



CIO Driving Student Success Through Digital Literacy

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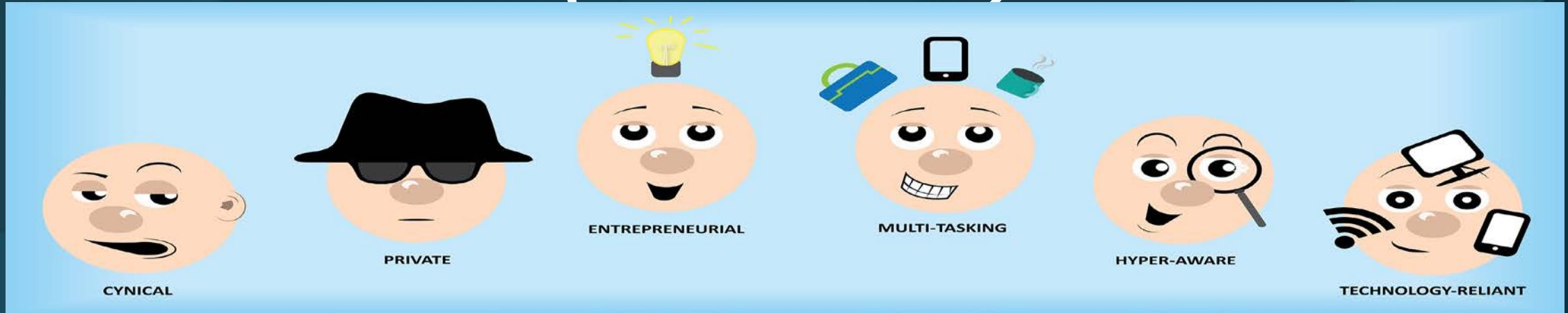
VP for Information Technology/CIO

Mobile Stats



- 4.8 billion people globally are using a smartphone
- 73% of people ALWAYS have their mobile device with them
 - People pick up their mobile device 150 to 200 times a day for an average of 177 minutes of usage daily

Generation “Z” or *Centennials* – *The iGeneration* (1995-2008)



- **Cynical** They tend to be more **realistic** not idealistic
- **Private** Facebook has lost **25 percent of this demographic since 2011**
- **Entrepreneurial** **72%** of current high school students want to start a business
- **Multi-tasking** They prefer to be on **5 screens** at once
- **Hyper-aware** **4D Thinking**
- **Technology-reliant** **connected** all the time

Social Media 2018

- 800 million Instagrammers
- 95 million photos and videos each day.
- 90% of users are under 35 years old
- Usage is doubled over last two years
- Selena Gomez is top Instagram user has 140M followers
- 71% of US businesses are using Instagram in 2018
- Instagram stories have more than 250 million active users daily



- 300 million Snapchat active users
- 400 million stories daily
- 10 billion videos viewed daily
- 45% of users are 18-24 years old



Trivia

- What is the estimated Instagram revenue in Mobile Ads for 2018?
 - A. \$1 Billion
 - B. \$7 Billion
 - C. \$5 Billion
 - D. \$875 Million

Trivia

- What is the estimated Instagram revenue in Mobile Ad for 2018?

A. \$1 Billion

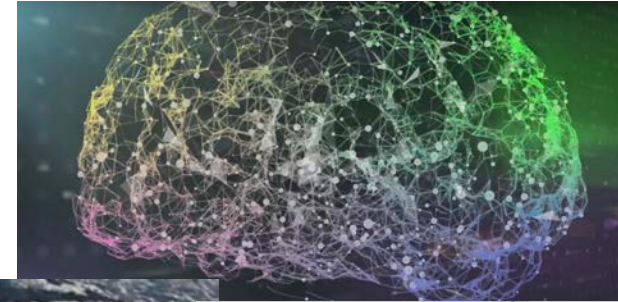
B. \$7 Billion

C. \$5 Billion

D. \$100 Million

Gartner Top 10 Trends of Technology

1. AI Foundation
2. Intelligent Apps and Analytics
3. Intelligent Things
4. Digital Twin
5. Cloud to the Edge
6. Conversational Platforms
7. Immersive Experience
8. Blockchain
9. Event Driven
10. Continuous Adaptive Risk and Trust



Gartner®

Top 10

Trends of

2018

Gartner Top 10 Summarized

Top 10 Strategic Predictions for 2018 and Beyond

Search	Disruption	Blockchain	Trust	AI
30% Visual and Voice Search Drive Commerce Revenue	5 of 7 Digital Giants Self-Disrupt	1 Billion Cryptocurrency Value Created in Banking	50% Consuming More False Information Than True	Real or Fake? "Counterfeit Reality"
2021	2020	2020	2022	2020
50% Bot Development Over Mobile App Development	40% IT Versatility With People-Centric Roles	2.3M Net New Jobs Versus 1.8M Eliminated	95% New Products Contain IoT	Half IoT Security Spend on Remediation
2021	2021	2020	2020	2022
AI	Talent	AI	IOT	Security



The data volumes are exploding, **more data** has been created in the **past two years** than in the entire previous history of the human race.

Quick Facts:

- *2.7 Zetabytes of data exist in the digital universe today*
- *Walmart handles more than 1 million customer transactions per hour, which translates into more than 2.5 petabytes of data*

Role of CIO in Higher Education

Perfect Storm

Mobility

Access to Multi-Media

Cloud Computing

Data Clouds and Access to Big Data

Natural Language Processing

Speech Recognitions and Language Translations

Artificial Intelligence / Machine Learning / Cognitive Clouds

Visual Recognitions

Structure and unstructured Data Analysis (Analytics)

Privacy and Information Security

Internet of Things

EDUCAUSE Top 10 issues in 2018

Higher Education, Remade



Institutional adaptiveness

- Institution-wide IT strategy
- Higher education affordability
- Change leadership

IT adaptiveness

- Information security
- IT staffing and organizational models

Improved student outcomes

- Student success
- Student-centered institution

Improved decision-making

- Data-enabled institutional culture
- Data management and governance
- Digital integrations

2018 Key Issues in Teaching & Learning

Each year, the ELI surveys the higher education community to determine key issues and opportunities in postsecondary teaching and learning. These key issues serve as the framework, or focal points, for our discussions and programming throughout the coming year. More than 900 community members voted on the following key issues for 2018.

