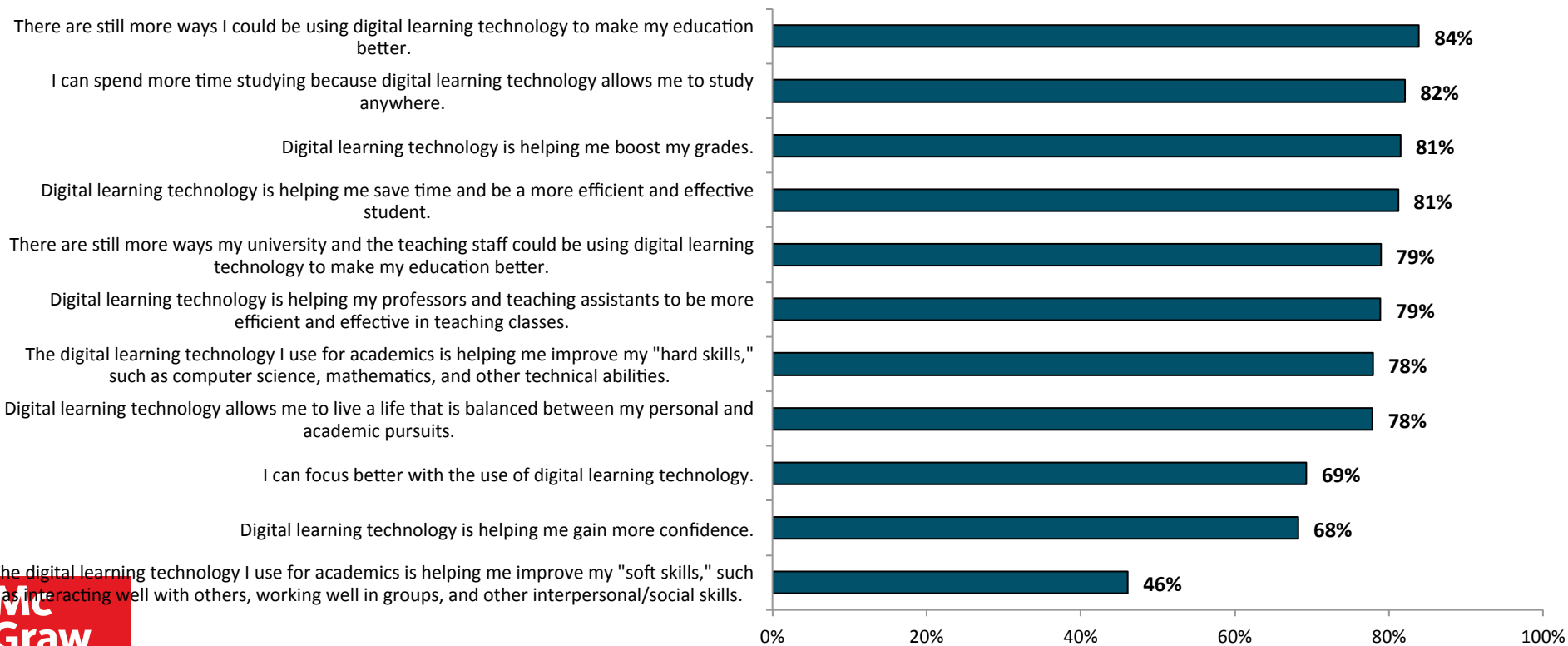


What do you like best about using digital learning technology?

Digital Learning Technology as an Academic Tool

- Most college students agree that they could use DLT in more ways to improve their education (84%). They also agree that DLT allows them to spend more time studying (82%), and helps boost their grades (81%) while saving time (81%). Less than half agree that DLT improves their “soft skills” (46%).

Students’ Opinions of Digital Learning Technology as an Academic Tool

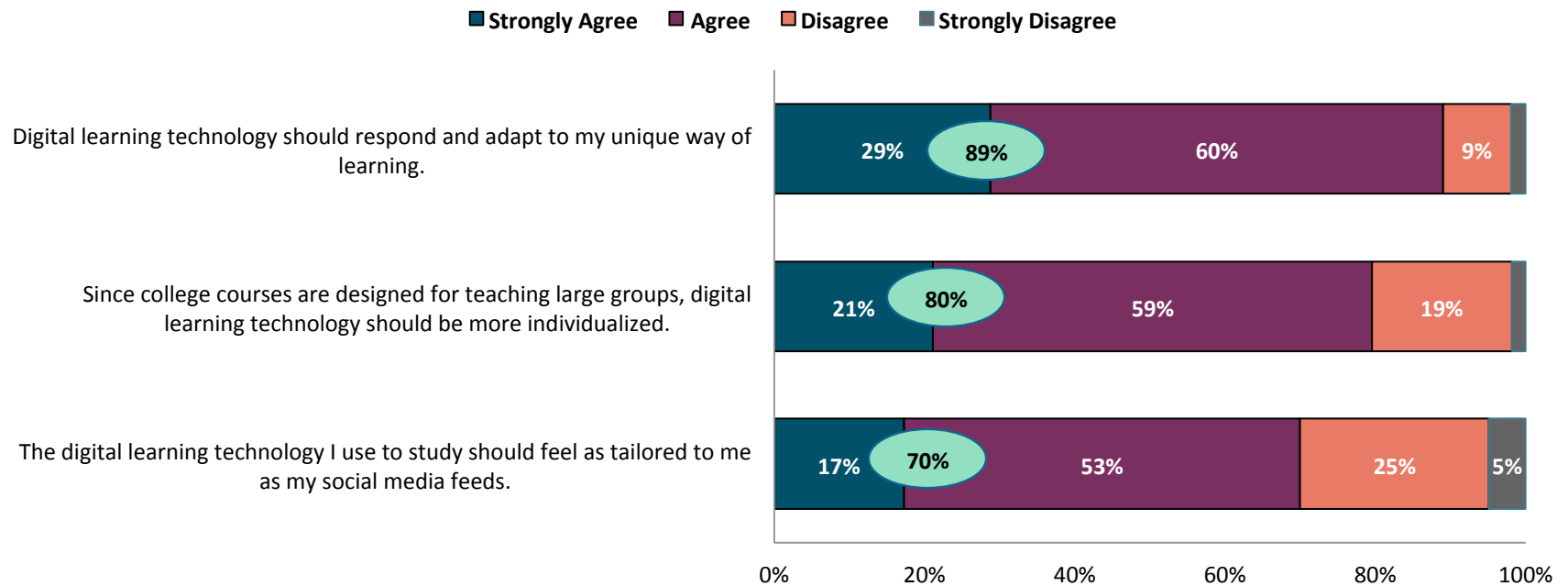


Do you agree or disagree with each of the following statements?
Showing responses of Strongly Agree + Agree

Opinions on Adaptive Digital Learning Technology

- Most college students agree or strongly agree that DLT should adapt to their unique learning style, be individualized, and feel as tailored as social media feeds.

