Digital Flagship Initiative

A Research Report from the 2020 Student Life Survey

Center for the Study of Student Life

—

June 2020

INTRODUCTION

The current generation of college students are often referred to as "digital natives" (Prensky, 2001) or "the Net Generation" (Tapscott, 1997) because they grew up in an age where technology use has been increasingly prevalent. Students view technology as an important component of their college experience and use a variety of electronic devices in their curricular, co-curricular and personal endeavors. Approximately 97% of college students own a smartphone, 95% own a laptop and 57% own a tablet (Brooks & Pomerantz, 2017). Technology can serve as an especially beneficial resource for historically underserved or underrepresented populations, boosting levels of engagement, academic enrichment and efficacy for students who may feel less inclined to participate in traditional classroom settings (Brooks & Pomerantz, 2017). However, higher education is still learning about challenges and benefits associated with college students' use of digital technologies.

In 2018, The Ohio State University launched the Digital Flagship initiative. This program provides an Apple iPad to every first-year undergraduate student who attends Ohio State. Thanks to this initiative, the percentage of Ohio State students who own a tablet is much higher than the national average. The goals of the Digital Flagship program are to provide a comprehensive, university-wide digital learning initiative to support educational innovation for students and economic development opportunities for the community. The program also aims to further blend technology throughout students' experiences and promote greater student engagement and learning inside and outside the classroom (Digital Flagship, 2020).

The purpose of this research report is to provide key insights from a survey of students related to the goals of the Digital Flagship Initiative. Analyses focus on how students used their iPads, their perceptions of the iPads' contributions to their learning and how instructors in classrooms used technology.

KEY FINDINGS

- 96% of students *agreed* or *strongly agreed* that the iPads were useful for academic purposes.
- 94% of students *agreed* or *strongly agreed* that the iPads were a valuable tool for their Ohio State education.
- The most popular uses of the Digital Flagships iPads were checking Carmen for grades or class information (94%), checking e-mails (90%) and for work or activities in class (89%).
- The most popular apps used on the Digital Flagship iPads were Canvas Student (96%), Notability (90%) and Microsoft apps (i.e., Excel, OneNote, PowerPoint, Word) (76%).
- 27% of students said "Greater acceptance of/more encouragement to use iPads in class" would be the best way for instructors to supports students' use of iPads for academic success.

METHODS

The Student Life Survey is administered annually by the Center for the Study of Student Life to examine trends in student engagement, sense of belonging and satisfaction with the college experience as well as to improve institutional practices. The 2020 Student Life Survey was administered to a stratified, random sample of 8,200 Ohio State students in January 2020. This sample comprised 4,000 undergraduate students on the Columbus campus, 1,000 graduate and professional students and 3,200 undergraduate students attending Ohio State regional campuses. A total of 1,329 students responded to the survey for an overall response rate of 16.2%. The response rate was 16.1% among undergraduate students and 16.7% among graduate and professional

THE OHIO STATE UNIVERSITY

students. For this report, the sample is restricted to undergraduate students on all campuses. See Appendix A for a summary of respondents' demographic and academic characteristics.

Weighting Procedure

Responses were weighted to address differences between the demographic characteristics of the survey respondents compared to those invited to the survey and the general student population at Ohio State, and to adjust for the oversampling of students on the regional campuses. A base weight of 1 was adjusted to reflect non-response. A raking procedure adjusted the base weight to the demographic data available on the sampling frame using gender, race/ethnicity, campus and incentive condition. Weights were adjusted so the survey data are representative of the student population at Ohio State based on demographic data from the Student Information System. For example, 63.4% of the survey respondents in the Student Life Survey were female, but 51.0% of the student population is female. The survey weight adjusts for the over-representation of female students in the data to make responses more reflective of the student population, thus making the data more generalizable to Ohio State students. Weighted and unweighted demographic data for the survey respondents is available in Appendix A.

FINDINGS

Students were first asked about their experiences with the iPads they received as part of the Digital Flagship initiative. These questions were used with permission from Dr. Melissa Beers, a psychology professor at The Ohio State University who originally wrote and utilized these questions as part of her teaching curriculum. Of those who received an iPad from Ohio State, only 22.4% indicated that they had used an iPad for academic purposes *prior* to arriving at Ohio State. In terms of how the students were using the iPads, the most commonly reported uses were checking Carmen for grades or class information (94.0%), checking e-mail (90.3%) and for work or activities in class (88.8%). Only 1.7% of students reported that they do not use their Digital Flagship iPads (see page 3).

