Summary

Due to the ongoing **COVID-19 pandemic**, Penn State provided enhanced flexibility to faculty and students to choose how they wanted to teach and learn during the Fall 2020 semester. While some classes were held in-person, others were entirely online, and many more were hybrid in numerous ways. Due to these changes, the Media Commons, Maker Commons, and Immersive Experiences Lab services had to continue to adapt processes to adjust to the new circumstances. The summer of 2020 was spent planning for the varied course delivery methods of Fall 2020 by evaluating existing resources, adapting these resources to fit several different modes of instruction, and creating all new resources to explore new opportunities.

As a result, several physically-bound services and technology like the One Button Studios, 3D printing lab, Invention Studio, and the Immersive Experiences Lab's immersive "pinwheel" theater saw significant adjustments. Media Commons facilities, including One Button Studios, remained closed at the majority of Commonwealth campuses. University Park implemented a new plan that centralized the majority of resources at the Pattee Library location, even relocating VR, 360° video, and 3D scanning resources from the IMEX Lab to Pattee. This approach simplified our staffing needs and we adopted a new work schedule that ensured each consultant worked on campus only once per week on a staggered schedule. While open for appointments, new restrictions and guidelines developed in collaboration with the University's Environmental Health and Safety group kept the editing rooms and One Button Studios safe for use. This also allowed us to operate the Maker Commons' 3D printing service, which focused only on printing for approved course assignments and paused personal and exploratory printing for the semester. The partnership with University Libraries allowed us to ship completed 3D prints to students' homes for those that elected to learn remotely.

Despite the challenges and changes to our service model, the Fall 2020 semester was productive and successful in a number of ways, as outlined in the report below.

Fall 2020 saw 4,726 students and faculty use the Media Commons, Maker Commons, and Immersive Experiences Lab initiatives across the Commonwealth. Much of this use was focused in **186 classes** in nearly every discipline offered at Penn State. To facilitate these interactions outside of University Park, traveling consultants **offered 110 remote sessions** to provide instruction, consultations and support.

While the majority of One Button Studios across the Commonwealth were closed, the two studios located in Pattee Library still helped students and faculty create **866 academic videos**, comprising over **17 hours of video**. Students across the Commonwealth created **1,318 3D prints** in pursuit of their course work.

The report that follows breaks down our interactions with students and faculty and examines engagement levels with services offered, locations, and by individual colleges. Throughout the report we'll draw attention to exciting assignments, surprising class partnerships, and interesting

observations from the semester - stories that tell the ways in which Penn State faculty and students are pushing the boundaries of education into the future. We also point out usage and technology trends that draw from Media Commons' proven history in supporting multimedia and emerging technology as well as reflect on challenges and opportunities in the coming semesters.
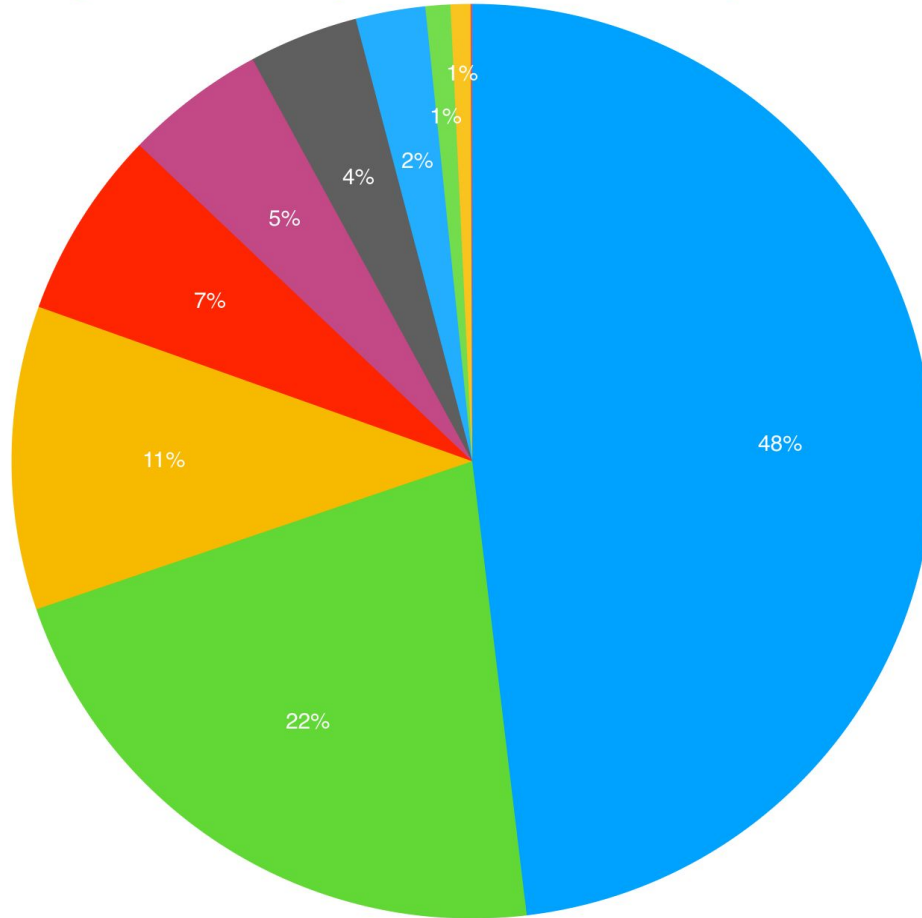
People Helped