ELI

1



ACADEMIC TRANSFORMATION

Breakthrough teaching and learning models, innovative partnerships and alliances, and strategic transformation of the campus mission

2



ACCESSIBILITY & UNIVERSAL DESIGN

Educating the community in effective practices and course designs that are accessible by everyone

3



FACULTY DEVELOPMENT

Empowering and enabling faculty to craft active learning engagements and deploy educational technology to achieve learning objectives

4



PRIVACY & SECURITY

Formulation of policies for increased sharing of data; educating faculty and students on best practices

5



DIGITAL & INFO LITERACIES

Identifying and developing new student competencies in finding, evaluating, creating, and managing digital information in the 21st century

6



INTEGRATED PLANNING & ADVISING

Improvements in student success employing a combination of analytics, planning, advising, and early alerts

7



INSTRUCTIONAL DESIGN

Skills and competencies for designers; integration of technology into the profession; role of data in design

8



ONLINE & BLENDED LEARNING

Evolving course delivery methods combine traditional and online learning to serve on-campus students and remote learners alike

11

LEARNING ANALYTICS

12

ADAPTIVE TEACHING & LEARNING

10



OPEN EDUCATION

The rising cost of textbooks, widespread mobile usage, and a need for broader access have led to open educational resources

9



EVALUATION OF TECH-BASED INSTRUCTIONAL INNOVATIONS

Tools and methods to gather and analyze evidence of learning effectiveness; using results to change curricular practice

13

WORKING WITH EMERGING TECHNOLOGY

15

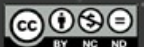
NGDLE & LMS

14

LEARNING SPACE DESIGNS

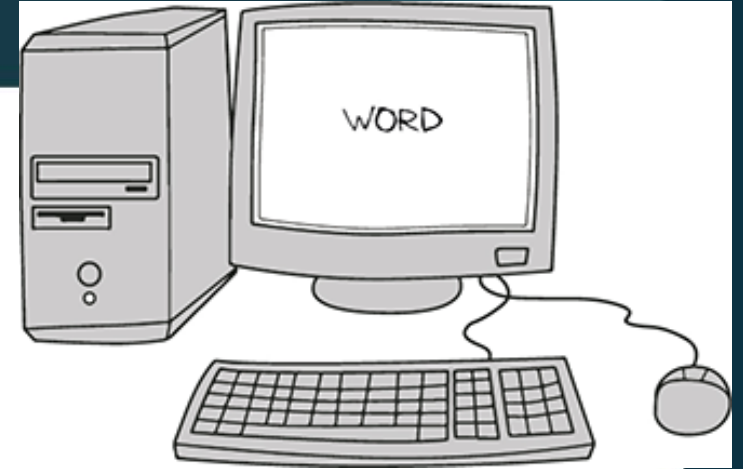
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Evolution of Skills ...



Ask yourself, in today's world, is it sufficient for undergraduates to finish college only knowing how to word process?

Digital Literacy

- "Digital literacy is the ability to use information and communication technologies to *find, evaluate, create, and communicate information*, requiring both *cognitive and technical* skills."



Digital Literacy

Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media

Digital Literacy



New Generation Resume



Digital Literacy at CSUF

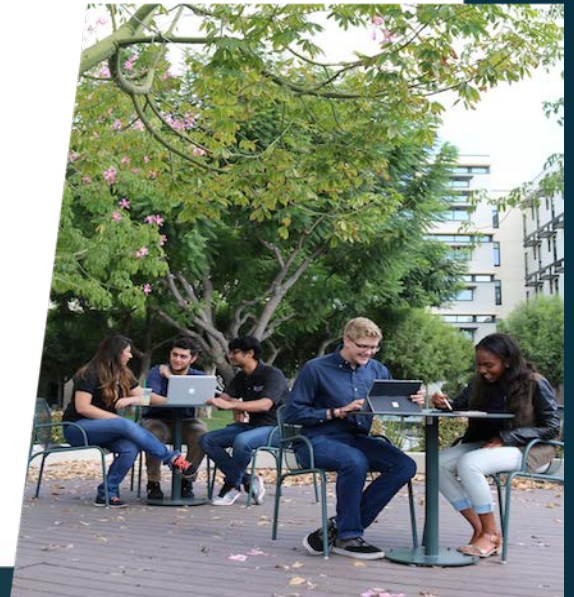
What are High Impact Practices (HIPs)?

HIPs occur when students are actively engaged in the learning process:

- Students involved in HIPs report greater gains in learning and personal development.
- Underrepresented students benefit even more when they participate in these practices

“Students who talk about substantive matters with faculty and peers, are challenged to perform at high levels, and receive frequent feedback on their performance typically get better grades, are more satisfied with college, and are more likely to persist.”

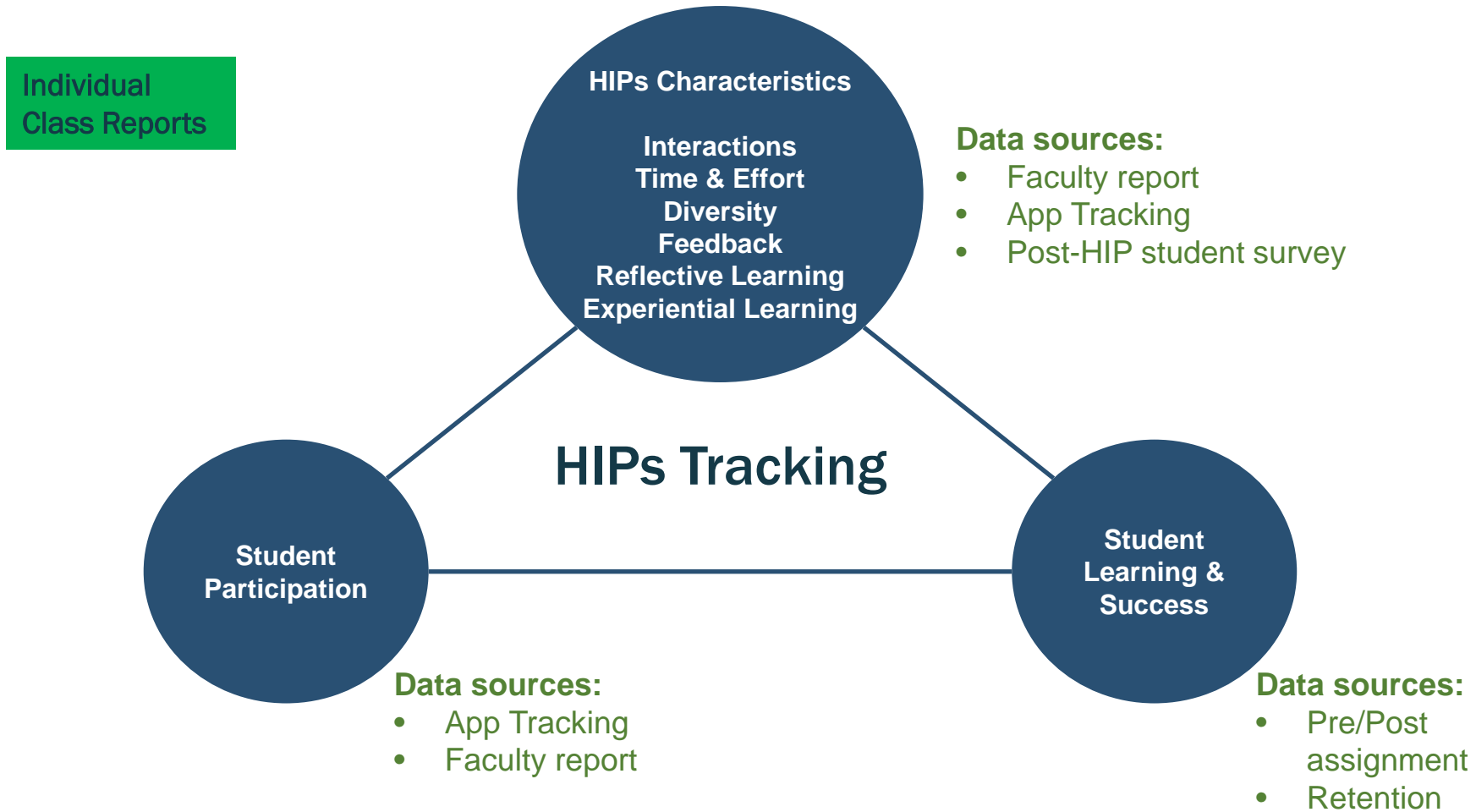
- George D. Kuh (2007)