Did you receive a Digital Flagship iPad from Ohio State? (*n* = 669)

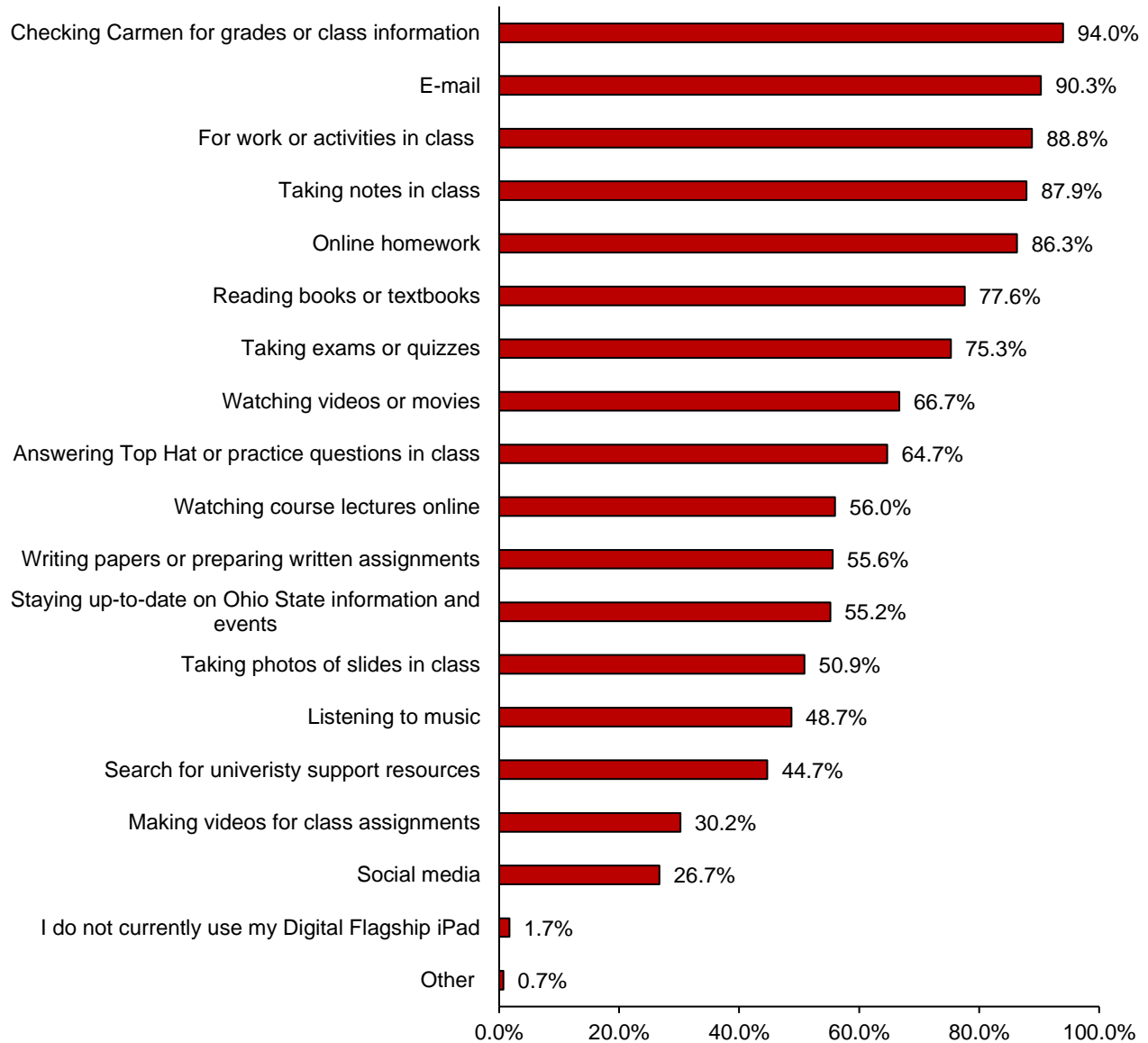|	
Yes	90.0%
No	10.0%
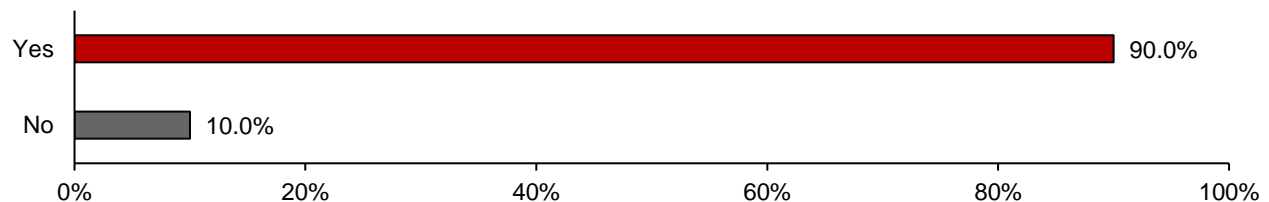
Note. Only students who responded that they were a first- or second-year undergraduate saw this question.

