A WHOLE NEW WORLD: THE IMPORTANCE OF TECHNOLOGICAL LITERACY IN MASSACHUSETTS PRISONS

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I. Introduction

The numbers describing the state of incarceration in the United States paint a bleak picture; even those with a minimal interest in criminal justice will have heard that, despite having under five-percent of the world’s population, the United States has almost twenty-five percent of the world’s prison population.¹ Though skeptics of the “mass incarceration” narrative may argue incarceration rates have dropped in recent years, available data suggests only a modest overall decline.² Meanwhile, the United States still imprisons a larger share

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1 See MASS INCARCERATION, ACLU (Oct. 19, 2021), archived at https://perma.cc/5HJC-UW3P [hereinafter MASS INCARCERATION] (stating that “[d]espite making up close to 5% of the global population, the U.S. has more than 20% of the world’s prison population.”). See also Michelle Ye Hee Lee, Does the United States really have 5 percent of the world’s population and one quarter of the world’s prisoners?, WASH. POST (Apr. 30, 2015), archived at https://perma.cc/55KC-A3PZ (verifying that based on numbers from the U.S. Census Bureau and an International Centre for Prison Studies study, the United States had about 4.4 percent of the world’s population and approximately 22 percent of the global prison population). Although the International Centre for Prison Studies Prison study does not claim to have complete data sets from several countries including China and North Korea, the United States’ prison population rate was still “about six times Canada’s rate, between six to nine times Western European countries, and between two to 10 times Northern European countries.” Id.

2 See Nazel Ghandnoosh, U.S. Prison Population Trends: Massive Buildup and Modest Decline, SENT’G PROJECT (Sept. 17, 2019), archived at https://perma.cc/J9TG-PW8W (indicating the pace of “decarceration” has been
of its population than any other country. A myriad of factors contributes to this disproportionate share of prisoners, but a high recidivism rate—as high as 83 percent of prisoners over nine years being reincarcerated—perpetuates the much maligned “revolving door” identity of American prisons.

Recidivism is a multi-faceted issue in its own right. Former inmates face numerous challenges when attempting to re-enter society outside of a prison, and for many, this includes keeping up with the demands of an increasingly digital society. Technological modest overall: just a seven percent decrease in the incarcerated population from 2009 to 2017 followed a nearly seven-hundred percent increase in the prison population from 1972 to 2009). See also Campbell Robertson, *Crime Is Down, Yet U.S. Incarceration Rates Are Still Among the Highest in the World*, N.Y. TIMES (Apr. 25, 2019), archived at https://perma.cc/M4L7-LN79 (emphasizing how the decline in incarceration in the United States was only slight in 2017). Sentencing expert Rachel Barkow opined “[i]f we keep working on the kinds of criminal justice reforms that we’re doing right now, it’s going to take us 75 years to reduce the population by half,” as well as that current criminal justice reforms are “really modest[].” Id. 3 See John Gramlich, *America’s incarceration rate falls to lowest level since 1995*, F.W. SCH. CTR. (Aug. 16, 2021), archived at https://perma.cc/L9HA-NZ9H (noting that in 2019, the U.S. incarceration rate fell to its lowest point since 1995, while the number of prison and jail inmates at the end of 2019 were the fewest since 2003). Despite this drop, the U.S. still has the highest incarceration rate in the world among reporting countries according to the World Prison Brief database. Id.

4 See MARIEL ALPER ET AL., U.S. DEP’T. JUST., NCJ 250975, 2018 UPDATE ON PRISONER RECIDIVISM: A 9-YEAR FOLLOW-UP PERIOD (2005–2014) (2018) (finding that five out of every six prisoners released in 2005 were arrested again within nine years of their release). Of this eighty-three percent, forty-four percent were arrested during their first year after release. Id. See also Kahryn Riley, *Why There’s a Revolving Prison Door*, MACKINAC CTR. PUB. POL’Y (Nov. 8, 2017), archived at https://perma.cc/T8AA-JH7Q (referencing how criminal justice researchers use the phrase “revolving prison door” to refer to the many ex-inmates that are re-arrested and return to prison).