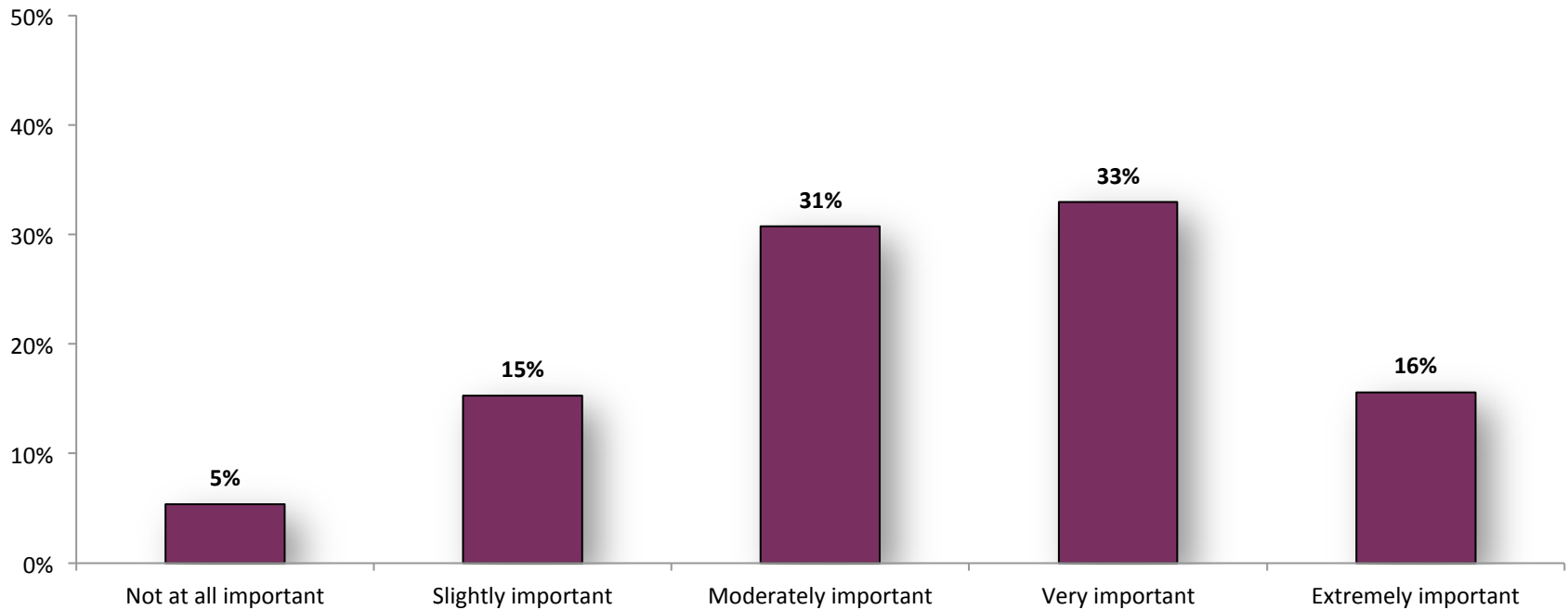
Students' Views on Adaptive Digital Learning Technology



Adaptive Digital Learning Technology

- About half of the college students surveyed (49%) indicate that it is very or extremely important for DLT to adapt to their unique learning style.

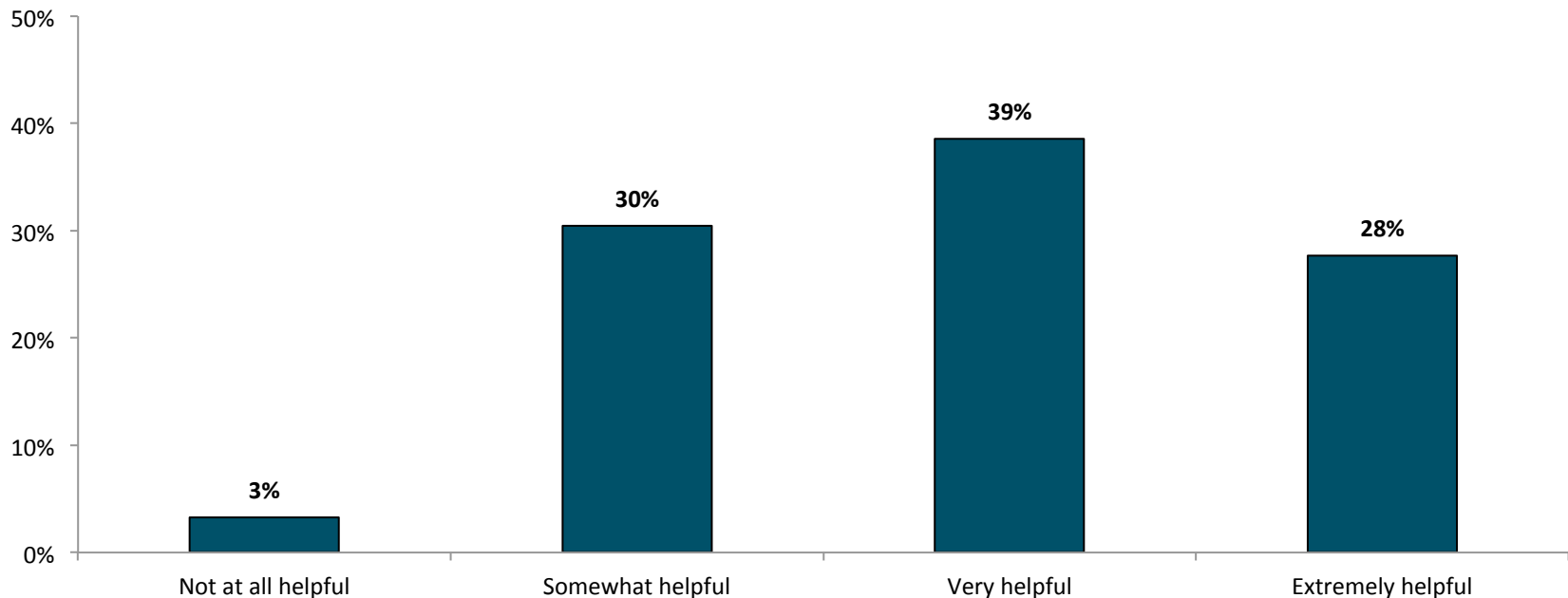
Students' Preferences for Adaptive Digital Learning Technology



Value of Online Quizzes and Adaptive Learning Technology in Retention

- Nearly all respondents indicate that online quizzes and adaptive learning technology help them retain new concepts and information.