Did you use an iPad for academic purposes *before* arriving at Ohio State? (*n* = 606)
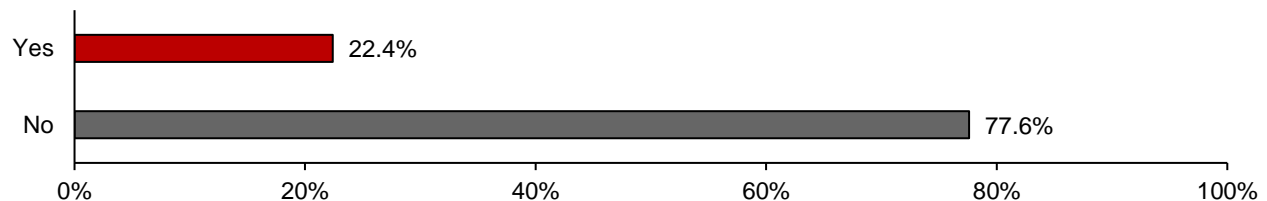
Yes	22.4%
No	77.6%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

THE OHIO STATE UNIVERSITY

Which of the following ways do you currently use your Digital Flagship iPad? Select all that apply (*n* = 607)

Use	Percentage
Checking Carmen for grades or class information	94.0%
E-mail	90.3%
For work or activities in class	88.8%
Taking notes in class	87.9%
Online homework	86.3%
Reading books or textbooks	77.6%
Taking exams or quizzes	75.3%
Watching videos or movies	66.7%
Answering Top Hat or practice questions in class	64.7%
Watching course lectures online	56.0%
Writing papers or preparing written assignments	55.6%
Staying up-to-date on Ohio State information and events	55.2%
Taking photos of slides in class	50.9%
Listening to music	48.7%
Search for univeristy support resources	44.7%
Making videos for class assignments	30.2%
Social media	26.7%
I do not currently use my Digital Flagship iPad	1.7%
Other	0.7%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