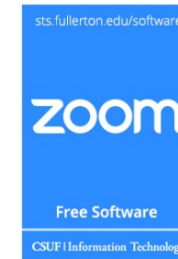
HIPs Participation at CSUF: Curricular

	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2017
# of Colleges	5	8	8	6	8
# of Faculty	22	37	68	52	103
# of Classes	35	58	102	90	176
# of Students	980	1431	4026	2618	4849

Triangulated Approach to Ensure HIPs Quality



Student Software



Training & Resources Software

LYNDA.COM



- With LYNDA.COM students have access to over thousands of online courses, from software to photography. Students will also receive a Certificate of Completion when they complete a course that can be linked online to number of sites such as LinkedIn, Facebook, and Twitter, as well as job search sites.

- 22,800 student accounts
- 3,311 faculty/staff accounts

VMOCK



- Uses machine learning and predictive analytics to help student optimize their resumes and profiles

PitchVantage

- Virtual self-assessment and improvement presentation tool

Writing Software

Grammarly

Grammarly is an online writing assistance tool that not only does spell check but it also encourages polished grammar, better overall wordsmithing and a professional writing style.

- 6729 users
- Over 566 million words checked
- Over 1.6 million errors reviewed

Read & Write



Read & Write is a literacy software that makes the web, documents and files more accessible. Use Read & Write to hear web pages and documents read aloud to improve reading comprehension and more.

- 751 users

Endnote



EndNote is a commercial reference management software package, used to manage bibliographies and references when writing essays and articles.

- 1,448 users

Office Automation Software

Dropbox



Dropbox allows students, faculty, and staff to access, store and share documents from any device. These accounts are accessed through campus accounts.

- 9,781 student accounts
- 3,649 faculty/staff accounts

Office 365



Office 365

- Students at CSU Fullerton are eligible to install Microsoft Office 365 on up to 5 PCs or Macs, 5 tablets, and 5 smartphones. Office 365 comes with Word, Excel, PowerPoint and is available through your desktop to web and the devices in between.
- 34,551 student accounts
- 5,863 faculty/staff accounts

Office Automation Software (cont.)

Windows 10



Students, faculty, and staff have access to an educational version of Windows 10 that they can download onto their personal computers.

- 3,645 student downloads
- 212 faculty/staff downloads

Zoom



- Zoom allows for video, audio and screen sharing for up to 200 participants and can be used from computers, tablets, or smart devices.
 - 1,695 users

Beyond Compare



- Beyond Compare allows you to quickly and easily compare your files and folders.
 - 161 users

Data Software

IBM SPSS (Statistics & Amos)



The IBM SPSS software platform offers advanced statistical analysis, a vast library of machine-learning algorithms, text analysis, open-source extensibility, integration with big data and seamless deployment into applications.

- 6,001 student accounts
- 312 faculty/staff accounts

MATLAB



MATLAB

MATLAB is the high-level language and interactive environment used by millions of engineers and scientists worldwide.

- 4,507 student accounts
- 218 faculty/staff accounts

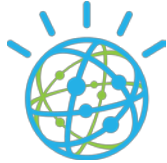
Watson Analytics



Watson Analytics is truly about smart data discovery. It is a cloud-based analytics service that enables a business user to be a “citizen data scientist” and easily find answers within their own data.

AI & Programming Software

IBM Cloud



- The IBM Cloud has been built to help you solve problems and advance opportunities in a world flush with data. Whether it's data you possess, data outside your firewall, or data that's coming, the IBM Cloud helps you protect it, move it, integrate it and unlock intelligence from it — giving you what it takes to prevail in a competitive market.

IBM Cloud platform offers a rich assortment of

- infrastructure,
- cognitive,
- software,
- and services

Multimedia Software

Adobe Creative Cloud



Creative Cloud gives you the entire collection of Adobe desktop and mobile apps, from essentials like Photoshop CC to next generation tools like Adobe XD CC. You also get built-in templates to jump-start your designs and step-by-step tutorials to sharpen your skills and get up to speed quickly. It's everything you need to create, collaborate, and get inspired.

Voicethread

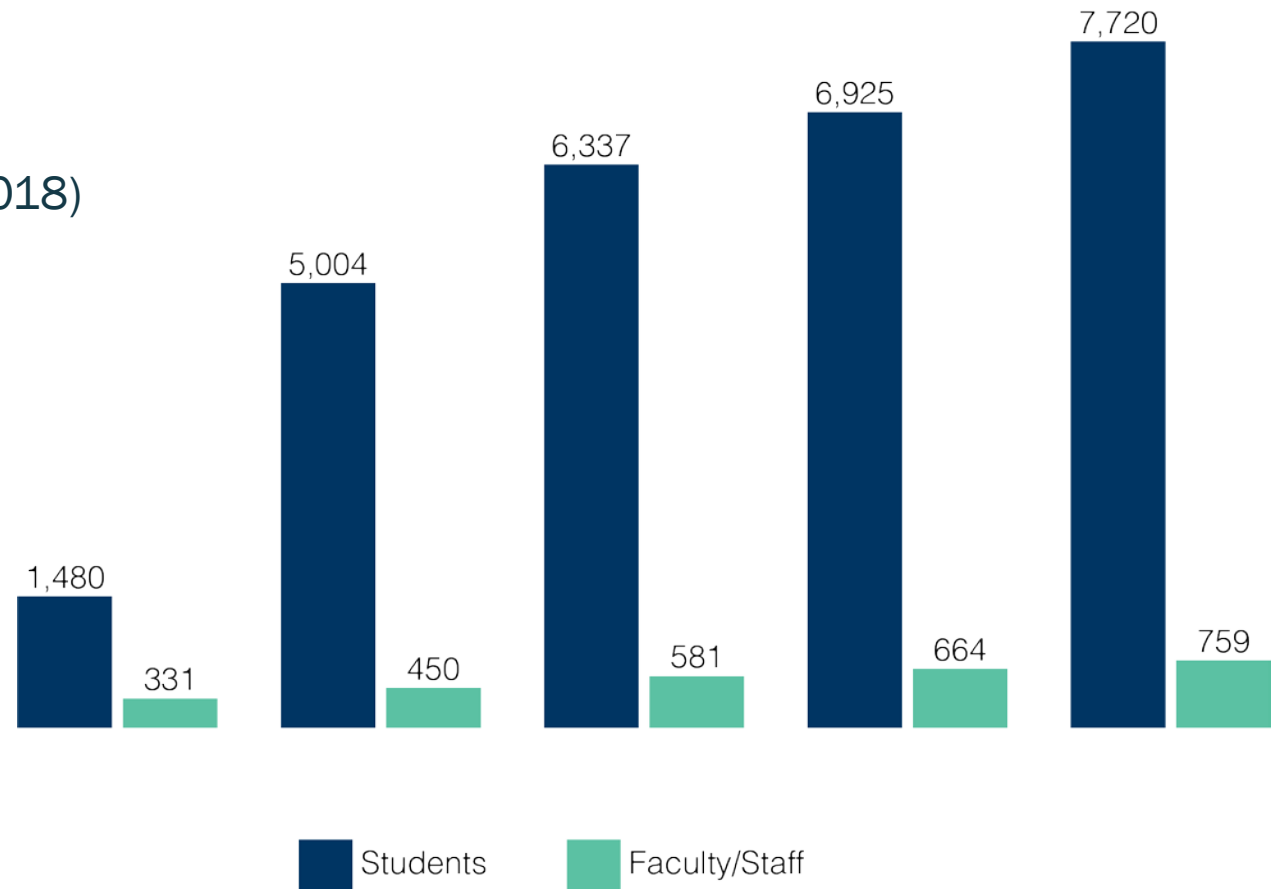


Allows students to share, comment, and annotate documents, audio, and video files for their classes

