Technology in Carceral Facilities: Trends, Limitations, and Opportunities for Libraries

Expanding Information Access for Incarcerated People

The technologies utilized by, or absent within, juvenile detentions, jails, prisons, and other carceral sites have major implications for how librarians and information workers facilitate incarcerated people's access to information and digital literacy resources and support their continued access upon release. Already, trends toward mail scanning and digitization–where mail sent to incarcerated people is scanned or photocopied by the prison system or a third-party contractor, and the copy of the original material is presented to its recipient–impact how libraries provide reference by mail services to patrons inside (Wang, 2022). Outside companies boast about their ability to retain and analyze all scanned mail, causing major concern when it comes to patron privacy and a cooling effect on incarcerated patrons' ability to access needed and reliable information (Austin, 2019).

As private Information and Communication Technology (ICT) companies make further headway into prisons, they have exploited their position as information providers to generate income off of services that would otherwise be free to library patrons. In response, the American Library Association passed the Resolution in Opposition to Charging Prisoners to Read (2020). That resolution includes statements about the barriers that fees charged by ICT companies create (ALA, 2020). James has calculated that "these charges mean that the average cost of reading a single 'free' book such as *1984* is close to $20, while imprisoned people's wages, if any are paid, are less than $1 per day" (2020).

Despite the challenges, librarians and information workers are finding creative ways to facilitate access to information, books, and library programs through technology. They are also creating technology-related programs and services that specifically address the ways in which incarceration, during which people have limited access to technologies equivalent to those outside of prisons, and, for the most part, no access to the internet, negatively impacts people's digital literacy skills.

Technologies used by carceral systems change rapidly, shaping the experience of incarcerated people and their families (Owens, Cobb, & Cranor, 2021). In order to identify emerging trends in technology's impact on information access for people who are incarcerated or recently released from carceral facilities, San Francisco Public Library's Jail and Reentry Services librarians and information workers conducted a literature review of academic articles, books and book chapters, and popular materials related to this topic published from

January of 2020 to December of 2022.[1] In total, we reviewed 24 academic articles and presentations, three chapters, one book, and four popular sources. We emphasized materials related specifically to technology and information access in carceral facilities, digital literacy and incarceration or reentry, and library services or similar services that provide some models for moving ahead. We position these within the larger context of technologies in carceral facilities.

Contextualizing Technology and Incarceration

> *It can be hard to keep up with changes in technology even when you're experiencing them firsthand. When you're locked away, it's virtually impossible.* (Garcia, 2021)

Garcia, a currently incarcerated journalist, directly describes the impact the limited access to technology, especially the internet, has for incarcerated people. In a piece in the *MIT Review*, Garcia describes what is possible to access in the prison: "[e]ven though the internet is a given in the rest of society, access in prison is so restricted it's almost nonexistent. Prisoners are only allowed to use a tiny number of programs that might offer Zoom classes with outside teachers, or to browse an extremely limited set of whitelisted sites through intranets that are carefully cordoned off from the public internet."

Garcia writes this from San Quentin prison, which is lauded as one of the most well-resourced prisons in the state of California.

Professional resources directed toward correctional officers and administration extol the possibilities that technology offers, including facilitating the constitutional mandate to provide access to the law through LexisNexis, the possibility to track people on parole post-incarceration, and to manage commissary purchases (Guerico, 2021). Despite this, research has found that the likelihood of acceptance of new technologies can vary among carceral staff, depending on position. Wardens tend to be more open to the introduction of new technologies than correctional officers. Furthermore, "prison officials who worked in prisons with more access to technology were 81% more likely to have a positive attitude towards access to tablets for imprisoned people" (Mufarreh, Waitkus, & Booker, 2022). As an aside, the researchers quote work from the Prison Policy Initiative that suggests that the quality of information available through the tablets is not a factor in how carceral facility staff view the adoption of inadequate tablet technology:

> [S]ome prisons are working towards eliminating law libraries, physical books, and postal mail, which are truly free of charge to imprisoned people… Not only are these resources no longer

[1] For information about trends prior to this period, see "Information interstices: Technologies and flows of power" in Austin's *Library Services and Incarceration*.

free on the tablets, but the software is often outdated, thus making meaningful access to the law library nearly impossible (Finkel and Bertram, 2019).