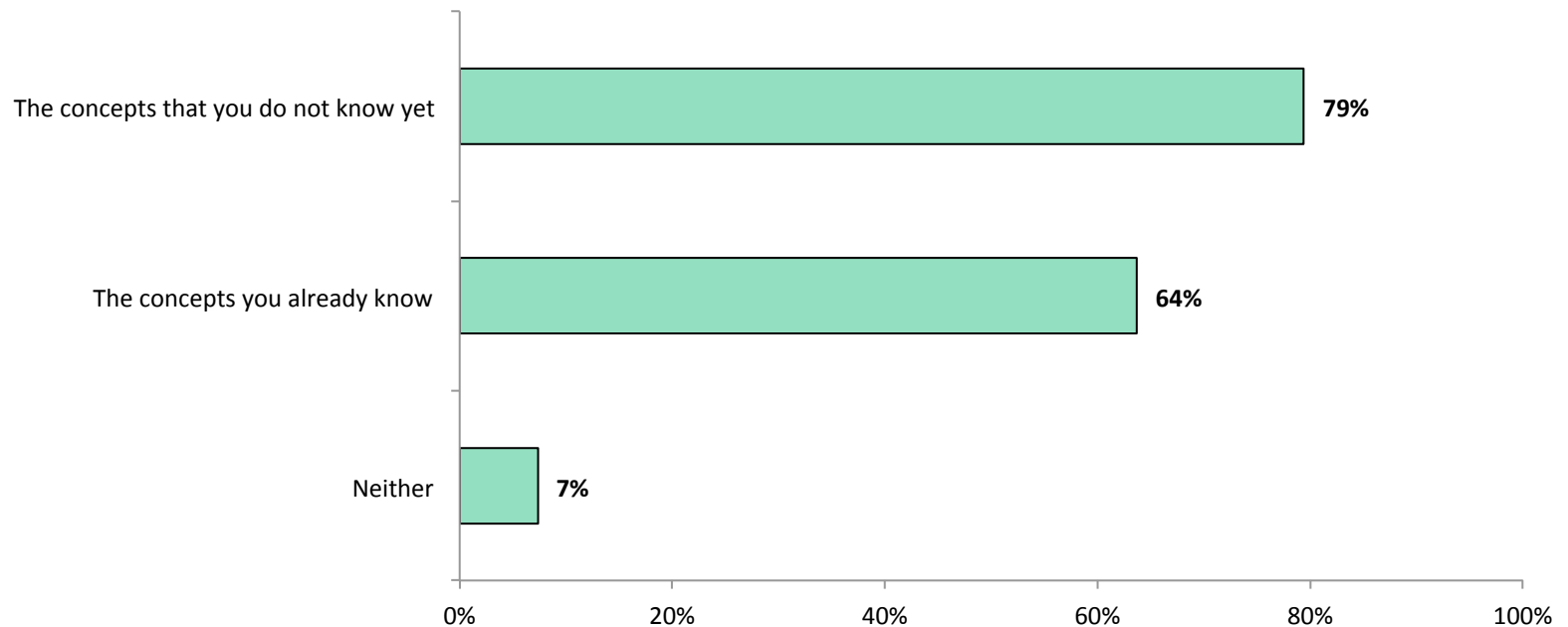
Perceived Helpfulness of Online Quizzes and Adaptive Learning Technology for Retention



Students' Concept Awareness from Adaptive Technology

- Over three quarters of students (79%) report that their use of adaptive technology makes them better aware of concepts they do not know yet, whereas just under two thirds (64%) indicate better awareness of concepts they already know.