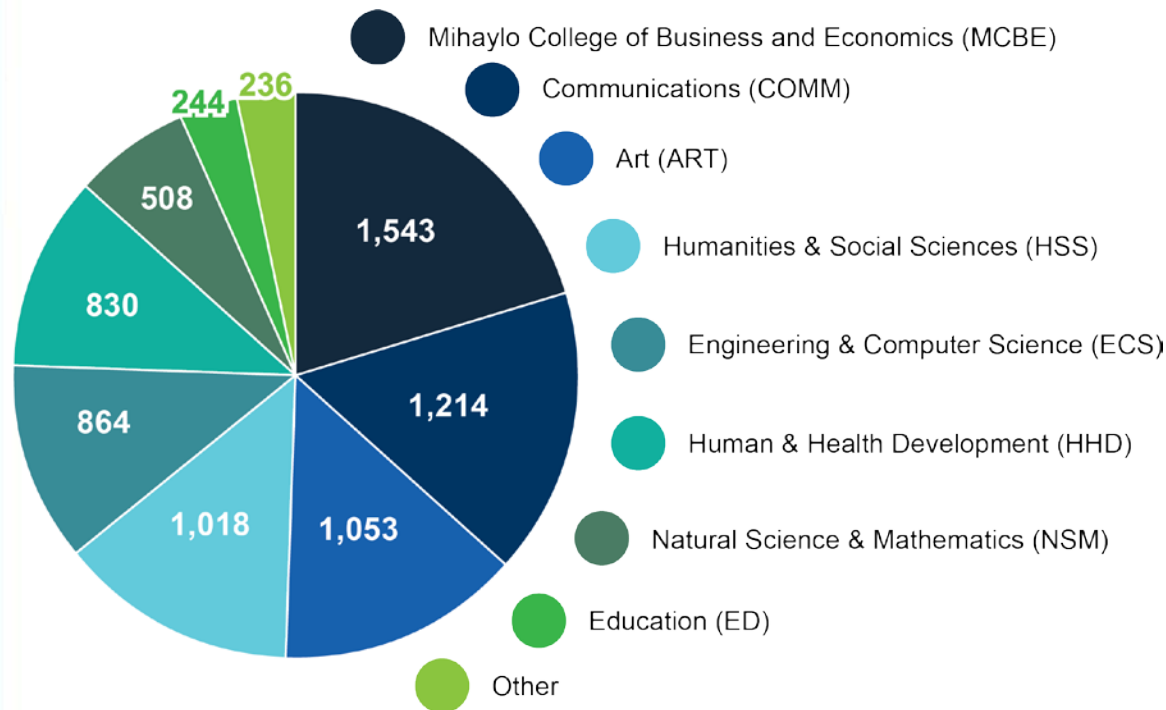
Adobe Creative Cloud Adoption at CSUF

2017-2018 AY (as of June 11, 2018)

- 7,720 Students
- 759 Faculty/Staff



Adobe Adoption at CSUF by College (2017-2018)



Number of Students by College:

- Mihaylo College of Business and Economics (MCBE) = 1543
- Communications (COMM) = 1214
- Art (ART) = 1053
- Humanities & Social Science (HSS) = 1018
- Engineering & Computer Science (ECS) = 864
- Health & Human Development (HHD) = 830
- Natural Science & Mathematics (NSM) = 508
- Education (ED) = 244
- Other = 236

Adobe at CSUF Digital Literacy

Integration of four different Adobe tools into classroom assignments with:

- 970 students
- 20 faculty members
- 35 class sections

ENGL 101 Implementation Fall 2017

Students use Adobe Premiere Pro to rethink their ideas about “text” in ways that include nontraditional forms of literacy.

ADOBE CSUF^{at}

970
STUDENTS

20
FACULTY MEMBERS

35
CLASS SECTIONS

4
ADOBE PRODUCTS

18%
AVG LEARNING GAIN*

California State University, Fullerton & the Division of Information Technology are committed to our goal to enhance **digital literacy** for all of our students.

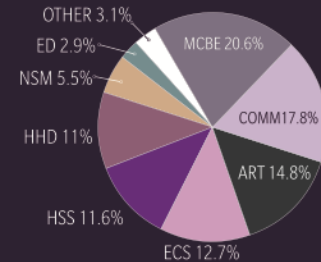
Through our **partnership with Adobe** we are able to introduce innovative tools for creating and communicating information developing cognitive and technical skills.

CSUF ADOBE CC SUBSCRIPTIONS

6,925 total CC subscriptions (AY 16/17)

5,439 total CC subscriptions (AY 17/18 as of Feb 2018)

ADOBE ADOPTION BY COLLEGE (2016/17)



Mihaylo College of Business & Economics (MCBE) – 1,424
Communications (COMM) – 1,229
Art – 1,024
Engineering & Computer Science (ECS) – 875
Humanities & Social Sciences (HSS) – 799
Health & Human Development (HHD) – 761
Natural Science & Mathematics (NSM) – 376
Education (ED) – 201
Other – 212

ADOBE LEARNING EXPERIENCE

BUSINESS ADMINISTRATION 300



422 STUDENTS

8 FACULTY

13 CLASS SECTIONS

ENGLISH 101



247 STUDENTS

5 FACULTY

10 CLASS SECTIONS

UNIVERSITY STUDIES 100



301 STUDENTS

7 FACULTY

12 SECTIONS

CLASS PROJECTS

CAMPUS RESOURCE
PRESENTATION
(SPARK)

PERSONAL PROFILE (SPARK)

CREATIVE RESUME
(INDESIGN)

CAREER ROADMAP
(ILLUSTRATOR)

ESSAY REMIX
(PREMIERE PRO)

STUDENT FEEDBACK

66% of students believe
Adobe tools are easy to use

64% of students will use Adobe
products in the future

*FALL 2017

CSUF Adobe Implementation

- EULA Agreement with Adobe
 - Partnership between Academic Affairs and Information Technology
- Student, Faculty, Staff Empowerments
 - Marketing and Advocacy
 - Lynda.com and Training courses
- Colleges
 - Arts and Communications
- *Focus on GE courses and pathways*
- *High Impact Practice courses*
 - *First year program*
- Colleges of Business and English



Expansion on GE courses and First Year Experience Fall 2017

BUAD 300, ENGL 101, UNIV 100

BUAD 300 – Professional and Career Development (Fall 2017)

This course focuses on developing conceptual understanding, building practical skills, and promoting self-assessment of personal productivity and accountability, interpersonal relationships, diversity management, and team building. Further, this course will introduce tools, techniques, and resources for career exploration and planning.