USEFULNESS OF IPADS, APPLICATIONS AND LEARNING RESOURCES

The next series of questions looked at students' opinions on the usefulness of the iPads, what kinds of applications were most commonly used and what resources students utilized to learn how to use the iPads. A majority of students reported that the iPads were a valuable tool for their Ohio State education **(93.9%)** and that the iPads were useful for academic purposes **(96.3%).**
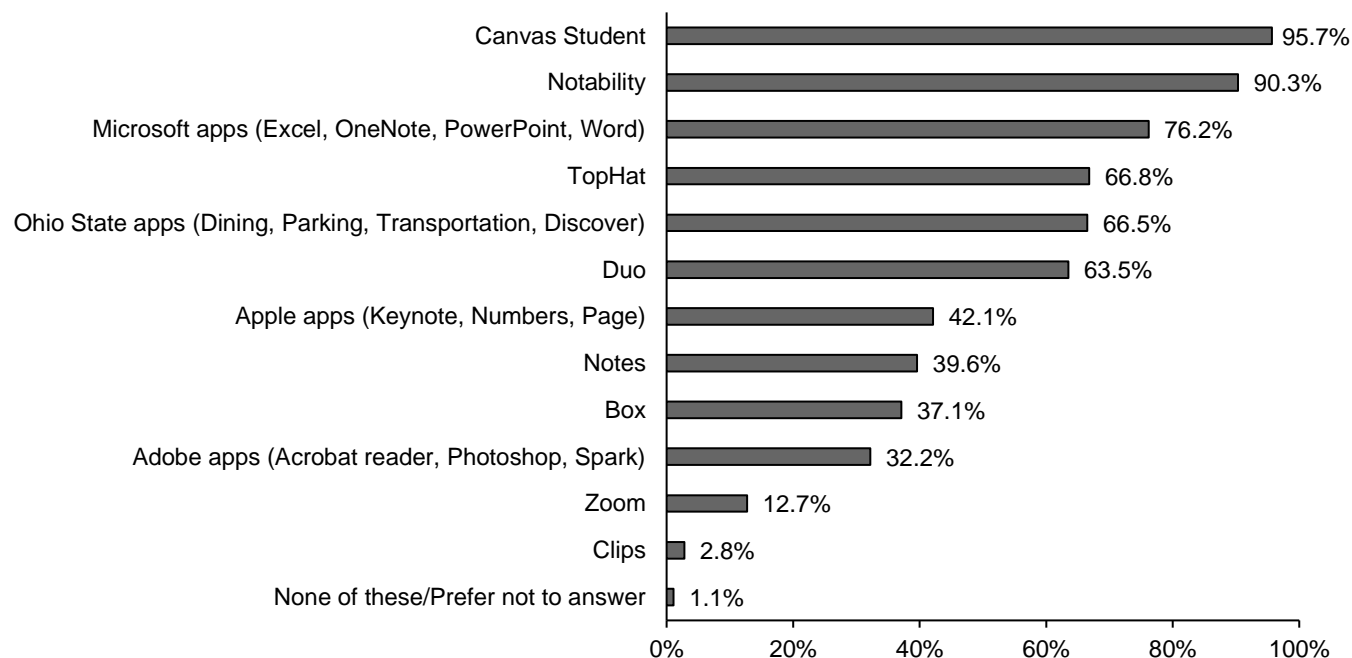
THE OHIO STATE UNIVERSITY

Please indicate whether you agree or disagree with each of the following statements:

	Strongly Disagree/Disagree	Neither Agree nor Disagree	Agree/Strongly Agree
The iPad is a valuable tool for my Ohio State education. (*n* = 599)	1.0%	5.1%	93.9%
The iPad has helped me improve my study skills. (*n* = 599)	3.5%	15.1%	81.4%
The iPad helps me be more creative. (*n* = 599)	4.8%	10.5%	84.7%
The iPad helps me be more organized. (*n* = 598)	1.8%	5.3%	92.9%
The iPad is easy to use. (*n* = 599)	0.5%	2.5%	97.0%
The iPad is useful for academic purposes. (*n* = 595)	1.7%	2.0%	96.3%
My instructors encourage use of the iPad for class assignments. (*n* = 595)	8.5%	19.8%	71.7%
My instructors encourage use of the iPad in class. (*n* = 598)	8.0%	24.7%	67.2%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

Next, students reported that the most commonly used apps on the iPads were Canvas Student **(95.7%)**, Notability **(90.3%)** and Microsoft Office apps **(76.2%).**
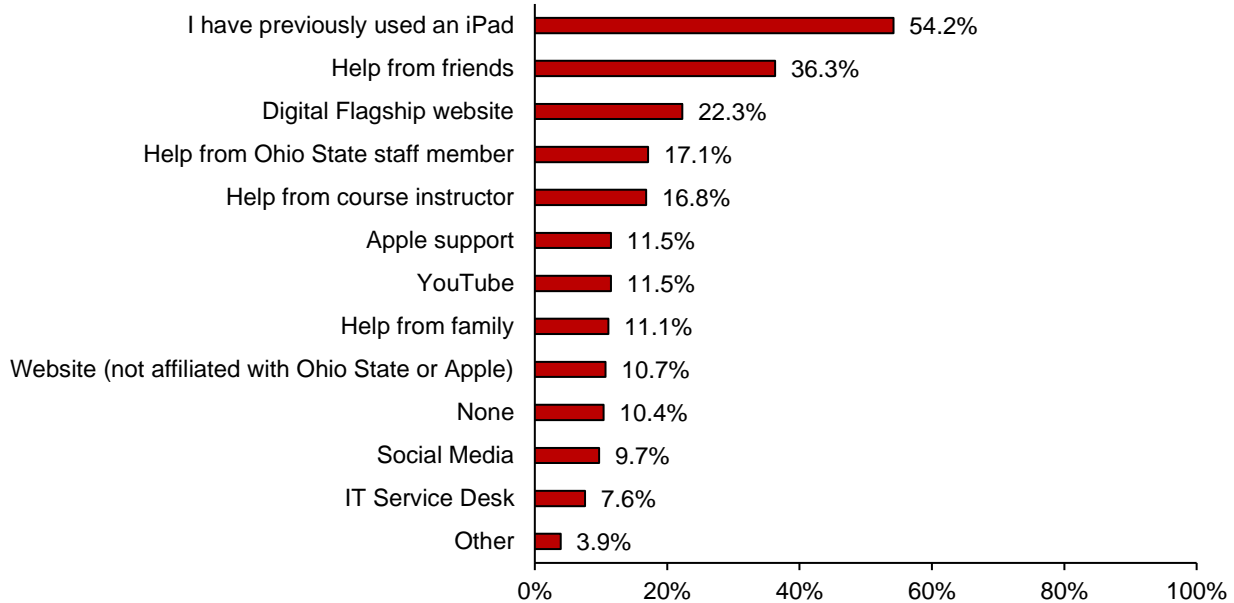
Which of the following apps have you used with your Digital Flagship iPad this year? Select all that apply (*n* = 599)