6 See Jacquelyn Bulao, *How Fast Is Technology Advancing in 2021?*, TECHJURY (Sept. 9, 2021), archived at https://perma.cc/BYD7-6SKC (indicating there are nearly four billion social media users worldwide as of 2021, and 95-percent of purchases will be made online by 2040). See also Alexandra Marquez, *Former prisoners struggle to re-enter society. What happens when society moves online?*,
innovations have never been more prevalent, nor has so much vital communication ever taken place online. The ability to navigate the digital realm has become a key skill in the modern world, especially in the midst of a global pandemic. It is hardly a controversial proposition to assert that a basic level of technological and digital literacy is needed to gain information, obtain employment, and generally function at a competent level in the modern age. Accordingly, just as data shows general literacy and education reduces recidivism, it logically follows that improved digital literacy would have the same effect.

To understand how this may reduce recidivism, three aspects of contemporary culture must be considered: (1) technological advances, (2) the difficulties former prisoners face with reintegration into society, and (3) the results of current approaches to rehabilitating the incarcerated. A chief factor leading former inmates to recidivate is the lack of fundamental, necessary, and employable skills. In this context, digital literacy’s importance in preventing recidivism, as well as its necessity in day-to-day life, becomes clear. Few technological literacy programs are currently available to inmates, while the trend of

NBC NEWS (Mar. 28, 2021), archived at https://perma.cc/L6RW-PUG8 (discussing how “[m]any of the social services and job programs that former prisoners rely on to achieve re-entry into their communities are inaccessible without a comprehensive knowledge of the internet.”).

7 See Bulao, supra note 6 (noting the internet penetration rate for the world is 59 percent as of January 2021, and there are nearly five billion mobile phone users as of January 2021).

8 See Wyatt Morris, Why it is important to be Digitally Literate in the 21st Century, LITERATE SCHOOLS. (Sept. 21, 2018), archived at https://perma.cc/G7XA-7GG3 (explaining how, in light of the drastic technological changes in recent years, literacy has evolved into digital literacy). See also Laura LaBerge et al., How COVID-19 has pushed companies over the technology tipping point—and transformed business forever, MCKINSEY & CO. (Oct. 5, 2020), archived at https://perma.cc/58ED-THPC (noting “consumers have moved dramatically toward online channels” and both organizations and entire industries have seen digital adoption take a “quantum leap” during the pandemic).

9 See Ellie Anzilotti, This course helps former prisoners learn the tech they missed in jail, FAST CO. (Dec. 6, 2018), archived at https://perma.cc/33A3-R3GK (noting how the current technology landscape is not navigable for people incarcerated before computers were widely available, with an organization created to teach former prisoners tech skills finding that the “digital divide was really impeding people on their journey[.]”).

10 See LOIS M. DAVIS ET AL., EVALUATING THE EFFECTIVENESS OF CORRECTIONAL EDUCATION, xv, xvi (2013) [hereinafter DAVIS, EVALUATING THE EFFECTIVENESS] (finding that “inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.”).
criminal justice reform suggests the time is ripe for further rehabilitative change in Massachusetts prisons. Improving technological and digital literacy among inmates in Massachusetts will lead to reduced recidivism, and can be achieved by imposing a technological literacy requirement in Massachusetts prisons. This could be done by mandating these prisons make a digital literacy program available to long term inmates in the same fashion its regulations already mandate certain programs.

II. History

A. Mass Incarceration

The number of crimes committed in the United States dramatically increased between 1960 and 1991. During this time, the population increased by roughly seventy-three million people, from 179 million to 252 million, an increase of about forty percent. Crime, in comparison, increased by nearly 450 percent, while the number of violent crimes increased more than sixfold. In response, the United States’ incarceration rate increased dramatically near the end of the twentieth century, resulting in a roughly 700 percent increase in the incarcerated population since 1970. This massive expansion of the incarcerated population outpaced both population growth and higher quantities of crime. A multitude of factors paved

12 See id. (reporting the United States’ population in 1960 to be 179,323,175, and 252,177,000 in 1991).
13 See id. (showing that the total number of crimes increased from 3,384,200 in 1960 to 14,872,900 in 1991, while violent crimes increased from 288,460 in 1960 to 1,911,770 in 1991).
14 See MASS INCARCERATION, supra note 1 (noting the incarcerated population has increased by 500 percent since 1970, which far outpaces both population and crime growth). See also Alice Ristroph, An Intellectual History of Mass Incarceration, 60 B.C. L. REV. 1949, 1956 (2019) (indicating that the U.S. incarceration rate sharply increased at the end of the twentieth century, with it now being about five times higher than it was in the 1970s).
15 [Alex- I need a regular See and a source here per JHTL rules with a parenthetical]. Compare United States Crime Rates 1960 – 2019, supra note 11 (showing the United
the way for this increase, including “tough on crime” initiatives, increased sentencing laws, the deinstitutionalization of the mentally ill, prosecutor power, and racial biases.\(^{16}\)