- 7 Class Sections
- 7 Faculty
- 229 Students

BUAD 300 Implementation

Fall 2017

Personal Profile (Adobe Spark)

- Students use Adobe Spark Post, Video, & Page to create personal profiles that include resume information and a 30-second elevator pitch video

Career Roadmap (Adobe Illustrator)

- Students use Adobe Illustrator to create a career roadmap highlighting their five major goals for the future.

ENGL 101 - Beginning College Writing

Fall 2017

Introductory course in the fundamentals of expository prose. Grammatical and basic rhetorical concepts and practices necessary for successful college writing.

- 10 Class Sections
- 5 Faculty
- 247 Students

ENGL 101 Implementation

Fall 2017

The Remix (Adobe Premiere Pro)

- Students use Adobe Premiere Pro to rethink their ideas about “text” in ways that include nontraditional forms of literacy.

UNIV 100 - First-Year Experience

Fall 2017

Knowledge, skills and attitudes necessary for college success, and lifelong learning and development. Significant reading, writing and co-curricular learning opportunities. Designed for first-time college students in learning communities.

- 12 Class Sections
- 7 Faculty
- 301 Students

UNIV 100 Implementation

Fall 2017

Campus Resource Assignment (Adobe Spark)

- Students use Adobe Spark Post, Video, & Page to create presentations highlighting a campus resource

Pre/Post Assignment

- Designed by professors as a way to measure the learning gain for their course
 - Example: BUAD 300 – Survey, ENGL 101 – Essays
- Administered in the first and last two weeks of the semester

Classroom Presentations

- Work with professors to schedule in class sessions where we work with students to acquaint them with Adobe products
- Have students work to create examples in class to learn the functionality of the software
- Answer any questions students may have
- [Adobe Spark Page Example for Class](#)

Student Experience Survey

- Surveys administered during the last 2 weeks of the semester to measure:
 - Student's experience in the course
 - Student's experience using the software
 - Student's opinions on how the software helped
 - Student's opinion on whether they will use the software again
 - Student's feedback on what they would change

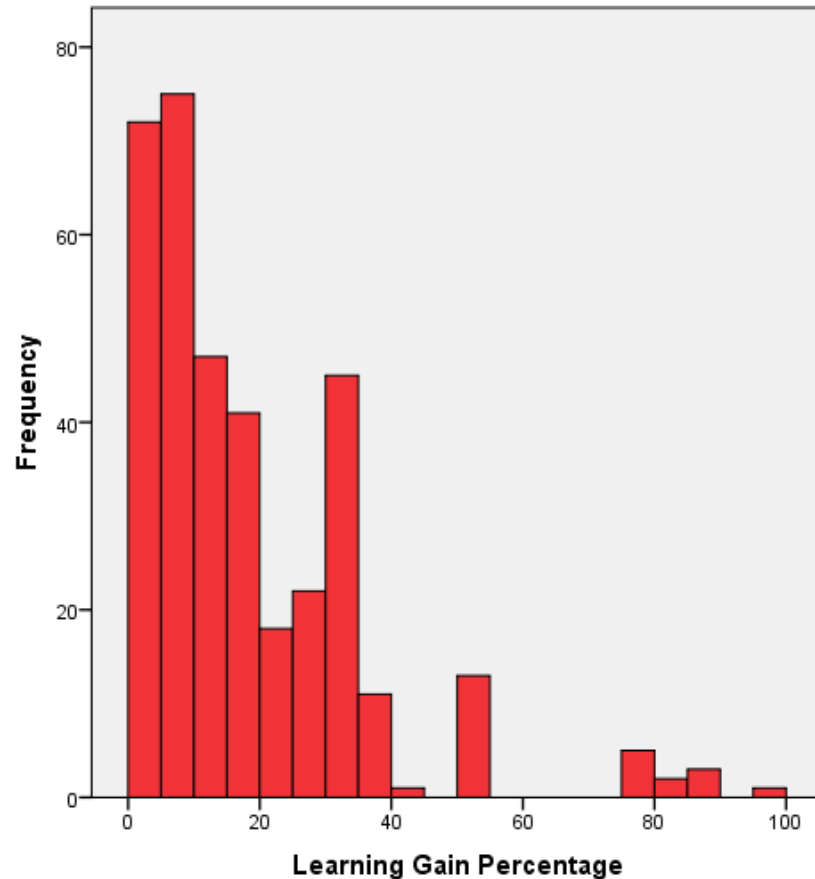
Student Experience Survey Feedback

- *"More professors should have students use spark"*
- *"Very great program, easy to use"*
- *"More customization options in Spark"*
- *"Add a feature to allow simultaneous group work"*
- *"More layout options for Spark Page"*
- *"Have more training sessions"*
- *"Learn earlier in the semester"*