Effects of Adaptive Technology on Students' Concept Awareness

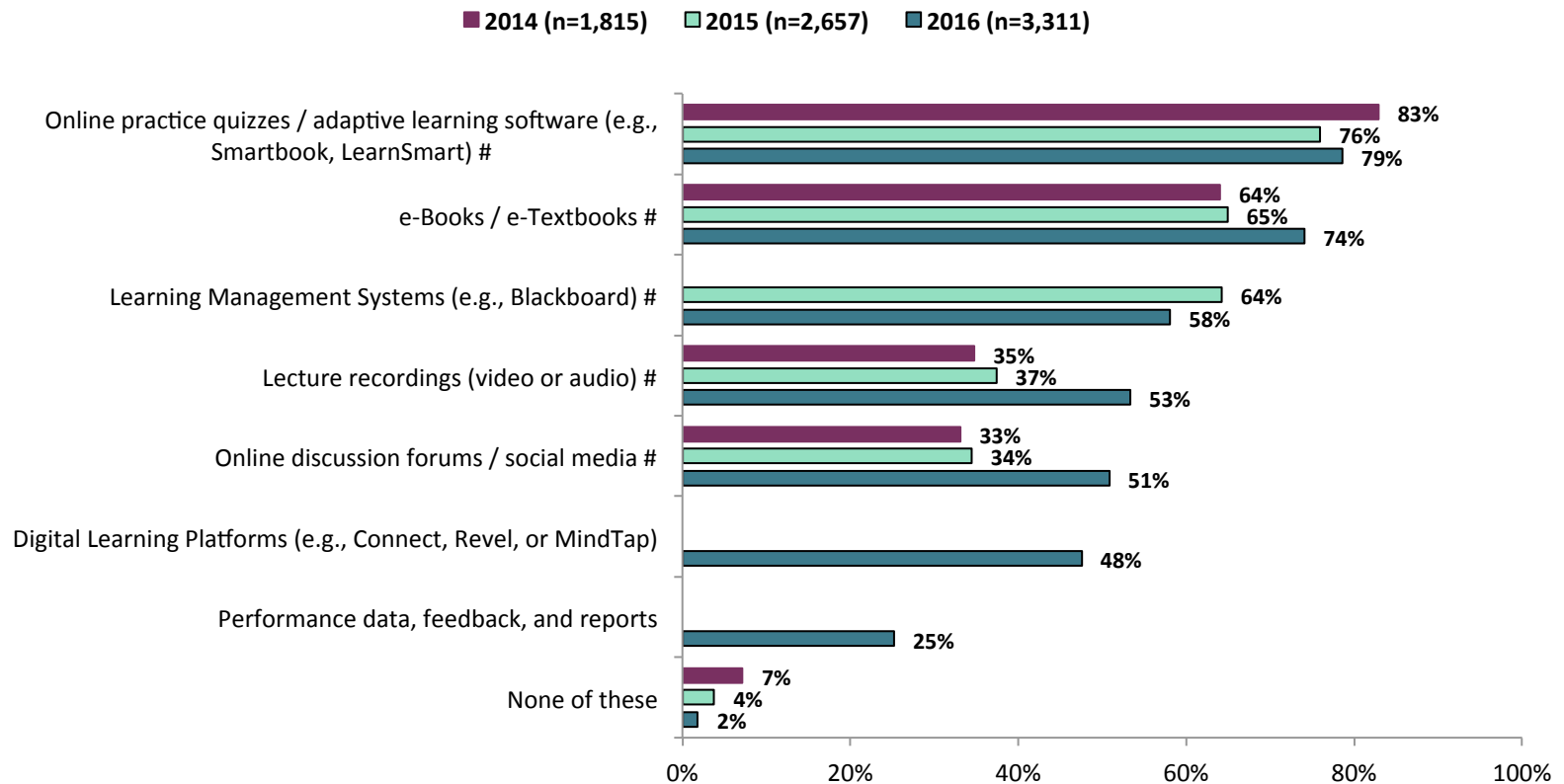


SECTION V:
**PATTERNS OF USE AND OUTCOMES OF
DIGITAL LEARNING TECHNOLOGY**

Types of Digital Learning Technology Used for Studying

- Students are most likely to use online practice quizzes and e-books/textbooks when studying.

Types of Digital Learning Technology Students Use



Which of the following types of digital learning technology do you use to study?

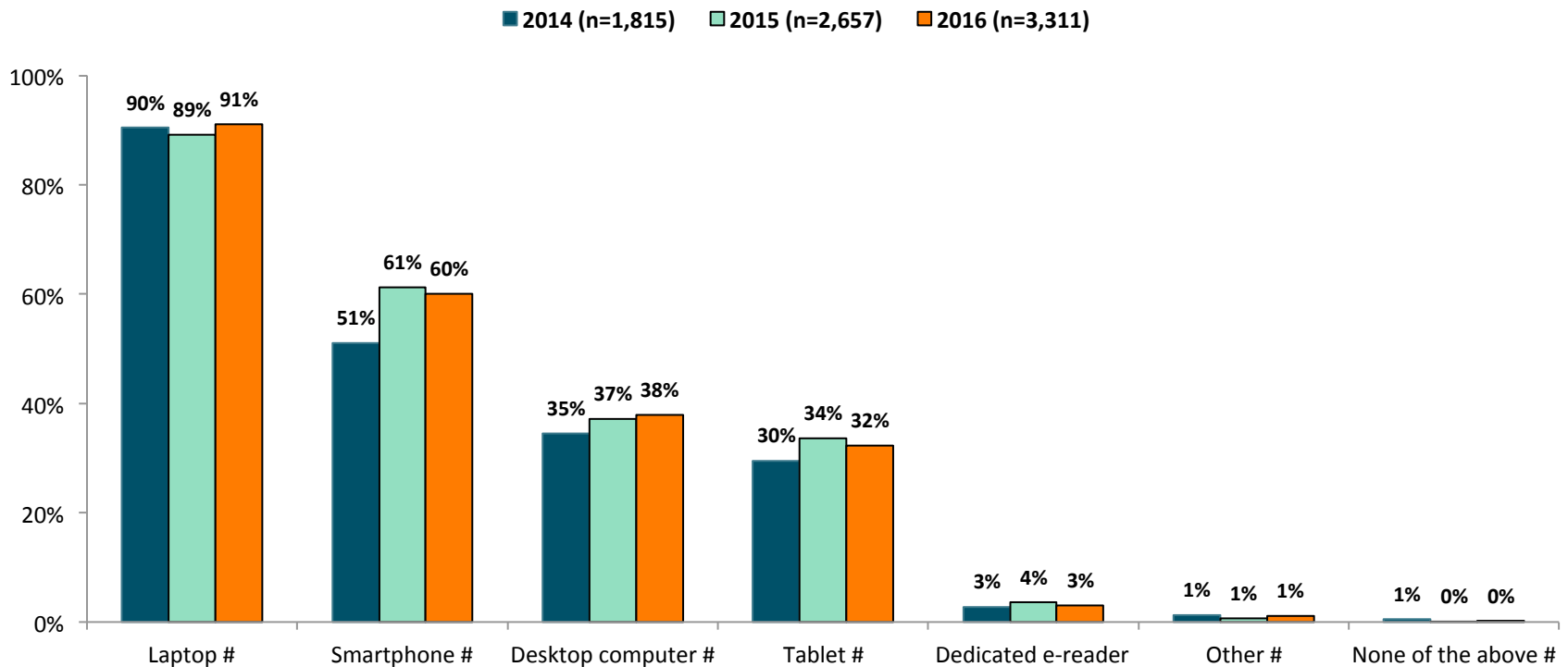
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups. Blank options were not asked across particular survey years.

Electronic Devices Used to Study

- Respondents are most likely to use laptops and smartphones to study. Few use dedicated e-readers as study tools.

Types of Electronic Devices Students Use to Study



Which of the following electronic devices do you use to study?