Faculty and students used Media Commons and Maker Commons services in a variety of ways in all of our locations over the course of the semester. These charts count how many people were aided by our consultants in either 1-on-1 consultations or in-class workshops.

Media Commons @ University Park	# of People Helped
Pattee Library Knowledge Commons	134
Pollock Building Computer Lab	Closed due to COVID
PAMS Library, Davey Lab	Closed due to COVID
Immersive Experiences Lab, Agricultural Sciences & Industries Building	Closed due to COVID
Media Commons Workshops	1,134
Maker Commons Workshops and 3D Printing Users	1,584
Immersive Experiences (IMEX) Workshops	79
Media Commons Events	240
University Park Total	**3,171**

University Park Technology Breakdown

360º Video Creation	360º Video Consumption	Audio Creation	One Button Studio	Prototyping	3D Printing	Video Creation	Adobe Portfolio	Adobe XD	Adobe InDesign	Adobe Spark	Storytelling	Other
1	30	84	170	1	1,654	477	0	132	24	369	0	229

Featured Stories

- In collaboration with the **Bellisario College of Communications**, a Mask Personalization event was held in August. Over 150 students, faculty, and staff engaged with the new Cricut Maker to create and augment their facemasks with iron-on icons and other art. A second event in October, a collaboration with the **Center for Performing Arts** and **Student Affairs**, drew 30 students.
- Anne Hoag, director of the **Center for Penn State Student Entrepreneurship**, invited us to host two sessions at the annual Entrepreneurship Minor Faculty Retreat. 60 faculty, representing every discipline and every campus, participated in a facilitated play

session of [What The Deck](#) and an interactive Adobe XD workshop which showcased new methods for enhancing a traditional entrepreneurial slideshow pitch and designing an app prototype.

Campus Engagement

Campuses often don't have their own local Media Commons support and so rely on our consultants to visit campus to work with faculty and provide workshops for students. We host several tailored faculty events each semester to discuss opportunities and visit campuses as often as possible to support class partnerships.

Western Campuses

Campus	# of Penn Staters Helped	# of Classes	Events	In-Person Visits*	Remote Sessions†
Altoona	180	5	-	-	15
Beaver	294	10	-	-	21
Behrend	38	1	-	-	4
DuBois	-	-	-	-	-
Fayette	-	-	-	-	-
Greater Allegheny	128	7	1	-	18
Harrisburg	-	-	-	-	-
Mont Alto	29	4	-	1	8
New Kensington	147	5	-	-	6
Pittsburgh Center	27	1	-	-	4
Shenango	26	1	-	-	1
Totals	**869**	**34**	**1**	**-**	**77**

* In-Person Visits include travel to campus for equipment and computer service and/or One Button Studio tune-ups.
† Remote Sessions denote online teaching workshops, faculty consultations, meeting with students, hosting events, critiques of project materials uploaded to Canvas, Box, etc