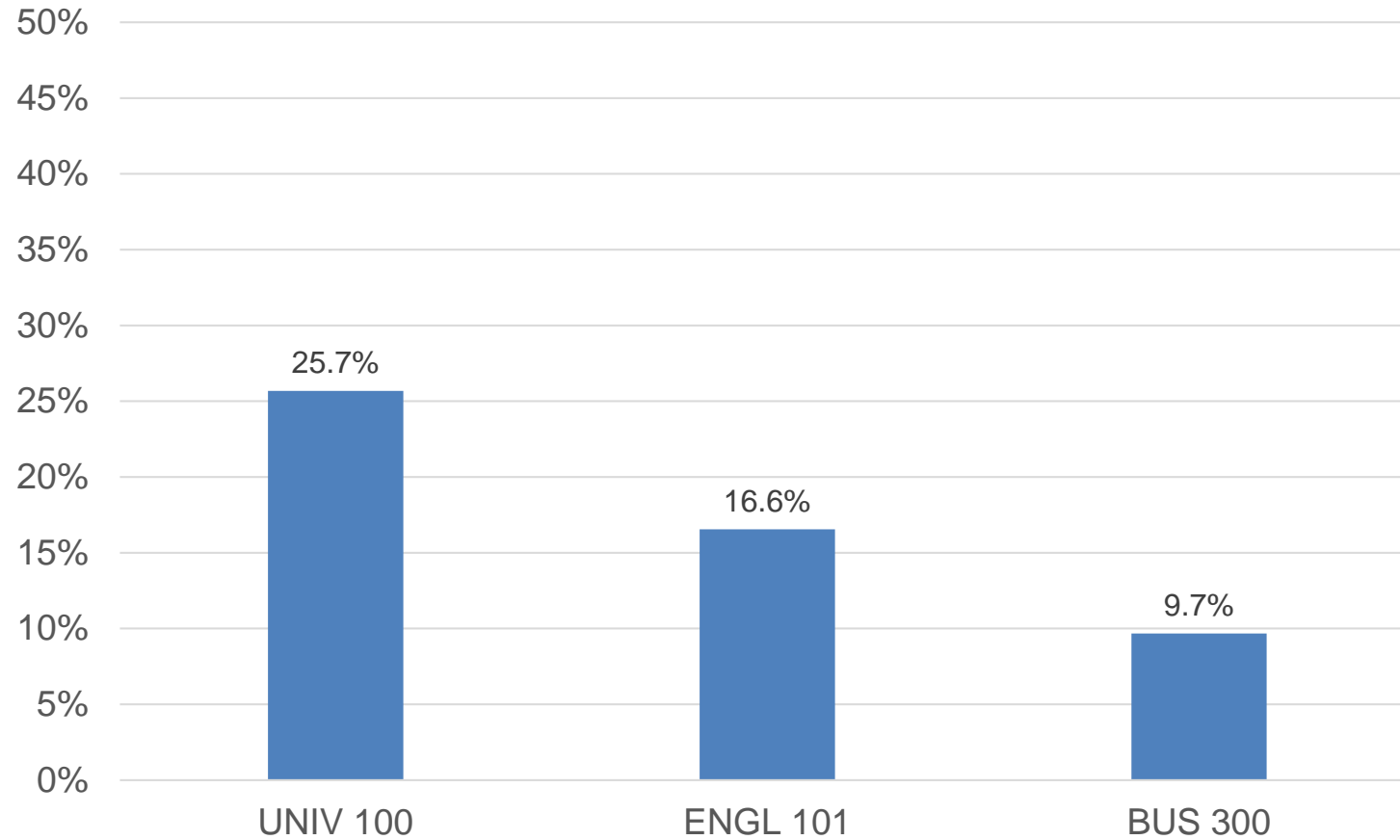
Fall 2017 Results

Average Learning Gain

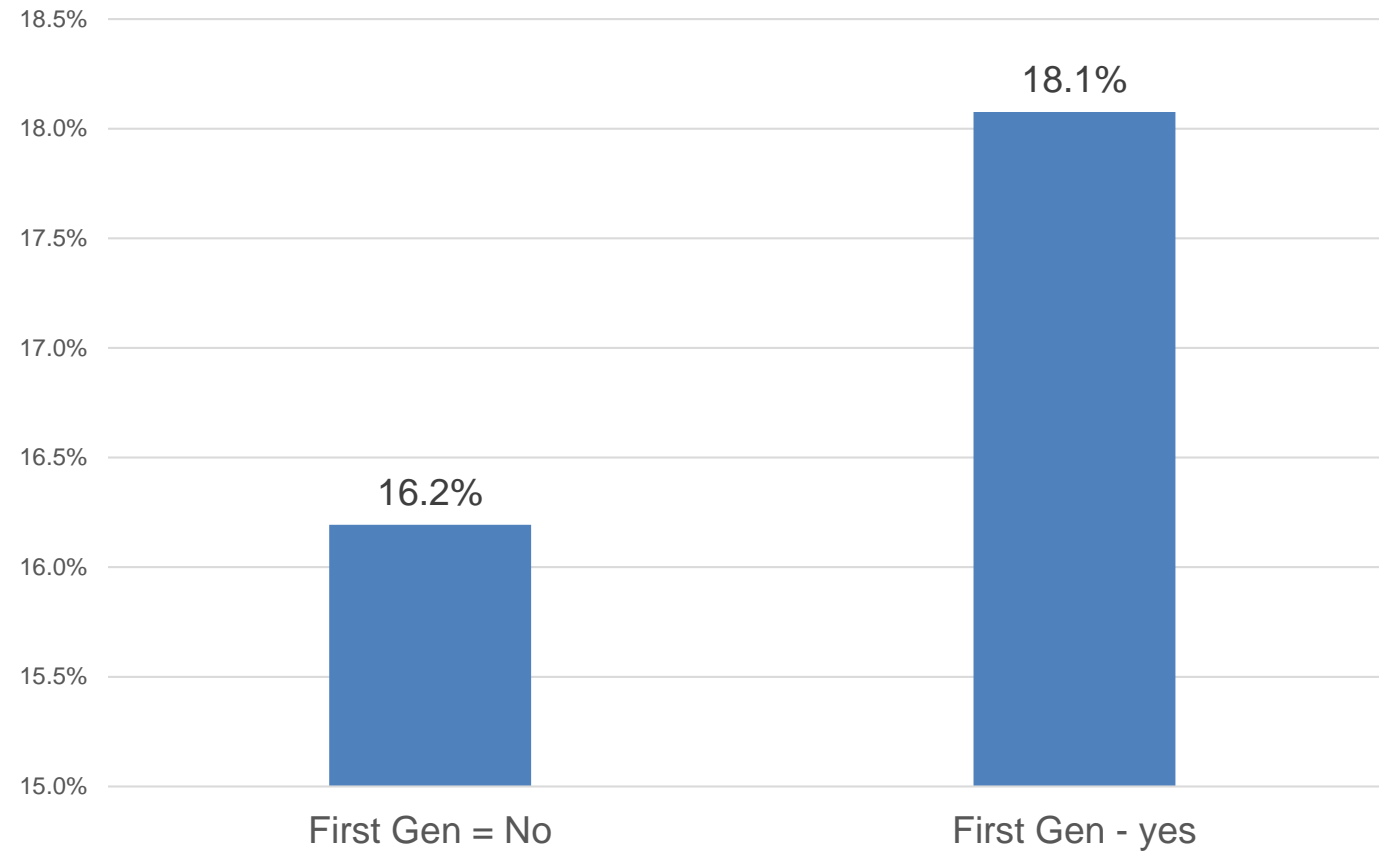


18% Avg. Learning gain
across all classes

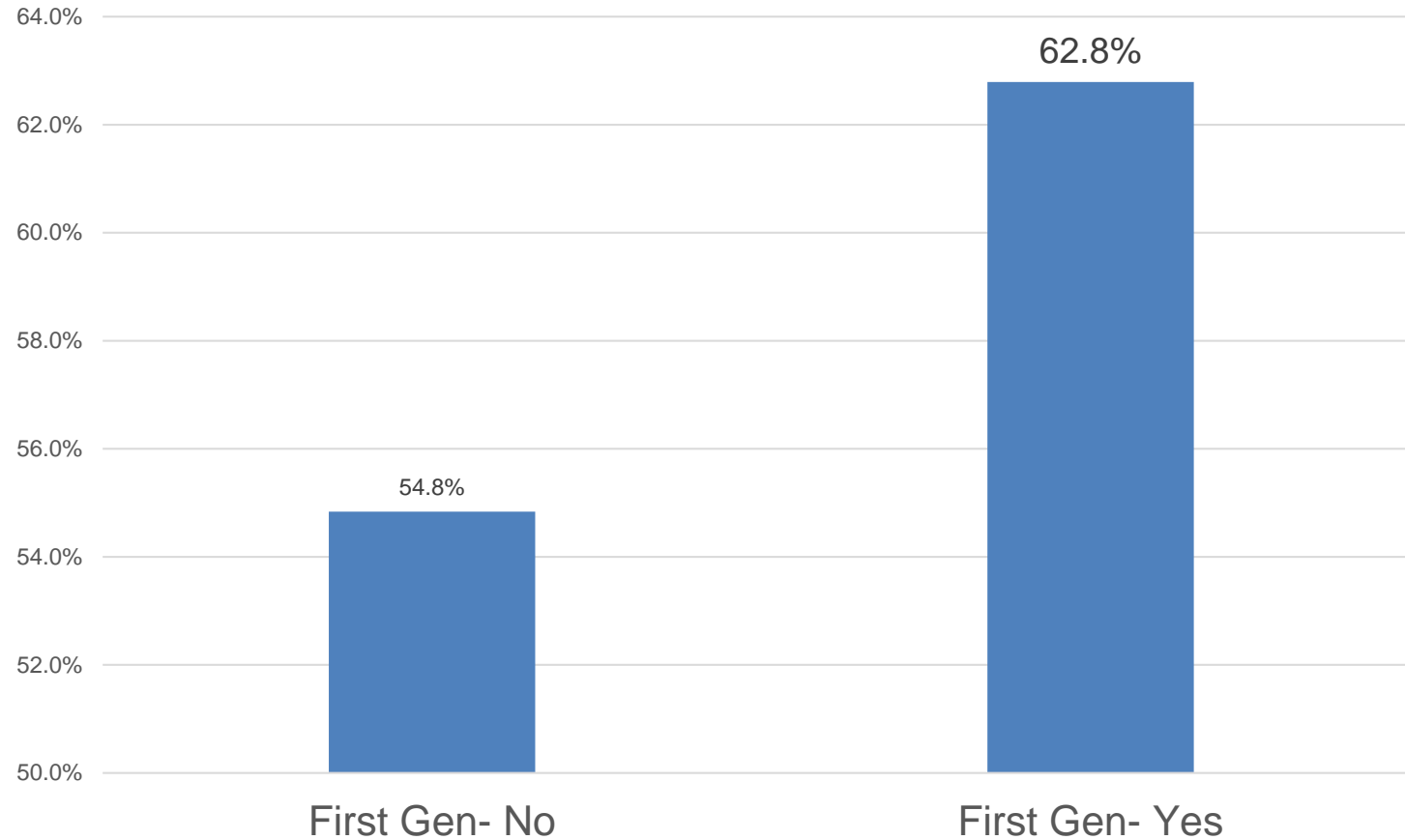
Average Learning Gain - Class



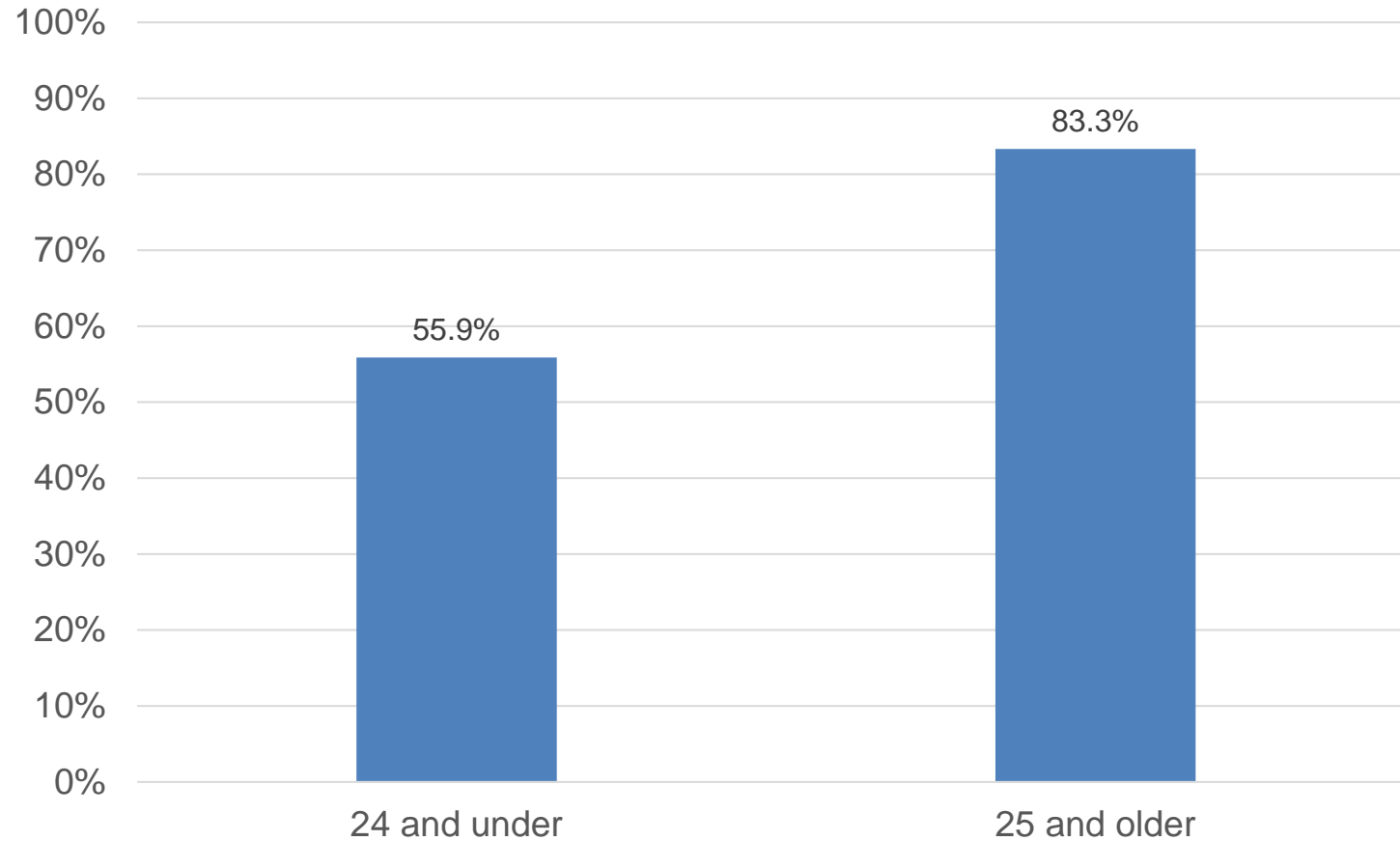
Average Learning Gain – First Gen



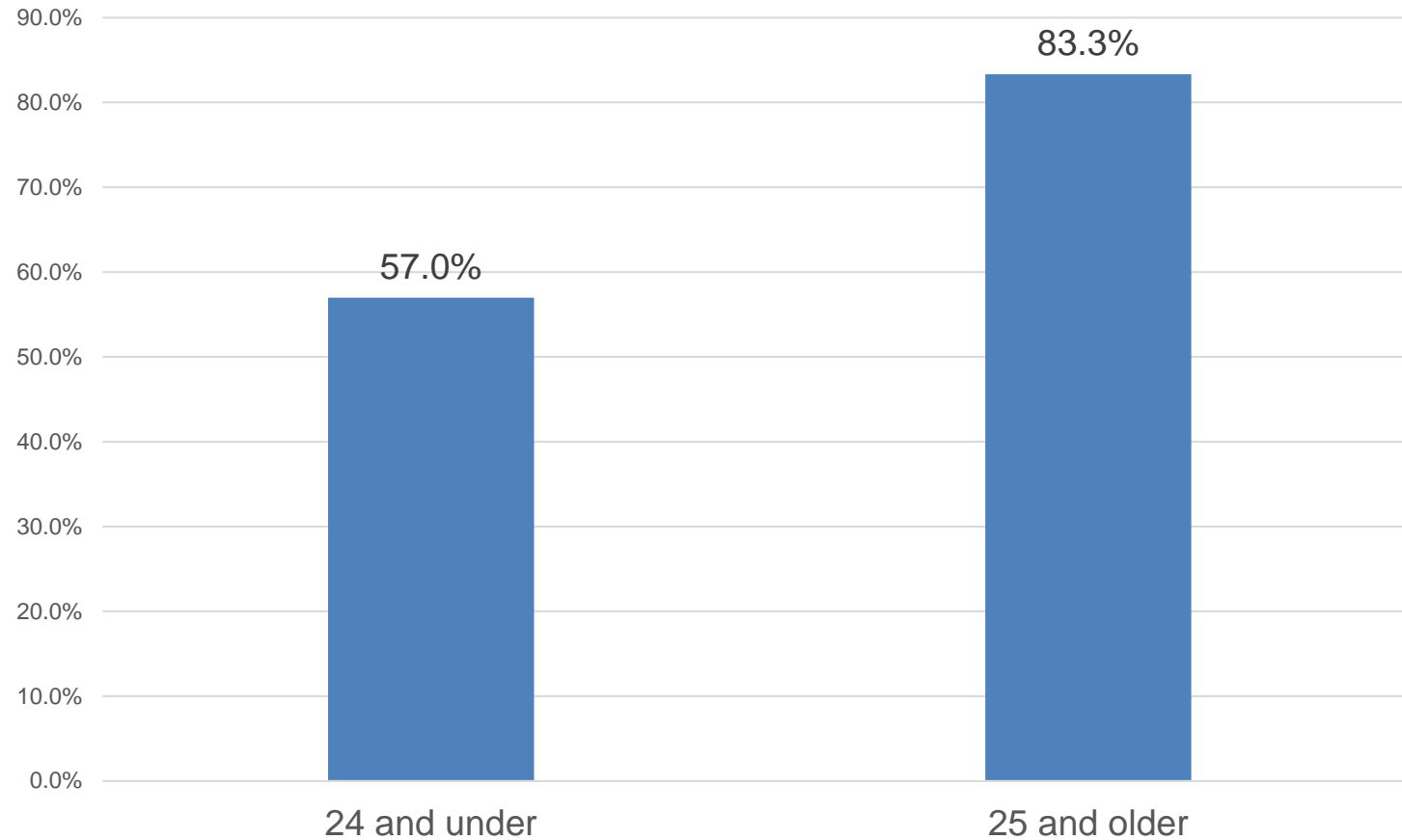