Tough-on-crime legislation included the Comprehensive Crime Control Act of 1984, which included the Sentencing Reform Act of 1984.\(^{17}\) This act is credited as being the start of federal mandatory minimum sentencing.\(^{18}\) Soon after came Reagan’s Anti-Drug Abuse Act of 1986, which created mandatory minimum sentences for drug crimes.\(^{19}\) More legislative hard-ball came a few years later in the form of the 1994 Violent Crime Control and Law

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16 See, E. Fuller Torrey, Deinstitutionalization: A Psychiatric “Titanic”, PBS (May 10, 2005), archived at https://perma.cc/U3KU-BKR4 (detailing how approximately 92-percent of people who would have been in psychiatric hospitals in 1955 were not there in 1994, and that by mass-deinstitutionalizing the mentally ill, they have now switched places from occupying mental hospitals to prisons and jails). See also German Lopez, Why you can’t blame mass incarceration on the war on drugs, Vox (May 30, 2017), archived at https://perma.cc/ESM3-Q96C (suggesting that powerful prosecutors have been key drivers of mass incarceration over the past several decades). See also The History, Causes, and Facts on Mass Incarceration, Fair Fight Initiative (Oct. 24, 2021), archived at https://perma.cc/F5RW-9YY3 (referencing numerous factors, including Mandatory Minimum Sentencing, Three Strikes Laws, and the War on Drugs as contributing to the current state of mass incarceration).


18 See Tanya Golash-Boza, Column: 5 charts show why mandatory minimum sentences don’t work, PBS (June 1, 2017), archived at https://perma.cc/HYL8-NZRC (stating that Congress’ lengthening of sentences beginning in the 1970s “culminated in the 1984 Comprehensive Crime Control Act, which established mandatory minimum sentences and eliminated federal parole.”).

Enforcement Act, commonly referred to as the 1994 crime bill. This bill directly impacted federal prisons by increasing the rate of incarceration, raising prison sentences, and providing states with incentives to do the same at their level. These laws disproportionately affected racial minorities, with African Americans in particular making up about thirty-five percent of the incarcerated population while comprising about thirteen percent of the overall United States population. Additionally, as many as one in four African American children have a parent who either is or has been incarcerated.

Though the increase in incarceration was significantly larger than the increases in crime and population, the number of crimes committed in the United States fell after 1991. This decrease was dramatic, with the overall national crime rate and violent crime rate

20 See id. (stating that on September 13, 1994 President Clinton enacted the Violent Crime Control and Law Enforcement Act of 1994, allocating more money to prisons and including a three-strikes law). See also Lauren-Brooke Eisen, The 1994 Crime Bill and Beyond: How Federal Funding Shapes the Criminal Justice System, BRENNA\nCTR. JUST. (Sept. 9, 2019), archived at https://perma.cc/J2DV-5AU6 [hereinafter 1994 Crime Bill] (discussing how the crime bill including funding incentives that ensnared more Americans in the criminal justice system, and is seen by many as a major driver of mass incarceration).

21 See John, supra note 19 (noting the 1994 crime bill increased prison sentences); 1994 Crime Bill, supra note 20 (explaining that the 1994 crime bill provided incentives to states to increase incarceration).

22 See ELIZABETH HINTON ET AL., AN UNJUST BURDEN: THE DISPARATE TREATMENT OF BLACK AMERICANS IN THE CRIMINAL JUSTICE SYSTEM 1, 1 (2018) (reporting numerous statistics that show the overrepresentation of black Americans in the justice system). Although black men represent thirteen percent of the American population, thirty-five percent of the incarcerated are African American. Id. Additionally, one in three black men could expect to be incarcerated in his lifetime. Id. Further, “sentencing data showed that black and Latino people accounted for 80 percent of drug-free zone convictions, even though 45 percent of those arrested statewide for drug offenses were white.” Id. at 5.