App	Percentage
Canvas Student	95.7%
Notability	90.3%
Microsoft apps (Excel, OneNote, PowerPoint, Word)	76.2%
TopHat	66.8%
Ohio State apps (Dining, Parking, Transportation, Discover)	66.5%
Duo	63.5%
Apple apps (Keynote, Numbers, Page)	42.1%
Notes	39.6%
Box	37.1%
Adobe apps (Acrobat reader, Photoshop, Spark)	32.2%
Zoom	12.7%
Clips	2.8%
None of these/Prefer not to answer	1.1%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

THE OHIO STATE UNIVERSITY

Lastly, the most common resources students utilized to learn how to operate the iPads were prior knowledge/usage of iPads **(54.2%)**, help from friends **(36.3%)** and the Digital Flagship website **(22.3%)**.

What resources helped you learn how to use your iPad? Select all that apply (*n* = 595)

Resource	%
I have previously used an iPad	54.2%
Help from friends	36.3%
Digital Flagship website	22.3%
Help from Ohio State staff member	17.1%
Help from course instructor	16.8%
Apple support	11.5%
YouTube	11.5%
Help from family	11.1%
Website (not affiliated with Ohio State or Apple)	10.7%
None	10.4%
Social Media	9.7%
IT Service Desk	7.6%
Other	3.9%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

IMPROVING STUDENT'S ACADEMIC EXPERIENCES WITH TECHNOLOGY

The following series of questions examined perceptions of how academic experiences could be improved with technology. Students were first asked an open-ended question about what course instructors could do to better support their use of iPads for academic purposes. This open-ended question was coded into the following themes. Some comments could be coded into multiple themes.

What is *one* thing your course instructors could do to better support your use of the iPad for academic purposes? (*n* = 504)

Theme		
Greater acceptance of/more encouragement of use in class	134	26.6%
Better use of Carmen/Canvas	113	22.4%
App compatibility across platforms	76	15.1%
No suggestion or thought things are fine as is	57	11.3%
Support for online submission of assignments	52	10.3%
Better training for instructors	17	3.4%
Better integration of Notability app	12	2.4%
Flexibility in class structure to not use iPad	11	2.2%

Note. Only those students who indicated they had received a Digital Flagship iPad from Ohio State saw this question.

THE OHIO STATE UNIVERSITY

To see excerpts of selected comments provided by respondents regarding how instructors may be better able to integrate the Digital Flagship technologies into their classrooms, please see Appendix B.