Featured Stories

- At the **Greater Allegheny campus**, the twice-yearly **Research Conference** moved entirely [online](#) by mixing Adobe Spark Videos and Pages to create asynchronous accessible poster sessions for attendees and judges. Event coordinators created the conference framework in consultation with Media Commons, which had consulted on a similar transition for New Kensington in Spring 2020. Student participants received tailored Canvas course modules and live support sessions ahead of their mid-November deadline.
- Continuing a partnership at the **Beaver campus** going back to 2012, Media Commons re-imagined **BIOL 220W's Regional Sustainability** project for students working largely remotely. Groups completed six videos on topics ranging from the effects of [climate change](#) and [invasive species](#) on local maple syrup production to the widespread [impact on water](#) from [local industrial activities](#) and pollution.
- Despite working remotely in and out of the city, students in the **Penn State Center Pittsburgh's City Semester** program each created masterful short films demonstrating their experiential understanding of sustainability as applied by each of their community partners. Working with Media Commons and a scaffolded approach, students were onboarded to video production at home and supported with a series of storytelling consultations.

Eastern Campuses

Campus	# of Penn Staters Helped	# of Classes	Events	In-Person Visits*	Remote Sessions†
Abington	15	2	-	-	1
Berks	299	7	-	-	8
Brandywine	239	12	-	-	13
Great Valley	-	-	-	-	-
Hazleton	49	4	-	-	5
Lehigh Valley	15	1	-	-	-
Schuylkill	5	1	-	-	1
Scranton	17	1	-	-	2
Wilkes-Barre	1	-	-	-	1
York	46	5	-	-	2

Totals	686	33	-	-	33

* In-Person Visits include travel to campus for equipment and computer service and/or One Button Studio tune-ups.
† Remote Sessions denote online teaching workshops, faculty consultations, meeting with students, hosting events, critiques of project materials uploaded to Canvas, Box, etc

Featured Stories

- At the **Berks campus,** Professor Jayne Park-Martinez taught the brand new class **METEO 133N - Ethics of Climate Change**. In collaboration with Media Commons, Dr. Park-Martinez designed an activity that involved filming a discussion on different topics that would later be analyzed and edited to highlight key aspects of the conversation. This assignment was completed twice throughout the semester. The first assignment's discussion participants were all from the class, while for the second discussion students were asked to include family and friends. This project was completed by utilizing Zoom for discussion recordings and Adobe Rush for editing those discussions. Two training sessions were provided, including one on best practices when recording discussions using Zoom.
- As a new-to-Media Commons partner, instructor Jennifer Nesbitt at the **York campus** collaborated on the design of a podcast assignment for her **ENGL 30** course, which included two conversational podcast assignments with the overarching theme of "Best of Web Media." The first assignment was a discussion on nonfiction literature and the second assignment was to take an in-depth look at specific topics. Students used Adobe Spark Video to create the podcasts, which provided easy collaboration tools for students working remotely.

Class Partnerships Across Colleges

Media Commons consultants partner with faculty from every college at Penn State to help design multimedia and making assignments, provide workshops for students, and 1-on-1 consultations as the students complete their work. This table represents how many classes were worked with in which colleges during the semester.

Partnered Service Key: Media Commons = MeC, Maker Commons = MaC, Immersive Experiences Lab = IMEX

Colleges	University Park				Western Campuses				Eastern Campuses				Grand Totals
	MeC	MaC	IMEX	Total	MeC	MaC	IMEX	Total	MeC	MaC	IMEX	Total	
Agricultural Sciences	3	2	1	6	-	-	-	-	-	-	-	-	6
Arts & Architecture	6	8	8	22	1	-	1	2	1	1	-	2	26
Business	1	2	-	3	-	-	-	-	5	-	-	5	8
Communications	-	2	2	4	3	-	-	3	6	-	-	6	13
Earth & Mineral Sciences	3	-	-	3	-	-	-	-	3	-	-	3	6
Education	4	-	-	4	-	-	-	-	1	-	-	1	5
Engineering	1	42	-	43	-	1	-	1	-	1	-	1	45
Health & Human Development	1	1	-	2	7	-	2	9	4	-	-	4	15
Information Sciences & Technology	-	5	-	5	6	1	-	7	1	-	-	1	13
Liberal Arts	27	-	-	27	8	-	-	8	10	-	-	10	45
Medicine	-	-	-	-	-	-	-	-	-	-	-	-	-
Nursing	-	-	-	-	1	-	-	1	-	-	-	-	1
Sciences	-	-	-	-	2	-	1	3	-	-	-	-	3
Totals	46	62	11	119	28	2	4	34	31	2	-	33	186