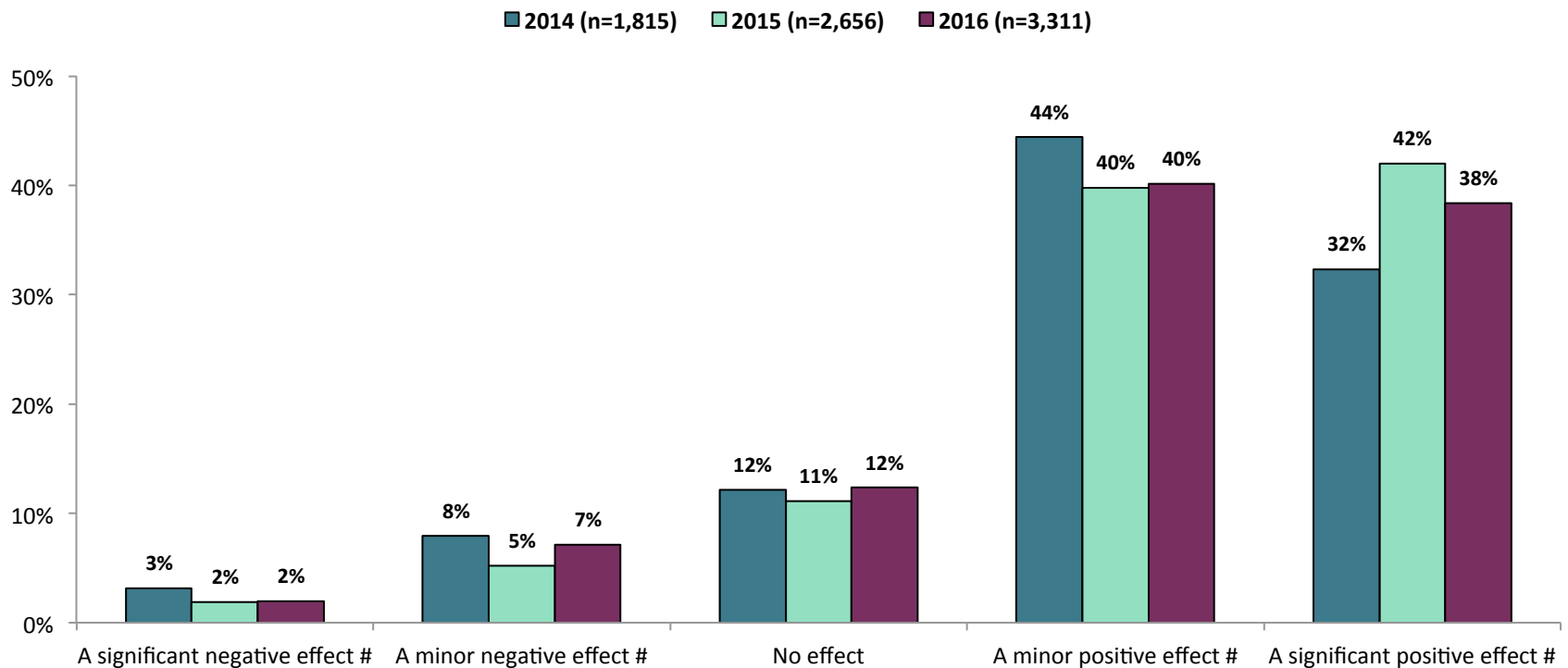
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Effect of Study/Digital Learning Technology on Grades

- In 2016, 79% of college students believe digital learning technology (DLT) has impacted their grades positively.

Overall Effect of Study/Digital Learning Technology on Students' Grades



2014 & 2015: Overall, what effect does using study technology have on helping you achieve your grades?

2016: Overall, what effect does using digital learning technology have on helping you achieve your grades?

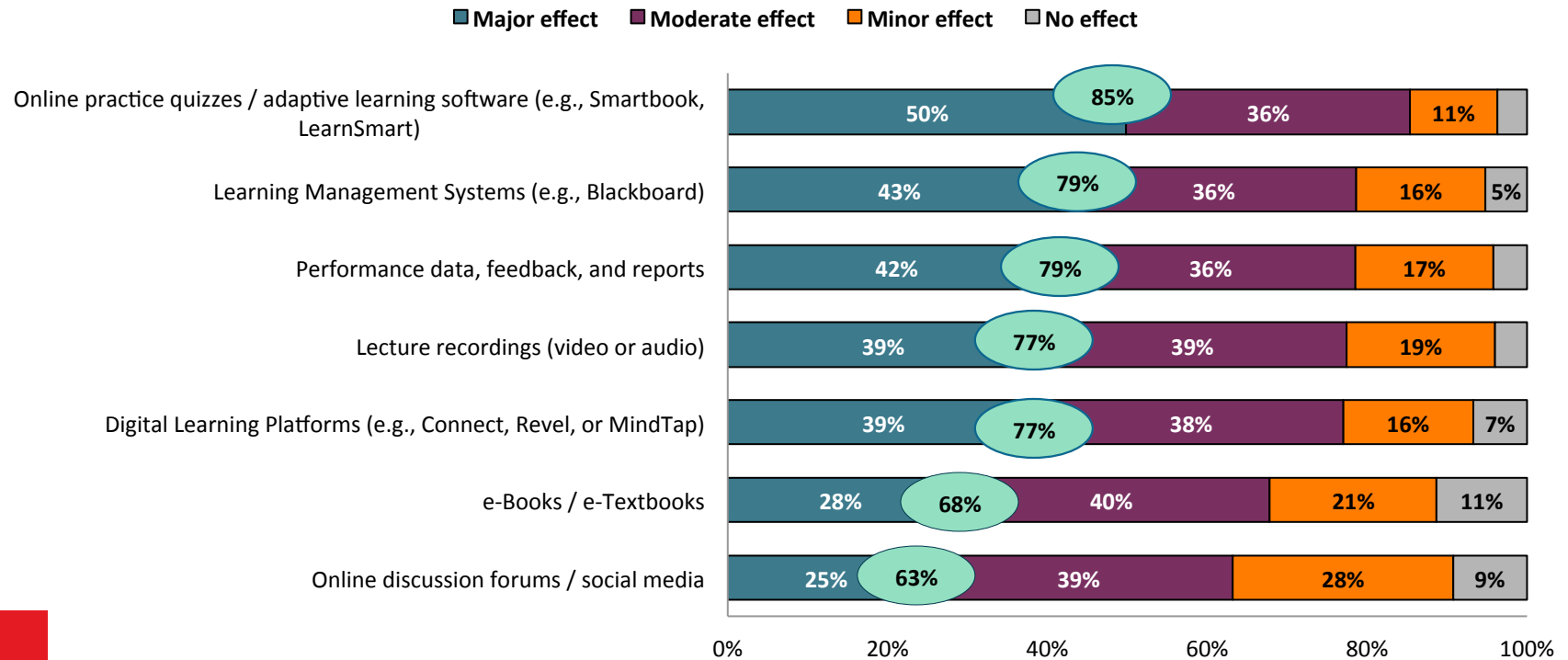
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Effects of Digital Learning Technology Types on Grades

- College students indicate that online practice quizzes, learning management systems, and performance data, feedback, and reports have the biggest impact on grades, whereas online discussion forums/social media are least impactful.