Kaun and Stiernstedt issue a review of how prisons and similar locations are hotbeds of technological development, with incarcerated people as forced participants in the refinement of a variety of technologies (2022).[2] After presenting an example in which the implementation of an AI analysis for incidents within a prison led administrators to reduce information access (by removing televisions), the authors remind readers that "technologies that are tested in prisons are irrevocably entangled with vulnerabilities produced in and by incarceration" (2022, p. 81).[3]

A range of technologies currently are being developed in or for future use in prisons, and these are often designed to further regulate people's ability to move through prison locations, including, we can assume, ability to access the prison library (when one exists). Some international examples of in-development and proposed technologies include: automated facial recognition and tracking as a solution to limited staffing (Diyasa, Fauzi, Idhom, & Setiawan, 2021)[4], extensive surveillance and record maintenance as a method of contact tracing in a youth facility in Chicago (Unruh, Dharmapuri, & Soyemi, 2021), and data mining incarcerated people to inform prison management (Yang, 2021). There are proposals for fully automated or "smart" prisons, helmed or assisted by Artificial Intelligence, as well as debates about the potential bias this introduces or reiterates (Iverson, 2022; McKay, 2022). Some researchers go so far as to propose technologies that act as an "indoctrinating education method" through virtual reality programs inside prisons (Zheng, 2021). Others propose all-in-one platforms or applications that allow parole or probation officers, as well as reentry services, to monitor behavior and send formerly incarcerated people mandated tasks lists (Link & Reece, 2021).[5]

Kilgore's *Understanding E-Carceration* draws from a variety of experts to provide an overview of the ways in which the state restricts movement, communication, and information access for people subject to them after they have been released, including through monitoring applications and through ankle monitors (2022). People in the process of immigration are also often subjected to these technologies (Ledvora, 2021).[6] Taken

[2] More on this is included in Kaun and Stiernstedt's 2023 *Prison Media: Incarceration and the Infrastructures of Work and Technology*, published by The MIT Press.
[3] Alexander offers a similar, though much earlier instance in which the introduction of technology—specifically the radio—was utilized to shape the behavior of incarcerated people (2020). In this historical account of Leavenworth prison, Alexander is concerned with "the centrality of media and media technology to the ongoing struggle between the carceral state and its captives" (2020, p. 3222).
[4] Pokornowski, Tanaka, and Epps (2023) have noted that lack of staff is being used as a justification to introduce further surveillance technology in Nevada prisons, specifically surveillance drones (Crampton, 2022).
[5] While not a thorough review of everything about tech (that would take patent review & more), articles specifically about technology are selected as probable signposts for where technology might be headed.
[6] Villa-Nicholas' 2023 *Data Borders: How Silicon Valley Is Building an Industry Around Immigrants*, from the University of California Press, offers a more expansive review and critique of how this occurs.

together, recent publications reveal the capacity for technology to collect information about incarcerated people, a tension that librarians will have to contend with as they attempt to make information available through technology while also protecting patron privacy.

They also reveal that most technologies inside of carceral facilities are not intended for use by incarcerated people. This lack of access has serious implications for the development of digital literacy skills. The impact of incarceration on digital literacy is heavily racialized and furthers the systemic oppression of Black people, Indigenous people, and people of color. According to a recent report from The Sentencing Project:

1. Black Americans are incarcerated in state prisons at nearly 5 times the rate of white Americans.
2. Nationally, one in 81 Black adults in the U.S. is serving time in state prison. Wisconsin leads the nation in Black imprisonment rates; one of every 36 Black Wisconsinites is in prison.
3. In 12 states, more than half the prison population is Black: Alabama, Delaware, Georgia, Illinois, Louisiana, Maryland, Michigan, Mississippi, New Jersey, North Carolina, South Carolina, and Virginia.
4. Seven states maintain a Black/white disparity larger than 9 to 1: California, Connecticut, Iowa, Maine, Minnesota, New Jersey, and Wisconsin.
5. Latinx individuals are incarcerated in state prisons at a rate that is 1.3 times the incarceration rate of whites. Ethnic disparities are highest in Massachusetts, which reports an ethnic differential of 4.1:1.[7] (Nellis, 2021)

Information Literacy and Reentry

Writing in 2019, Ogbonnaya-Ogburu, Toyama, and Dillahunt present the very real consequences that a lack of access to technology, combined with all the other socioeconomic impacts of systems of incarceration and the murky demands of parole, has on the digital literacy of people who have been incarcerated. Focusing on job searches, the researchers found that previously incarcerated people's familiarities with various devices and the internet, the demands of the mediated application process, varying access to reliable technology, and unclear communication from parole officers about being around or connected to other people with conviction histories (including through social network employment sites, like LinkedIn), all held consequences for their opportunity to develop the digital literacy skills that they could not develop while incarcerated.