Featured Stories

- In the **College of Arts and Architecture at University Park**, students in the **ARTH 112U** course were invited to choose a digital medium with which to present a semester's worth of research. Students created videos, podcasts, and Adobe Spark pages after participating in a Media Commons Storytelling workshop. Examples of the students' work can be found here and here.
- In the **College of Agricultural Sciences at University Park**, Estelle Couradeau's **SOILS 071** class used Adobe Spark for a group storytelling assignment where students researched a sustainability topic and explored the topic's challenges and solutions by collaborating on a video and a Spark page with photos. Examples of the students' work can be seen here.
- **AED 322**, another class from the **College of Arts and Architecture at University Park**, collaborated with our Immersive Experiences Lab to create an experimental new assignment focused on augmented reality (AR). Using the app Unity, students created

an AR layer over top of an image of professional artwork. This layer added relevant historical or personal context to the artwork as experienced by the student and captured in a video. Here are two examples of the original artwork (one, two) and the AR-powered videos created by the students (one, two).

● First year seminar **EMSC100** from the **College of Earth and Mineral Sciences at University Park** collaborated with Media Commons on a video assignment that asked students to research and respond to topics including dealing with climate change impacts, vulnerability and adaptation, and climate solutions. An example of a student video can be found here.

One Button Studio: On Campus + At Home

Media Commons supports the One Button Studio project across campuses and students in remote locations. The One Button Studio allows students and faculty to simply create quality academic videos, often for recording presentations, lectures, and demonstrations, or completing class assignments - both in-persona and via best practices to apply at home via Zoom.

In-Person

Location	# of Videos Created	Total Duration of Videos H:M:S
Pattee Library Knowledge Commons (2 studios)	866	17:00:55
Pollock Building Computer Lab (2 studios)	closed	COVID
PAMS Library, Davey Lab	closed	COVID
University Park Total	**866**	**17:00:55**
Commonwealth Total	**inaccessible**	**due to campus closures**
Total One Button Studio Use	**866**	**17:00:55**

Online

# of Unique Visits	Avg Visit Duration	Top Referral Page
732	3 min 32 sec	/faculty

Featured Stories

- Students from Dr. Ann Clements' **Music 340: Music Learning and Development**, **from the College of Arts and Architecture at University Park**, used One Button Studio at Home principles to record, edit and produce a multicam music video that included 24 students. Project Hope is a compilation of nearly 25 videos recorded via Zoom and edited together to form a virtual choir singing Penn State's Alma mater. The students leading the project collaborated with Media Commons Consultants for expertise in remotely editing and producing the project.

3D Printing

The Maker Commons offers students at University Park, the Commonwealth Campuses, and World Campus access to 30 3D printers through an online submission process. The printers are located at University Park but, through a partnership with University Libraries, are able to ship prints to any student for easy pick-up.

Registered 3D Printing Project Students	1,396
Hours of Print Time	3,931.5
Successful Prints	1,318
Filament Used	44.3kg (~97.6 lbs)

Featured Stories

- In order to support students who chose to learn remotely this semester, Maker Commons partnered with University Libraries' Lending Services to offer direct shipping to the students' homes, in addition to the standard in-person pickup in the Pattee Library Atrium and shipping to campus libraries. In Fall 2020, 234 3D prints were shipped to homes all over the United States, from Washington and California, to Florida and Georgia. In total, these 3D prints traveled 26,550 miles, a distance of 1.1 times around planet Earth. More locally, University Park in-person printing totaled 780 3D prints and campus library distribution totaled 304 3D prints.
- Two laboratory classes, **BIOL 427 at the Beaver campus** and **FRNAR 100 at University Park**, were supported by 3D printing lab materials used for experiments. These materials were shipped to the students to perform the labs. Materials included ten sets of five types of horse teeth and 90 sets of four types of crime scene objects.

Website as Central Support Tool

The Media Commons online resources have continued on in their role as the central focus of all training and support across all instructional modes. Comparing traffic year over year, visitorship is up just over 50%. As with the Spring semester, particularly following the switch to remote instruction after Spring Break, iMovie-related content was very popular, with the Exporting

tutorial alone receiving 16% of sitewide pageviews. With so much focus on place-agnostic content, IMEX Lab visits increased by 53% this term. Maker Commons, with its chiefly physical resources, continued seeing web traffic drop vs last Fall, down 39% for the semester.