Effects of Specific Types of Digital Learning Technology on Students' Grade)

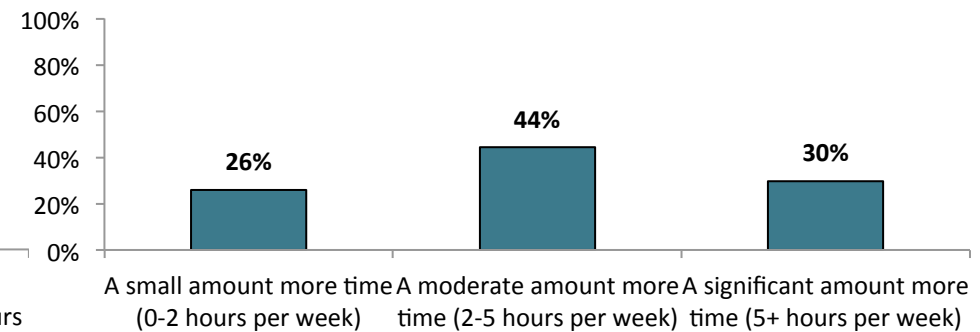
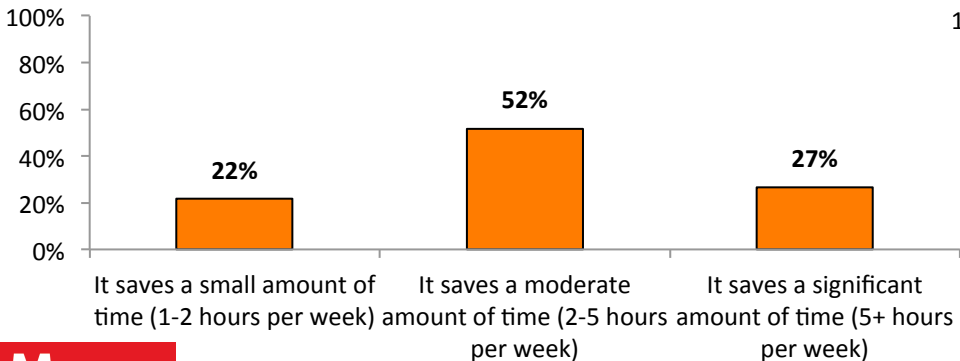
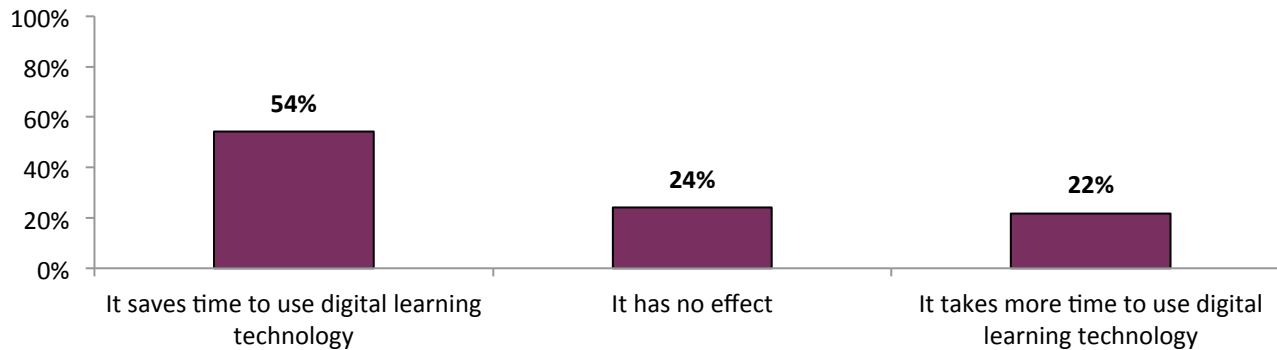


What effect does using each type of digital learning technology have in helping you to achieve your grades?
 Respondents only reported on types of digital learning technology that they use.

Effects of Digital Learning Technology on Study Time

- Over half of college students believe DLT helps them save time when studying. Among those who believe DLT saves time, most report that it saves a moderate amount of time. Of those who believe DLT takes more time, a plurality indicate that it also takes a moderate amount of time.

Effects of Digital Learning Technology on Students' Study Time



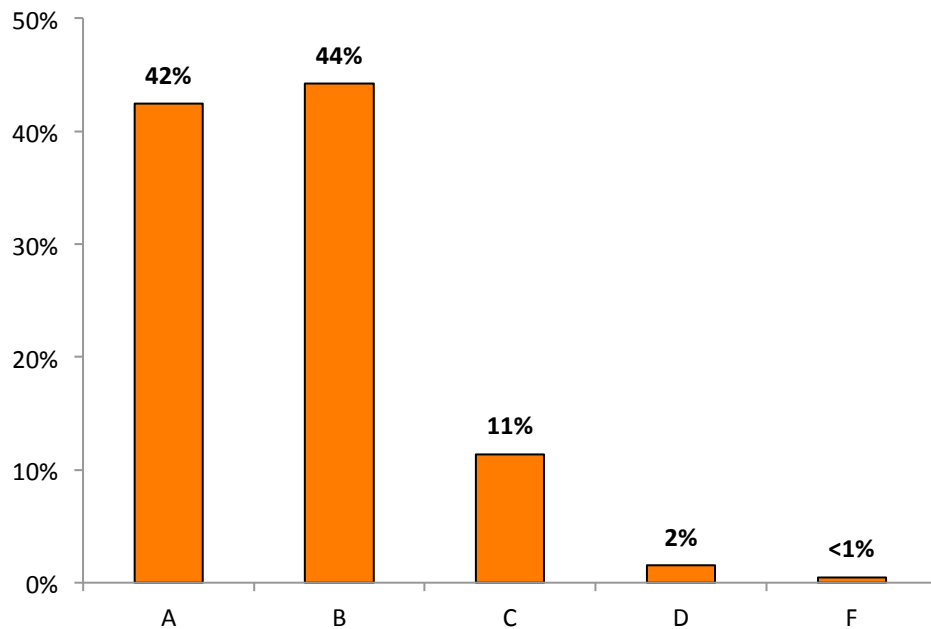
How does your use of digital learning technology affect the overall amount of time you study?
 How much time does your use of digital learning technology save you?
 How much time does your use of digital learning technology take?