[7] Nellis emphasizes that this information may not fully reflect reality; "It is important to keep in mind that the absence or unreliability of ethnicity data in some states produces ethnic disparities in those states that may be understated. Since most Latinx people in those instances would be counted in the white prison population, the white rate of incarceration would therefore appear higher, and consequently the Black/white and Latinx/white ratios of disparity would be lower as well." (Nellis, 2021, p. 8).

In ongoing research, Reisdorf and others have noted the systemic implications of a lack of access to technology and to the internet, reflecting that these extend to an individual's ability to navigate the world, the requirements of parole, and mediated social cues (Reisdorf & DeCook, 2021). They observe that digital literacy is rarely an element of prison programs that ostensibly prepare people for reentry, though facility administration may claim otherwise as a way of advocating for tablets from private companies. The researchers clearly state that "tablet programs are not an appropriate substitute for actual digital skills training and literacy. Many states are adopting these programs as a way of appearing innovative and adapting to a changing world. However, many of the programs are woefully inadequate for these skills and are extremely costly for those who are supposed to benefit from them" (2021, p. 370).

In focus groups with formerly incarcerated people, Reisdorf, DeCook, Foster, Cobbina, and LaCourse were informed that access to tablets was not adequate preparation for reentry into a digitally-dependent society, and that tablet use was often compulsory (one participant stated, "You gotta use them. Ain't no other way to order your food or talk to your people") (2021, p. 8). Without the opportunity to develop digital literacy and technological skills, people in these focus groups stated their dependence on public resources, including public libraries, to access technology and to develop skills. This access was often precluded by the parole requirement that people be employed, as working hours and public library hours could conflict. In many instances, this left family members and social networks as de facto sources for information about technology and the internet. The researchers recommend access to digital literacy information while incarcerated, access to digital literacy skill-building upon release, parole officers to support digital literacy development, and for all of these to be provided by groups or organizations other than the Department of Corrections (Reisdorf, DeCook, Foster, Cobbina, and LaCourse, 2021; Reisdorf & DeCook, 2022). Considering that digital literacy development is a common aspect of library services, this can be read as an invitation to librarians and information workers.

Seo is among a team of researchers who have focused specifically on the ways in which formerly incarcerated women describe their experiences with technology and with developing digital literacy (Seo, Britton, Ramaswamy, Altschwager, Blomberg, Aromona, Schuster, Booton, Ault, & Wickliffe, 2020; Seo, Altschwager, Choi, Song, Britton, Ramaswamy, Schuster, Ault, Ayinala, Zaman, Tihen, & Yenugu, 2021). In reviewing formerly incarcerated women's experiences with technology, the researchers found that many women were navigating costs of living against the cost of accessing technology and internet access (an issue compounded by library closures at the beginning of the coronavirus pandemic). Many women in their research relied on cell phones for internet access. They were also navigating privacy concerns through their online presence, and were interested in gaining digital literacies around surveillance, which many had experienced while incarcerated or were subject to upon their release. Building, in part, from Ogbonnaya-Ogburu, Toyama, and Dillahunt's research, Seo et al. developed an educational program for women in the process of reentry that focused heavily on the skills relevant to employment (2021). This sample program's design is based on their findings that "[t]o support women in breaking this vicious cycle (of systemic oppression and incarceration), we

must develop technology education programs that properly address the complex set of barriers and needs in their digital access and use" (2021, p. 21). The sample program created by this research team may be useful to librarians as they build new digital literacy programs for people who have been incarcerated.

Digital Literacy in Specific Arenas: Education, Legal Information, Health

While the subject of digital literacy covers a broad range of concerns both during and after incarceration, a handful of articles on digital literacy focus on specific topics, including education inside of carceral facilities, legal information, and medical information.

Education

With the reintroduction of Pell grant eligibility for people who are confined or incarcerated, higher education programs inside of carceral facilities are likely to increase their student bases. From 2020-2022, many higher education programs became more technologically-mediated. This was also true for higher education programs inside of carceral facilities, including one-on-one video visits between instructors and incarcerated students or classes where the instructor used Zoom to connect students from outside the facility with incarcerated students (Collica-Cox, 2021). Collica-Cox notes that students who were released and then able to attend Zoom class sessions often faced barriers related to using computers and Zoom (2021). Dewey, Codallos, Barry, Drenkhahn, Glover, Muthig, Roberts, & Abbott state that "the use of technology in education should be expanded and become more readily available," as "[m]any educational materials are now available only in digital format, and using technology provides technological literacy," which is necessary for "employment and success in a technologically based society"(2020).

Ithaka S+R has produced a number of advocacy documents and additional guidance on technology and higher education in prisons (Tanaka & Cooper, 2020; Pokornowski & Tanaka, 2022). JSTOR is working to make material in its databases available to incarcerated people (2023), as is EBSCO (2023). In 2022, the United States Department of Education released a brief titled "Building the Technology Infrastructure for Correctional Education," which contains example programs alongside responses to potential concerns from carceral facility administrators.