Next, students were asked about whether their instructors engaged in each of the following activities regarding the use of technology. These questions were adapted from the 2018 ETRAC Student Survey with permission by the EDUCAUSE Center for Analysis and Research (2018). Please note that the following set of questions were asked of all students who received the 2020 Student Life Survey, not just those who received a Digital Flagship iPad. A majority of students reported that their instructors typically use technology to engage them in the learning process **(82.1%)** as well as encourage them to use their own technology devices during class to deepen learning **(84.7%).**

Thinking about your Ohio State experiences within the past 12 months, rate your level of agreement with the following statements: *My instructors typically…*

	Strongly Disagree/Disagree	Neither Agree nor Disagree	Agree/Strongly Agree
Use technology to engage me in the learning process. (*n* = 990)	4.3%	13.6%	82.1%
Use technology during class to enhance learning with additional materials (e.g., by providing audio or visual examples, demonstrations, simulations of learning concepts). (*n* = 988)	3.9%	11.5%	84.7%
Encourage me to use my own technology devices during class to deepen learning (e.g., searching online for related concepts, examples, or demonstrations). (*n* = 987)	14.2%	21.2%	64.5%
Encourage me to use technology for creative or critical thinking tasks. (*n* = 985)	9.9%	24.8%	65.3%

Last, students were asked an open-ended question about what they would like Ohio State to do with technology to enhance their academic success. This open-ended question was coded into the following themes. Please note that some comments could be coded into multiple themes.

What is *one* thing you would like Ohio State to do with technology to enhance your academic success? (*n* = 461)

Theme	*n*	%
More course content that is in digital format	153	33.2%
Greater freedom to use existing technologies	135	29.3%
Make Carmen more accessible	37	8.0%
More technology training for faculty/students	30	6.5%
Better tech support	24	5.2%
Less focus on digital content	23	5.0%

THE OHIO STATE UNIVERSITY

Make academic texts more digitally accessible	18	3.9%
Better Wi-Fi on campus	15	3.3%
More consistent technology/website use	9	2.0%
Remove/change double authentication	7	1.5%
More flexibility for students to choose whether to use technology	5	1.1%

To see excerpts of selected comments provided by respondents regarding how Ohio State may be better able to use technologies to enhance their learning experiences, please see Appendix C. Answers without suggestions or answers that were irrelevant to the question were not included in the coding process.

CONCLUSION

Students generally expressed that they were using their Digital Flagship iPads for academic and class-related purposes. Specifically, a majority of students reported that they used their iPads to check Carmen for grades or class information, for sending and receiving e-mails, and for work or activities in the classroom. Students also indicated that the iPads were a valuable tool for their Ohio State education and that the iPads were useful for academic purposes. Qualitative analyses of the first open-ended question found that over a quarter of students said instructors could support students' use of technology by being more accepting of the use if iPads in classrooms. Qualitative analyses of the second open-ended question found that over one-third of students said they wanted their course components to be digitized and that this digitization was the best thing that Ohio State could do with technology to enhance their academic success.

REFERENCES

Brooks, D. C., & Pomerantz, J. (2017). *ECAR study of undergraduate students and information technology, 2017*. EDUCASE Center for Analysis and Research. https://library.educause.edu/resources/2017/10/ecar-study-of-undergraduate-students-and-information-technology-2017

Digital Flagship (2020). *A student success initiative*. The Ohio State University, Columbus, Ohio. https://digitalflagship.osu.edu/

EDUCAUSE Center for Analysis and Research (2018). *2018 ETRAC student survey*. https://library.educause.edu/-/media/files/library/2017/10/2018etracstudentsurvey.pdf?la=en&hash=1C1AC7B6569BCA68F7381D18792EEC3C9D383E79

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1-6.

Tapscott, D. (1997). Growing up digital. *Informationweek, 655,* 64.

APPENDIX A: PARTICIPANT DEMOGRAPHICS

Please note that these demographics represent only those students who responded that they were a first- or second-year undergraduate student.

	n	Unweighted Percent	Weighted Percent
Total	764		
Sex			
Male	254	33.2%	44.3%
Female	495	64.8%	54.0%
Unknown	15	2.0%	1.7%
Race/Ethnicity			
African American/Black	56	7.3%	6.8%
Asian	56	7.3%	10.1%
Hispanic/Latinx	25	3.3%	4.6%
Non-Resident Alien	16	2.1%	4.9%
White	568	74.3%	67.4%
Two or more races	26	3.4%	2.7%
Unknown	17	2.2%	3.6%
Campus			
Columbus	299	39.1%	82.7%
Lima	71	9.3%	2.2%
Mansfield	57	7.5%	2.5%
Marion	75	9.8%	3.1%
Newark	207	27.1%	7.8%
Wooster/ATI	55	7.2%	1.7%
Career Tier			
First-year undergraduate	505	66.1%	58.4%
Second-year undergraduate	259	33.9%	41.6%
First-Generation Status			
First-generation	240	31.4%	27.4%
Non-first-generation	524	68.6%	72.6%

Note. Data are from the Student Information System and language/terms used reflect those used in the Student Information System.

