Seeing Infrastructure, Interrogating Infrastructure: Making explicit the implicit of LIS education and learning environments

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ABSTRACT

The relationship between infrastructure and higher education (HE) has been well studied from the perspective of information technology (IT), education policy, and pedagogy. Seeing infrastructure and interrogating it requires a socio-technical focus on critical systems within education. Because of the heterogeneous nature and means of HE institutions-- from private to public, large to small-- learning infrastructure is highly localized and often entails a rhizomatic configuration combining commercial, open-source, and homegrown systems and methods. The opacity and variability of LIS education makes it difficult to understand under the traditional scope of public goods, but the pervasiveness of educational challenges, particularly during the Covid pandemic, renders them a site that allows for the investigation of everyday interaction with infrastructure.

In this panel, we ask: what critical infrastructure is necessary to support LIS education and LIS students during times of crisis, when flaws in the infrastructure are revealed through failure points? Such failures are critical, as they create a softening of boundaries necessary for systemic change. Education becomes a key site to study implicit socio-technical structures, a ley site to study inequality, wherein we can ask: why this infrastructure?

ALISE RESEARCH TAXONOMY TOPICS

education programs/schools; students; social justice

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sociotechnical systems; library and information science education; infrastructure

The relationship between infrastructure and higher education (HE) has been well studied from the perspective of information technology (IT), education policy, and pedagogy (Williamson, 2018). Learning infrastructure is highly localized, yet the opacity and variability of LIS education makes it difficult to understand the variety and breadth of challenges that unarticulated operating principles pose to students, particularly during the Covid pandemic. In this panel, we ask: what critical infrastructure is necessary to support LIS education and LIS students during times of crisis, when flaws in the infrastructure are revealed through failure points? Such failures are critical, as they both reveal the often hidden infrastructure and create a softening of boundaries necessary for systemic change. Education becomes a key site to study implicit socio-technical structures, a ley site to study inequality, wherein we can ask: why this infrastructure?

This panel will take us on a journey through current research by Bettivia, Davis, Pollock, and Williams. Work by Bettivia and Davis examines the assumption that digital natives know how to learn in digital environments, an assumption that proscribes investment in holistic programs of student onboarding that undergird student experiences in HE. Pollock and Davis then ask us to consider why we persist with our current infrastructure when so many of its features represent known barriers to access for historically excluded populations. Importantly: how can we turn the lens back on ourselves in order to examine those features which we take for granted? Williams continues interrogating infrastructural tensions in public library service provision during times of crisis, addressing ways of navigating those tensions and coping through that process. Davis examines the use of academic library resources and services by undergraduates of the global majority and the subsequent impact of the pandemic. Each of the following presentations weaves a larger narrative which takes up the central questions: why are these the infrastructures, and should these remain the operating principles?

Dr. Bettivia, who focuses on transnational political and governance concerns in technological infrastructures with a focus on digital cultural heritage, and **Dr. Davis**, who researches issues around diversity, equity, and inclusion in LIS, examine a project, the E-Learning Guide, that provides concrete guidance for students designed to mitigate trepidation and anxiety caused by e-learning during the pandemic. Students need their own tools to feel a sense of agency in e-learning environments. Because many students have spent the vast majority of their learning years in face-to-face environments with a 'sage on the stage', guidance on the mechanics of how to learn in online environments can improve student self-sufficiency and feelings of success and well-being. The E-Learning project rejected the implicit assumption that university students inherently understand digital classrooms simply because of their previous learning experiences and access to digital gadgets, instead aiming to render visible specific skills needed to maintain learning agency in online classes.

Dr. Pollock, whose work examines innovation, change, and equity in academic and other research-oriented communities, and Dr. Davis, discuss their ongoing study of first-generation students' paths to graduate education, and how considering the experiences of students who are the first in their families to pursue higher education can broaden our understanding of academia's current infrastructure, help us identify how structural features taken for granted may serve as

barriers to those who lack prior knowledge of academia's 'hidden curriculum,' and invite us to question how these structures can be reimagined. Pollock and Davis' research with first-generation students pursuing graduate degrees during the COVID-19 pandemic examines these innovative students' information seeking and responses to the crisis, and also reveals how institutional responses to the pandemic both increased and alleviated student challenges related to belonging, access, and work/life balance.

Dr. Williams, whose research considers public libraries, crisis management, and collaboration between libraries and social work, discusses the tension between public libraries as essential services and the lack of essential support they receive. She examines how it is possible to challenge these infrastructures and find ways to cope while navigating increasingly challenging work environments and expanded responsibilities that include crisis response and management. Her scholarship identifies how we can learn from social work skills (crisis intervention, wellbeing, resilience, and communication skills). Dr. Williams discusses leveraging these approaches in LIS education and how these skills call attention to the tensions in labor, coping, and professional development for students and professionals alike. Addressing these tensions explicitly and exploring ways to mitigate them supports the development of professionals who have the skills and confidence to unearth them.

Dr. Davis, discusses a study about African American undergraduates and their use of academic library resources and services. Dr. Davis explores the extent to which African American undergraduates are using academic libraries, the resources and services that they are using, and the impact of COVID-19 on their use of the library (Connell, Wallis, & Comeaux, 2021). Preliminary findings show that students use the physical space in the library, but COVID-19 increased their use of resources and services online. Additionally, students have to adjust to a "new normal" because libraries were closed, opened for reduced hours, and operated under new safety protocols. While students were able to adjust, they found that not having the physical space eliminated regular study space, abilities to work with friends, use technology, and escape distractions.

The curatorial labor of assembling these projects into a panel at ALISE, a pan-disciplinary conference, allows us to demonstrate a method of inquiry that encourages a continual practice of revealing underlying systems, questioning assumptions, and enacting infrastructural changes within LIS education.

References

Connell, R. S., Wallis, L. C., & Comeaux, D. (2021). The impact of COVID-19 on the use of academic library resources. *Information Technology & Libraries, 40*(2), 1-20. https://doi.org/10.6017/ital.v40i2.12629

Williamson, B. (2018). The hidden architecture of higher education: Building a big data infrastructure for the 'smarter university'. *International Journal of Educational Technology in Higher Education, 15*(1), 1-26. https://doi.org/10.1186/s41239-018-0094-1