Legal

Meaningful access to the law is a constitutional right, though how this right is interpreted by carceral facilities varies. Increasingly, this is being defined as access to legal databases on tablets or available through kiosks or computers that are not connected to the internet. Many facilities rely solely on digital access. Brown states

that "[t]o date, 45 state correctional systems and the entire federal prison system has switched over to electronic law libraries" (2020, p. 104). Brown, advocating that both print and digital legal collections be available for incarcerated people's use, argues that digital-only access restricts access due to limited computers or devices and does not consider varying digital literacy levels. Additional concerns about digital-only legal collections include that they may not always be up-to-date, they have issues with ADA access, and they have potential to be used for institutional surveillance. While legal communications, including legal mail, are considered protected and fall under specific practices and policies, the frequent use of LexisNexis as meaningful access to the law potentially places incarcerated people's legal research under scrutiny.[8]

Health

Incarceration creates new health concerns and amplifies pre-existing conditions which are often already exacerbated by systemic oppression. Research on telehealth programs in prisons has identified "mixed evidence on the impact of, and outcomes from, telehealth in prisons," even though the use of "telehealth within correctional institutions is well-documented, particularly in the U.S." (Tian, Venugopalan, Kumar, & Beard, 2021). This has repercussions for the health, and health literacy, of people who have experienced incarceration.

Literature on health and technology reviewed in this period was concerned with the development of technical tools and applications that can be used to build health literacy. These include interactive online applications for women's health (Geana, Anderson, Lipnicky, Wickliffe, & Ramaswamy, 2021) and a peer support application related to cardiovascular health that could be supplemented with the addition of information about reentry resources (Fuller, J.M., Ho, Y.X., Morse, R., Fix, G., Cutrona, S.L., Gaziano, T., et al., 2021).

Research also addressed formerly incarcerated women's health literacy and information-seeking practices (Schuster, Britton, Seo, Altschwager, Booton, Ault, Wickliffe, & Ramaswamy, 2022). The majority of women in this study utilized their smartphones for internet access, and located health information from a range of sources, like WebMD and social media. The researchers found that many women in the study "have the health literacy required to benefit from online health information," but that "many need additional information on search strategies and on practices for verifying that health information acquired online is valid and safe." Their recommendations include that professionals who can provide trusted health information be available at the sites that people in the process of reentry are required to be (such as parole or probation meetings), and for a move toward universal health care, which will better support people whose health has been negatively impacted by incarceration.

[8] See Lamdan's "Librarianship at the Crossroads of ICE Surveillance" for information about how LexisNexis collects and provides data to ICE and possibly to other government organizations.

Maintaining Connection: Family, Wellbeing, and Literacy Development

Strengthening digital infrastructure is one step in ensuring that televisit services that can connect incarcerated youth to their families and support youth's mental health are made widely available (Toliu-Shams, Bath, McPhee, Folk, Porche, & Fortuna, 2022). This infrastructure is also critical in maintaining family connections.

Family connection can facilitate literacy development for children and create a sense of presence even when a parent is incarcerated. Incarcerated fathers who participated in a reading program wherein they were filmed reading a book aloud and then able to send the recording and a copy of the book to their child/children described this as materially communicating to their children that they wanted to be present (Stickel, Prins, & Kaiper-Marquez, 2021). One participant shared that the distance to the prison made many in-person visits impossible, and the video was a way of still maintaining contact. He described the possibilities for connection that the video created as

> by them being able to see me on the screen ... and for it to be recorded to where if, they just miss my voice or just miss seeing me, they'll always be able to just pop that video in. (2021, 183).

Library Programs and Services

New York Public Library's Daddy & Me program is among many of the exemplary programs noted for facilitating a lasting connection between children and incarcerated parents and building children's literacy (Stickel, Prins, & Kaiper-Marquez, 2021). Brooklyn Public Library and Queens Public Library also offer video visitation through their libraries (Anderson, Ness, & Sandoval-Hernandez, 2022).

Brooklyn and Queens Public Libraries built from their work providing programs to patrons incarcerated at Rikers Island to continue including virtual content during the pandemic (Capers, Anderson, Ness, 2021; Anderson, Ness, & Sandoval-Hernandez, 2022; Riggs, 2022). Pivoting to digitally-mediated access due to lockdown conditions of facilities because of the coronavirus pandemic, they created a virtual space on tablets available to incarcerated patrons called Library Hub. Library Hub included "on-demand, pre-recorded library programs, an Ask a Librarian! reference service, a Mail-a-Book/BookMatch service, and other resources (Anderson, Ness, & Sandoval-Hernandez, 2022, p. 50). Prerecorded virtual programs were selected as the librarians had previous experience with patron's interests. Library Hub was well-received by patrons, as is evidenced by high patron engagement.