23 See LEILA MORSY & RICHARD ROTHSTEIN, MASS INCARCERATION AND CHILDREN’S OUTCOMES 1, 1 (2016) (offering that “[a]s many as one in ten African American students has an incarcerated parent” and “[o]ne in four has a parent who is or has been incarcerated.”). The authors opine that “[t]he incarceration of African Americans has taken on such massive proportions that even those policymakers who recognize the problem are paralyzed in their consideration of how to address it.” Id. at 15.

both being cut in half.\textsuperscript{25} Meanwhile, the national incarceration rate, which peaked at 1,000 incarcerated individuals per 100,000 between 2006 and 2008, fell to approximately 810 per 100,000 as of 2019.\textsuperscript{26} The decrease in the incarcerated population has lagged substantially behind the decrease in crime.\textsuperscript{27} While approximately 3,000,000 less crimes were committed in 2019 than in 2008, there were about 180,000 less federal prisoners in 2019.\textsuperscript{28} Thus, a roughly twenty-seven percent reduction in crime saw an about eleven percent reduction in federal incarceration.\textsuperscript{29} This underlines a troubling phenomenon identified in

\textsuperscript{25} See Lauren-Brooke Eisen,\textit{ America’s Faulty Perception of Crime Rates}, BRENAN CTR. JUST. (Mar. 16, 2015), archived at https://perma.cc/T859-8SMQ (discussing how data shows the United States actually has much less crime than in years past, despite public perception to the contrary). In 2015, the national crime rate was “about half of what it was at its height in 1991” and violent crime had “fallen by 51 percent since 1991[.]” \textit{Id.}

\textsuperscript{26} See Clara Hill,\textit{ US incarceration rate drops to lowest level in decades}, INDEP. (Aug. 17, 2021), archived at https://perma.cc/4Q23-Q4WN (discussing the United States incarceration rate, which was 810 per 100,000 people in 2019, but peaked at 1,000 per 100,000 between 2006 and 2008). The 2019 incarceration rate was the lowest incarceration rate in the United States since 1995. \textit{Id.} However, the United States still has the highest reported rate of imprisonment in the world. \textit{Id.} See also ANN CARSON, U.S. DEP’T. JUST., NCJ 255115, PRISONERS IN 2019 1, 1 (2020) (identifying the state and federal imprisonment rate, defined as including prisoners sentenced to over one year, as 419 incarcerated per 100,000); WILLIAM J. SABOL ET AL., U.S. DEP’T. JUST., NCJ 228417, PRISONERS IN 2008 1, 2 (2009) (noting the federal and state imprisonment rate in 2008 for males was 952 incarcerated per 100,000).

\textsuperscript{27} See Ghandnoosh,\textit{ supra} note 2 (identifying only a seven percent decrease in the incarcerated population from 2009 to 2017 amidst falling crime rates subsequent to a nearly 700 percent increase in prison population from 1972 to 2009).

\textsuperscript{28} See CARSON,\textit{ supra} note 26, at 1 (placing the total prison population at the end of 2019 at 1,430,800). But see SABOL ET AL.,\textit{ supra} note 26, at 1 (noting a prison population at the end of 2008 of 1,610,446). See also United States Crime Rates 1960 – 2019,\textit{ supra} note 11 (listing the number of crimes committed in the United States in both 2008 and 2019). There were 11,160,543 crimes reported in 2008, and 8,171,087 in 2019. \textit{Id.}

\textsuperscript{29} See CARSON,\textit{ supra} note 26, at 1 (placing the 2019 prison population at 1,430,800); SABOL ET AL.,\textit{ supra} note 26, at 2 (noting a prison population at the end of 2008 of 1,610,446). See also United States Crime Rates 1960 – 2019,\textit{ supra} note 11 (listing the number of crimes committed in the United States in both 2008 and 2019). Approximately 3,000,000 less crimes were committed in 2019 than in 2008, about a twenty-seven percent reduction. \textit{Id.}
criminal justice research: high incarceration offers diminishing public safety returns as individuals tend to “age out” of crime.\textsuperscript{30}

Some of the first significant steps towards criminal justice reform at the federal level were seen in 2008 when the Second Chance Act was signed into law.\textsuperscript{31} The Second Chance Act was the first major federal act, enacted with bipartisan support, that provided funding for strategies to reduce recidivism and improve public safety.\textsuperscript{32} A decade later, the First Step Act expanded the Second Chance Act and developed a recidivism risk and needs assessment program.\textsuperscript{33} The Act also provided a framework for thousands of prisoners to be released by combating excessive drug sentences and lessening the strength of

\textsuperscript{30} See Marc Mauer, \textit{LONG-TERM SENTENCES: TIME TO RECONSIDER THE SCALE OF PUNISHMENT}, 87 UMKC L. REV. 113, 114 (2018) (describing incarceration’s diminishing returns to public safety as a “primary research finding[.]”).