THE OHIO STATE UNIVERSITY

APPENDIX B

Please note that example responses are verbatim and have not been edited.

Greater acceptance of/more encouragement of iPad use in class (*n* = 134)

- "actually allow us to use them in class to take notes."
- "Currently none of my professors allow the use of cell phones, ipads, or laptops in the classroom."
- "Express how the iPad is helpful in class and speaks of it."

Better use of Carmen/Canvas (*n* = 113)

- "I wish some professors were a little more organized on Carmen in their [filing] of assignments. Some have random names that's you have to decipher or they are somewhere you wouldn't think they would be."
- "Put EVERYTHING on Canvas/Carmen and not discourage use of iPads and laptops during class. Most of us are taking notes."
- "Upload lecture Powerpoints on Carmen before class so it's easier to transfer them to Carmen and take notes directly on the slides."

App compatibility across platforms (*n* = 76)

- "Stop using websites or programs that can't run on the iPads."
- "Post lecture notes as PDFs so they are easy easier to access and download."
- "Nothing... I'm an engineering major so we have to use computers for a lot of course work; iPads cannot support the engineering software."

Support for online assignment submission (*n* = 52)

- "Have assignments that require an app on the iPad."
- "Encourage us to submit assignments through our iPad. I had a class where a professor told us to not use our iPads and instead use computers because iPads can mess up the submission process. Therefore i never used my iPad in that class."
- "Accept homework turned in online rather than on paper (from notability, etc.)."

Better training for instructors (*n* = 17)

- "Have their own iPads so they can see assignments and posting issues from our view."
- "They could learn how to use them to help us better navigate our IPad. This would be more helpful then them blowing it off and just saying to go to service desk. Also instructors should use programs (especially math) that can work on the iPad, so students do not have to buy a computer."

Better integration of notability app (*n* = 12)

- "Offer PowerPoint slides on carmen in order to download to notability to take notes."
- "They could encourage us to take notes on your iPad using notability and the apple pen."

Flexibility to not use iPad (*n* = 11)

- "be able to have the option to take test with paper and pencil instead of being forced to take it on the ipad."
- "Don't let people use it or laptops to take notes in class- people learn better writing on paper and pencil."

THE OHIO STATE UNIVERSITY

APPENDIX C

Please note that example responses are verbatim and have not been edited.

More course content that is in digital format (*n* = 153)

- "Attempt to make everything available to do on the iPad. Having to use my desktop at home or computer lab on campus is not ideal"
- "Continue to use ebooks to replace buying physical textbooks as a more affordable, convenient, and environmentally friendly alternative"
- "Fully transfer to digital education"

Greater freedom to use existing technologies (*n* = 135)

- "Be less restrictive on what content the student is allowed to download on the iPad"
- "Continue to pursue the different ways technology can be used"
- "Ensure we are allowed to use [iPads] in the classroom. Some professors are hell bent on having a "no technology" classroom because of the distractions that "studies have shown" they cause"

Make Carmen more accessible (*n* = 37)

- "Adjust Carmen to make it more user friendly. A designated tab for all assignments coming due would be splendid"
- "Allow carmen quizzes to be taken on the app"
- "Clean up Carmen. It's not that organized"

More technology training for faculty/students (*n* = 30)

- "Get all of the instructors on board with technology and make them use carmen consistently"
- "Get the teachers more acquainted with it"
- "Give training on excel"

Better tech support (*n* = 24)

- "Be better prepared for when things screw up"
- "Better explain all of the tools available on the iPads"
- "Be more on top of Carmen glitches. I've had several and I've only been here a minute lol"

Less focus on digital content (*n* = 23)

- "A lesser focus on getting everything digital, too many people multitasking in class which is distracting and harmful to the learning process"
- "Ban [iPads] from regular use in the classroom to minimize distraction"
- "do not require to use/disuse of technology in class. It should be up to the student based on how they learn and their preferences"

Academic texts more digitally accessible (*n* = 18)

- "access to things like public textbooks from library e-text"
- "Better advertise and make more readily available academic journals and resources such as textbooks and materials"

THE OHIO STATE UNIVERSITY