Given the context of prevalent surveillance within carceral facilities, and specifically through technology, the librarians who designed this program explicitly conveyed that communication through, and engagement with,

Library Hub may not be confidential. “In order to mitigate the privacy issues, library staff decided to head the Ask a Librarian! section and the Mail-a-Book/BookMatch section with a boldface notice that any correspondence via tablet was subject to surveillance and also offered patrons the option to mail the libraries their requests” (Anderson, Ness, & Sandoval-Hernandez, 2022, p. 51). Even with this warning, library patrons were more likely to request mental health and LGBTQIA+ information through the tablets than during in-person library service.

Queens Public Library also provided needed technology and digital literacy support to people released from Rikers. Through their grant-supported Immediate Access program, Queens Public Library was able to provide free cell phones, data plans, technology support, and more to patrons released in the period of the pandemic during which libraries were closed and their many resources were unavailable to patrons (Anderson, Ness, & Sandoval-Hernandez, 2022). Digital access and digital literacy will also impact how academic librarians who seek to support currently and formerly incarcerated students provide services and facilitate access to information (Bushman & Monobe, 2021).

Virtual programming offers an opportunity for library systems to provide more equitable library services to incarcerated patrons, at minimal increased cost for the library. For instance, the St. Louis County Public Library also provides over 1,000 virtual, asynchronous library programs to people incarcerated in the Missouri Department of Corrections, which facility staff downloaded from the Library’s online video platform (Gibson, 2022). This is part of a nexus of programs and services the library provides to people who are negatively impacted by the carceral system.

Technology also plays a role in recent programs and services libraries have provided in juvenile detention centers. These include virtual author visits in juvenile detention centers, 3D printing programs, limited access to laptops for technology programs, and preloaded devices with audiobooks (Riggs, 2022, Snow, 2020).

Anderson, Ness, & Sandoval-Hernandez offer a list of best practices for library staff interested in providing digital literacy and other technology support to currently and formerly incarcerated people (2022). They recommend that staffing and staff capacity is considered prior to beginning services, that staff communicate clearly with library patrons and take extra steps to reduce barriers to using technology, to invite feedback from participants and to modify programs and services given that feedback, and to be flexible and aware of the many demands people are subject to following incarceration.

Conclusion

> *The library stands for equal access for all members of the community, and calls on us to be a dynamic force.* (Willig, in Snow, 2020, p. 58)

Although technology inside of carceral facilities is often designed to be restrictive or to increase surveillance, the handful of example programs and services offered by libraries attests to the possibility that libraries can, and do, provide technology-based services to people who are incarcerated. From extending existing services and programs to creating focused services, libraries across the country are providing models for supporting incarcerated youth and adults.[9]

Reviewing the literature published between 2020 and 2022 also provides insight into the ways academic, public, and special libraries can provide more focused digital literacy support to patrons who may not have had any access to technology equivalent to the computers, databases, phones, and other devices that are available outside of prisons. Here, there is an opportunity for libraries to incorporate knowledge about how incarceration can limit the possibility of developing digital literacy skills into their existing approaches to digital literacy, or create more focused programming specifically for people who have been incarcerated.

Due to the scale of incarceration, the technology and digital literacy programs that libraries develop and provide will still likely fall behind the number of people who are negatively impacted by incarceration and their families and communities. Working together to share examples of what works well and models for innovative programming will allow libraries to advocate for currently and formerly incarcerated people. As librarians and information workers continue this work, they can do so in recognition that, as long as people are incarcerated, there is a need to create more equitable access to technologies, including common information and communication technologies, inside of carceral facilities.

[9]San Francisco Public Library's work to ensure that incarcerated people in the San Francisco jails have free access to e-books, media, and music is a recent example of how libraries may provide technologically-mediated services (Financial Justice Project, 2023).

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This paper was created by San Francisco Public Library's Jail and Reentry Services program: Jeanie Austin, Rachel Kinnon, Nili Ness, and Bee Okelo in June of 2023.

Many thanks to the Mellon Foundation for supporting this research.

Follow San Francisco Public Library's Expanding Information Access for Incarcerated People grant work at https://www.ala.org/aboutala/offices/diversity/expanding-access-incarcerated-initiative and https://sfpl.org/services/jail-and-reentry-services/expanding-information-access-incarcerated-people-initiative.