Using Adobe tools enriched my educational experience - First Generation (Strongly Agree/Agree)



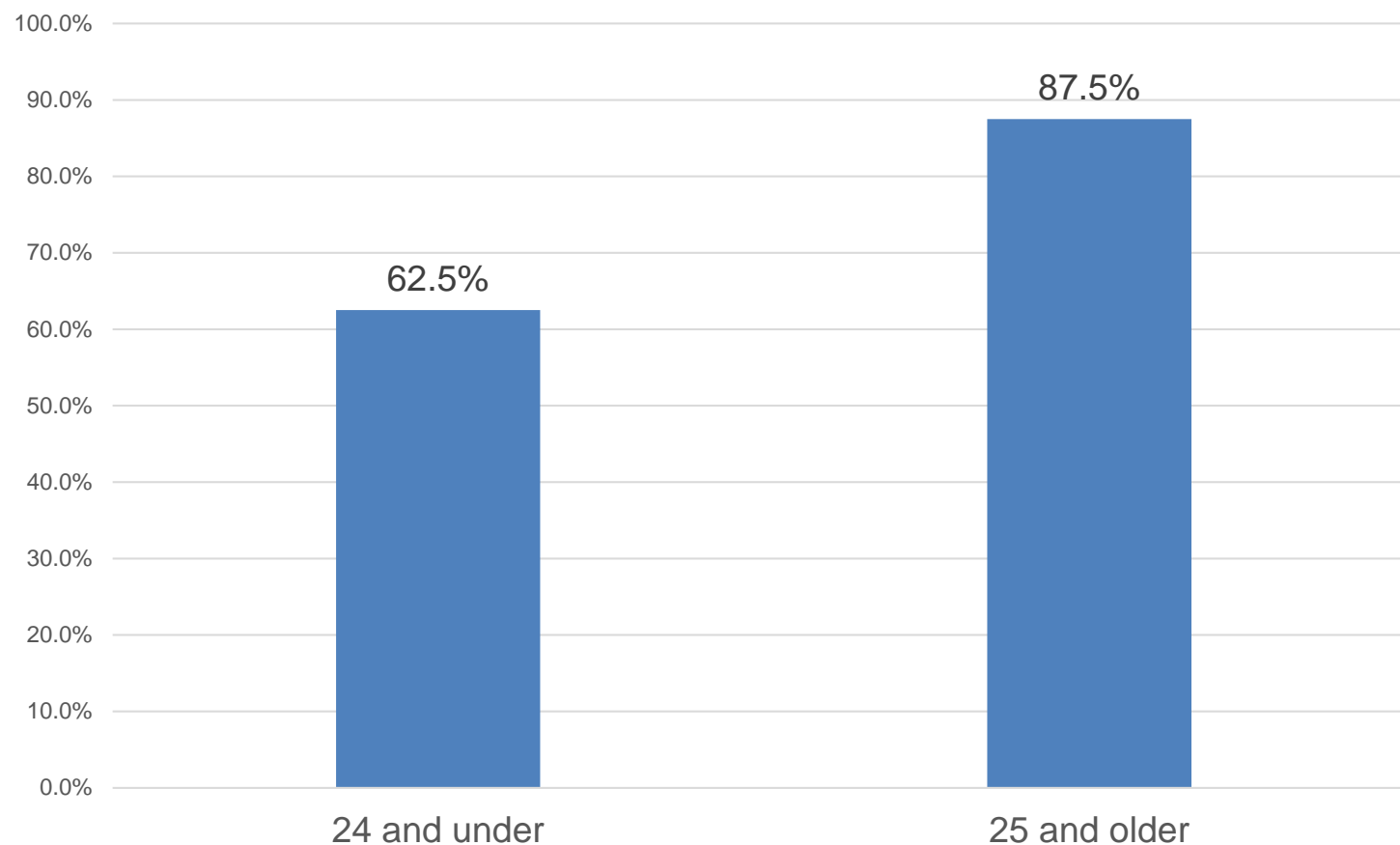
Using Adobe tools makes me more comfortable using other technology – Age (Strongly Agree/Agree)



Using Adobe tools enriched my educational experience - Age (Strongly Agree/Agree)



I will use Adobe tools in the future - Age (Strongly Agree/Agree)





Thank You!

Sources

- <https://er.educause.edu/articles/2018/1/top-10-it-issues-2018-the-remaking-of-higher-education>
- https://sched.ws/hosted_files/cybersummit2017/eb/Stephen%20LeFebvre%20Slides.pdf
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- <http://www.pewinternet.org/fact-sheet/social-media/>