Student Grades for School and Teacher Digital Learning Technology Integration

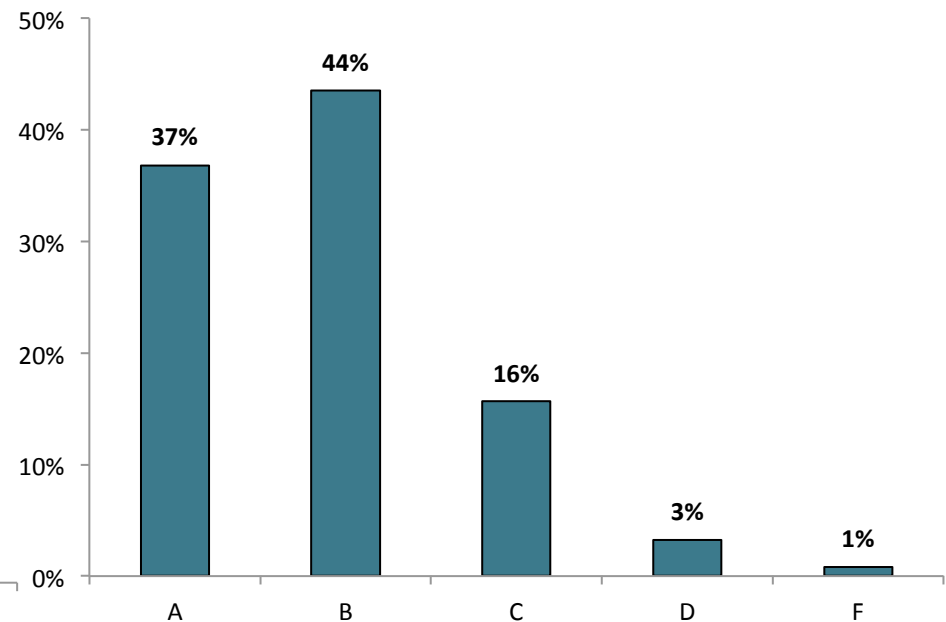
- Most respondents indicate that their school (87%) and instructors (80%) deserve an A or a B letter grade for their DLT integration.

Student Assessments of their School and Instructors for Digital Learning Technology Integration

Student Grades for their School



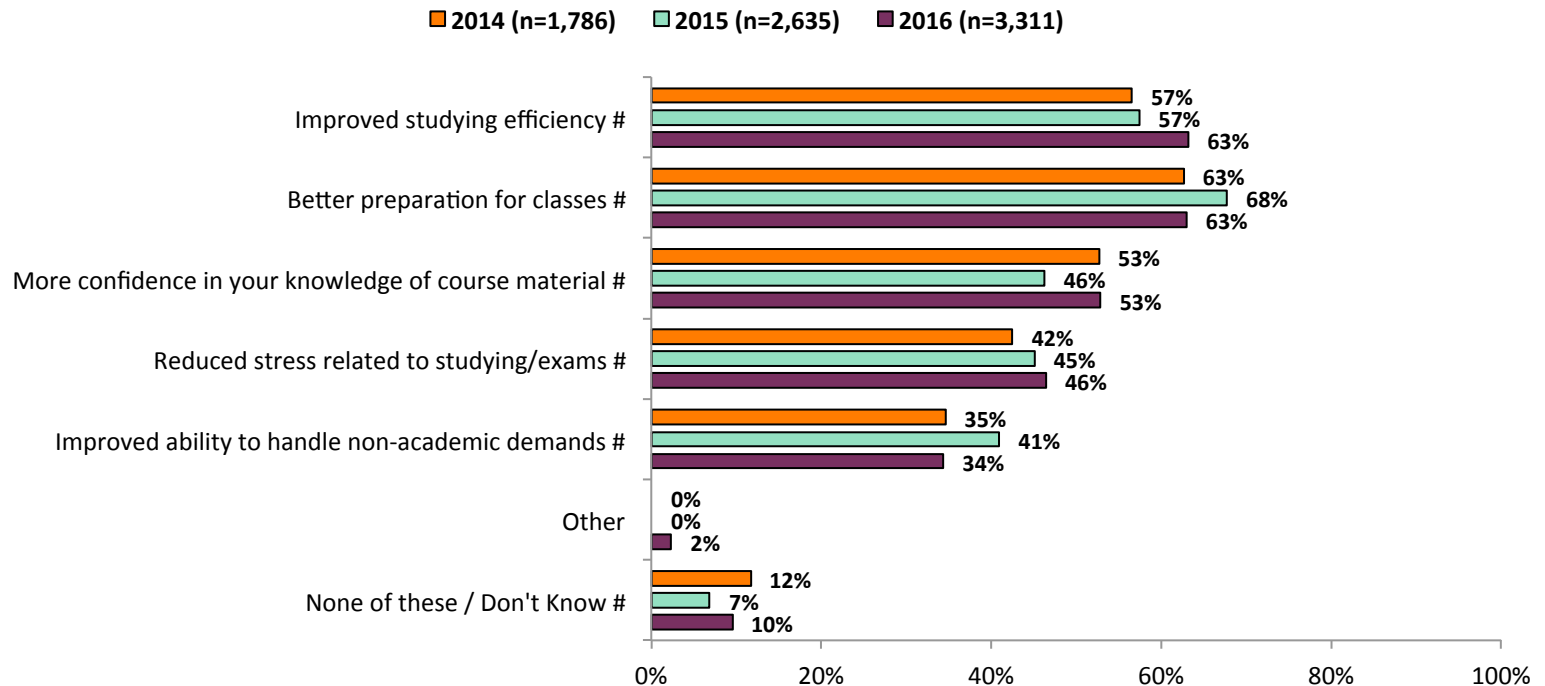
Student Grades for their Instructors



Results of Student Digital Learning Technology Use

- 2016 students are more likely to report that DLT has resulted in improved studying efficiency compared to 2014 or 2015. Overall, just under two-thirds of 2016 respondents indicate that using DLT has improved studying efficiency and class preparation.

