Extending XR across Campus: Year 2 of the EDUCAUSE/HP Campus of the Future Project

EXECUTIVE SUMMARY

MARCH 2020

Key Findings

- **The adoption of XR on campus is influenced by how XR comes to campus.** If XR is adopted first by faculty for their own teaching and research, outside of any institutional support, XR use on campus tends to take considerable time to grow. If XR is promoted by institutional leadership, especially when accompanied by resources, scaling up institutional deployment becomes more efficient.

- **The adoption of XR on campus is also influenced by the organizational structure of the institution.** For XR technology to be deployed on campus, there must be a campus unit or cross-unit collaboration with responsibility for managing it and staffing to support it.

- **Software licensing and hardware management are significant issues for the deployment of XR on campus.** Most XR software is licensed under a single-user consumer license, while institutions of higher education require enterprise or educational licenses. Managing XR hardware, meanwhile, requires processes for supporting it, such as scheduling systems and simply cleaning it after use.

- **Staffing and institutional leadership are even more important for the deployment of XR on campus.** Staff supporting XR technology must be versatile, able to provide everything from introductory how-to workshops to advanced technical support and Unity development, and from IT help to content-specific disciplinary guidance. Supporting XR requires innovation and a commitment to user service on the part of the campus unit responsible for managing it. These professional competencies must be accompanied by parallel organizational values deliberately fostered by institutional leadership.

- **Deployments of XR on campus fall into one of three models: the special initiative, service integration, and grassroots.** Special initiatives are managed by a campus unit or through cross-unit collaboration, which serves to promote and expand use of XR on campus over time as the campus unit gains experience. Alternatively, XR can be integrated into existing services offered by one or more campus units, such as makerspaces or the library. If XR first comes to campus outside of any institutional support, it may take some time for a grassroots effort to grow before reaching sufficient critical mass to receive institutional support.
• A campus XR lab may actually be two distinct spaces: a computer lab and a studio space. XR development requires high-end computer hardware and specific software, but these may be located anywhere, including in a “traditional” computer lab. An XR studio can be a small space, but it needs to be uncluttered to keep headset-wearing users from colliding with people and computer hardware.

• Providing access to XR technology is a matter of social equity. If student success is a priority for an institution of higher education, then the institution needs to actively work to remove structural barriers to student access to technologies and other campus resources by making this technology available to the campus community via a variety of means.

**Recommendations**

For Institutions

• **Identify or create a group that will take ownership of XR and will support it at the institution.** This can be an existing campus unit, such as Library & IT Services at Hamilton College or the Miami Beach Urban Studios at Florida International University, or it might be a newly forged collaboration across campus units, such as the Emerging Technologies Consortium at Columbia. This group will physically maintain the hardware and update and license the software. Beyond that, the services provided by this group may vary by institution, but they might offer tutorials and workshops, showcases, visits to classes, and events for the community.

• **Create a special initiative to explore the uses of XR on campus.** The special initiative is a time-honored mechanism for introducing new technologies into institutions of higher education, and this framing as exploratory is important for gaining acceptance of a new technology on campus, especially with faculty. A special initiative provides time for ideas and use cases for XR to disseminate to the campus community and for new potential users to emerge. Critically, a special initiative also provides time for the campus unit supporting XR to gain experience with the technology. As with any special initiative, systematic data collection is critical to enable evaluation of its impact.

• **Promote informal social networks around XR technology.** Such a group creates buy-in with the technology, as members support each other’s uses and brainstorm new ones; thus membership grows over time. The case of Syracuse University illustrates that such an informal group might in time “graduate” to the status of a campus initiative. The VR and Beers group grew over several academic years, gaining members, developing projects, and seeking grant funding; now it has gained support from the Office of the CIO.

• **It is a matter of social equity to provide access to hardware and software as institutional resources.** This applies to XR as well as to any other technology. Providing access to technology through the institution benefits students who do not own it and, just as important, benefits students who are remote from campus. This is particularly an issue for community colleges and other institutions with a high percentage of commuter students. The way technologies are provided depends on the technology itself and on the user community. A lab might be more appropriate for some use cases, while enterprise-licensed software in the cloud or for download might be more appropriate for others.
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For Institutional Leaders and Managers

- **Institutional leadership is critical to the success of XR deployment.** The support provided by institutional leadership has a profound effect on XR adoption on campus. Support here means budget—providing hardware, software, and staff—and permission, so that potential users have the space to innovate with the technology and service models.

- **The level of risk tolerance by institutional leadership is critical to the success of XR deployment.** Providing the resources to support XR technology, and the flexibility to design an appropriate service model for the campus community, will promote its use across campus.

- **A commitment to user service is critical to the success of XR deployment.** Effective use of XR technology requires both technical skills and an understanding of instructional design. Developing capacity across institutional silos will promote the use of XR across campus.

- **Shop the technology around to potential early adopters.** Some faculty are willing—even eager—early adopters; others not so much. Like many new technologies on campus, XR will be used increasingly as successful use cases are developed and word about them spreads.

- **Showcase successful use cases.** Harness the enthusiasm of early adopters by providing them a venue for demonstrating their uses of XR technology. Some people need to see a technology in use before they can imagine how they might employ it for their own use cases.

- **Showcase evidence of impact.** There is a growing body of research on the effectiveness of XR for teaching and learning a variety of subjects and skills. The previous reports from this project, the 2018 Learning in Three Dimensions report and the 2019 XR for Teaching and Learning report, contain many citations to such studies. Some instructors may need to see data on the efficacy of this technology for learning, along with evidence of its impact, before they would be willing to use it in their own teaching.

- **Provide space for using XR.** Some people need to try a technology themselves before they can imagine how they might use it for their own purposes. Providing access to XR in a computer lab, a makerspace, or another campus unit enables members of the campus community to experiment with the technology.

For XR Technology Vendors

- **Offer enterprise licenses for educational institutions.** Most of the XR technology being used in higher education is designed for the consumer market, with the implicit assumption of a single purchaser and a single end user. But this is not the situation at institutions of higher education, where the purchaser is the institution and both hardware and software are employed by multiple users.

Learn More

Access the full report about XR for teaching and learning on the research hub at [https://www.educause.edu/extending-xr](https://www.educause.edu/extending-xr).