- The number of unique visitors reached **219,955 across all three services**:
  - 213,769 via Media Commons (+51%)
  - 1,846 via IMEX Lab (+53%)
  - 4,340 via Maker Commons (-39%)
- The pageviews for Media Commons reached 282,878, encompassing popular content including:
  - **Exporting Your iMovie Project** (+107%)
  - **Using Green Screen in iMovie** (+54%)
  - **Public Service Announcement** (+49%)
  - **Adding Sound Effect and Voiceovers** (-10%)
- IMEX Lab pageviews reached 11,088, representing popular content including:
  - **Experience Catalogue** (-34%)
  - **National Civil Rights Museum Virtual Tour** (+1658%)
  - **360º Tour of Advanced Manufacturing Plant** (+326%)
- Maker Commons pageviews reached 37,631 representing diminished views of the following content:
  - **Submit My 3D Print** (-35%)
  - **3D Printing** (-47%)
  - **Preparing a Print in 3DPrinterOS** (-45%)

Challenges, Opportunities & Notable Trends

The unique challenges of the Fall 2020 semester provided the opportunity to innovate around new workshop ideas and engaging assignments for faculty to incorporate into classes. We focused on using Adobe tools as we knew that all students could access Adobe Creative Cloud through the University and it could serve as the common thread through the disparate ways students were learning. Included here is a brief synopsis of the new workshops and assignments that were created during this semester.

3D Modeling and Beyond with Tinkercad, Adobe Dimension, and Adobe Aero
The traditional 3D modeling workshop which covered a tour of 3D printing with Maker Commons and an overview of Tinkercad for simple 3D modeling has been updated to include both a making and implementation component. Tinkercad is still used to create the basic model, but now Adobe Dimension has been incorporated to demonstrate how 3D models can have textures and material substances applied as well as using a feature called Environments to place the object in a realistic scene. Students are then taught how to publish in three different media - physically 3D printing; virtually via Sketchfab.com; or through augmented reality using Adobe Aero.

Immersive Presentations and App Development with Adobe XD
Our latest iteration of our Adobe XD workshop consists of two parts: the first demonstrating the possibilities of creating immersive presentations using XD; and, second, showcasing the use of XD in app design. Instruction includes a step-by-step technical overview of how to create an ice cream ordering app inspired by the Penn State Creamery.

Infographic Creation with Adobe Spark
In each semester, our partnership with ENGL 15 evolves depending on the graduate student leadership involved in the planning of the multimedia assignment. This year, infographics became the focus and we developed a new infographic workshop to support the ENGL 15 instructors as they personally implemented the assignment in their classes. During our Infographic workshop, we discuss the five design principles (alignment, repetition, contrast, proximity, balance), present the best practices of creating an Infographic (considering audience, storyboard/wireframe, color theme and iconography, typography, flow of content, visual balance, and fine pass), and give examples of excellent infographics and less-than-excellent infographics. In the second half of the workshop we demonstrate step-by-step how to create an infographic using Adobe Spark while highlighting additional valuable Adobe tools and resources including Stock, Charts, Timeline, and Color and offer an alternative free design product, Canva.

Presentation Enhancements with Adobe Spark
This workshop uses Adobe Spark to re-envision creating presentations using Adobe Spark, covering both design elements and presentation best practices. The workshop also focused on using additional tools for enhancement like Adobe Spark Posts, Stock, Colors, Fonts, and Charts.

Brochure Design with Adobe Spark
This workshop teaches students the essential elements of design and best practices for storytelling in a brochure format. Students create a brochure using Adobe Spark by incorporating layouts, photos, icons, fonts, colors, and content with a focus on overall design flow, clarity, and cohesiveness. This was developed and taught for Christina Cook's ENGL 15 class for an assignment originally commissioned by The Restorative Justice Initiative (RJI) at Penn State's College of Education, in partnership with Penn State Learning's Public Writing Initiative which seeks to create awareness of issues impacting incarcerated communities; create educational opportunities for incarcerated populations; conduct research that informs curriculum used in correctional settings; and improve community, university, and state correctional institutions' relationships through strategic partnerships that cultivate a network of resources for justice-impacted individuals.

Print Layout with Adobe InDesign
This workshop provides an overview of design tools in Adobe InDesign primarily utilized for print layouts of text and images. Emphasis is placed on simplifying the complex InDesign interface to concentrate on the tools students need for their assignment. This semester, students explored designing magazine layouts.