Results of Student Digital Learning Technology Use



2014 & 2015: Which of the following has resulted from your use of study technology?

2016: Which of the following has resulted from your use of digital learning technology?

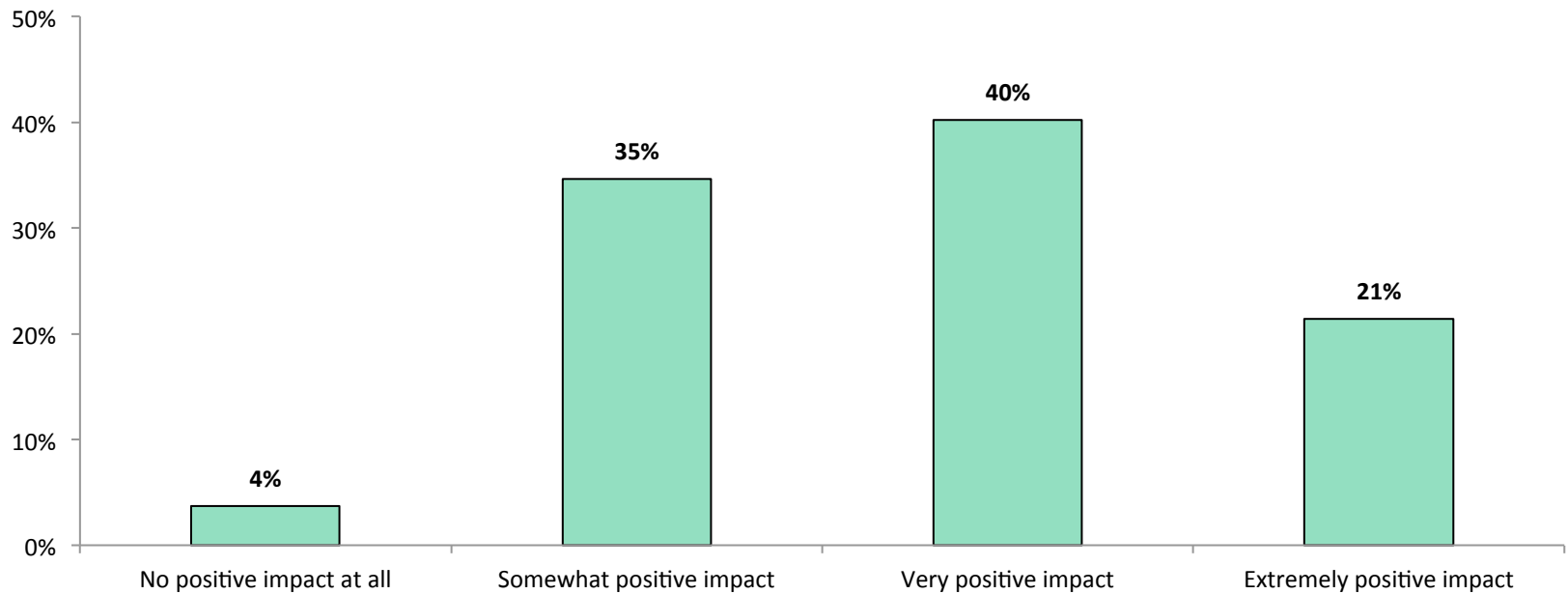
* 2014 sample included only McGraw-Hill Education customers. 2015 & 2016 samples included McGraw-Hill Education customers and an online panel of students.

Denotes statistically significant differences between groups.

Impact of Course Performance Analytics

- Most college students surveyed feel that constant course performance feedback through analytics would have some positive impact on their learning.

Students' Views on Academic Performance Analytics



SECTION VI:

DEMOGRAPHICS

Demographics

What is your collegiate status?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Freshman	51%	38%	17%
Sophomore	26%	27%	29%
Junior	15%	19%	25%
Senior	6%	12%	20%
In a Master's or PhD program	3%	4%	8%
Which of the following best describes the type of degree program that you are currently enrolled in?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	--	2,657	3,311
2-year Associate's degree program	--	35%	30%
4-year Bachelor's degree program	--	56%	58%
Master's degree program	--	5%	8%
PhD program	--	1%	1%
Other	--	3%	3%

Type of degree program was not asked in the 2014 iteration of the survey.

Demographics, cont.

Roughly how many students are enrolled at your university?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Under 5,000	27%	19%	18%
5,001 to 10,000	29%	29%	24%
10,001 to 20,000	23%	23%	22%
20,001 to 40,000	15%	21%	21%
Over 40,000	6%	9%	15%

What is your age?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Under 18	4%	3%	1%
18-20	55%	48%	30%
21-23	12%	17%	21%
24-26	6%	7%	11%
27 or older	23%	24%	36%
Prefer not to answer	2%	1%	1%

Demographics, cont.

What is your ethnicity?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Asian or Pacific Islander	17%	10%	9%
Black or African-American	12%	13%	10%
Caucasian	48%	53%	58%
Hispanic	11%	14%	13%
Native American or Alaska Native	1%	1%	1%
Other or Multi-racial	6%	6%	6%
Prefer not to answer	5%	4%	3%
What is your gender?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Female	67%	69%	70%
Male	31%	31%	30%
Prefer not to answer	1%	0%	--

"Prefer not to answer" was not an option in the 2016 iteration of the survey.

Demographics, cont.

Which category best classifies your current major?	2014 McGraw-Hill Students	2015 Sample	2016 Sample
<i>Sample Size</i>	1,815	2,657	3,311
Arts and Humanities	6%	9%	9%
Biological and Life Sciences	12%	10%	7%
Business	35%	28%	34%
Education	4%	5%	5%
Engineering	7%	6%	7%
Health Professions	22%	23%	21%
Math and Computer Science	3%	4%	6%
Physical Sciences	2%	2%	2%
Social Sciences	7%	9%	8%
Professional Degree	2%	3%	3%



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