Increasingly lengthy prison terms for federal offenses have become counterproductive for promoting public safety. There are several reasons for this: long-term sentences produce diminishing returns for public safety as individuals “age out” of the high-crime years; such sentences are particularly ineffective for drug crimes as drug sellers are easily replaced in the community; increasingly punitive sentences add little to the deterrent effect of the criminal justice system; and mass incarceration diverts resources from program and policy initiatives that hold the potential for greater impact on public safety.

\textit{Id.} at 121. \textit{See also} Chappel, \textit{supra} note 15 (citing research that demonstrates the majority of people “desist from criminal conduct” by the time they are in their late thirties or early forties, so public safety risks do not justify extended sentences such as a life sentence).


\textsuperscript{32} See \textit{id.} (indicating that “[t]he Second Chance Act represents a federal investment in strategies to reduce recidivism and increase public safety, as well as to reduce corrections costs for state and local governments.”).

\textsuperscript{33} See Fed. Bureau of Prisons, \textit{An Overview of the First Step Act}, FED. BUREAU PRISONS (Sept. 26, 2021), \textit{archived at} https://perma.cc/M5XT-BZB2 (stating that the goals of the First Step Act were to reduce the size of federal prison populations and increase public safety, doing so by developing a recidivism risk assessment program and expanding the Second Chance Act).
the Three Strikes Law.\textsuperscript{34} Massachusetts enacted its own state-specific legislation in 2018: An Act Relative to Criminal Justice reform.\textsuperscript{35} This legislation established a process for expunging criminal records, eliminated mandatory minimum sentences for many non-violent drug offenses, and changed several aspects of the juvenile system to support vulnerable children.\textsuperscript{36}

This recent legislation demonstrates a notable progressive trend towards a rehabilitative justice system that is less reliant on incarceration, and the logic behind this trend is clear.\textsuperscript{37} Even disregarding the compelling moral arguments against mass incarceration, the cost of having so many people in prison is enormous: the Prison Policy Initiative estimates incarceration costs families and

\begin{quote}
Marijuana would be decriminalized, mass incarceration would be reversed and the death penalty would be eliminated as part of sweeping changes that leading Democratic presidential candidates have proposed to make to the criminal justice system, . . . some progressives are going further, pushing mainstream boundaries with proposals like ending solitary confinement in jails and prisons, paying inmates a living wage for work they do in prison and legalizing supervised injection sites for intravenous drug use.
\end{quote}

\textit{Id.}
the government about 182 billion dollars per year, while the Council of Economic Advisers put this number at 270 billion dollars.\(^3^8\) Even greater, a study from the Florida State University Institute for Justice Research and Development puts the total cost of incarceration and its residual effects at one trillion dollars per year.\(^3^9\)

### B. The Role of Recidivism

One of the primary forces perpetuating mass incarceration in the United States is recidivism, so much so that American prisons have been referred to as having “revolving doors.”\(^4^0\) Recidivism is defined as the tendency to relapse into a previous condition, and is widely used to describe the occurrence of a formerly incarcerated person re-

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\(^3^8\) See Peter Wagner & Bernadette Rabuy, *Following the Money of Mass Incarceration*, PRISON POL’Y INITIATIVE (Jan. 25, 2017), archived at https://perma.cc/53VH-2M8X (estimating that at least $182 billion is spent per year maintaining mass incarceration in the United States). See also COUNCIL ECON. ADVISERS, RETURNS ON INV. RECIDIVISM-REDUCING PROGRAMS 3 (2018) (estimating the cost of incarceration in the United States to be about 270 billion dollars).

\(^3^9\) See Michael McLaughlin et al., *The Economic Burden of Incarceration in the United States* 2 (Inst. for Just. Rsch. & Dev., Working Paper No. 072016, 2016) (estimating the complete cost of incarceration, accounting for the financial impact on families, communities, and social costs). While the figure of “$80 billion spent annually on corrections is frequently cited as the cost of incarceration . . . this figure considerably underestimates the true cost of incarceration by ignoring important social costs.” *Id.* This includes “costs to incarcerated persons, families, children, and communities.” *Id.* This study utilizes “a burgeoning area of scholarship to assign monetary values to twenty-three different costs, which yield an aggregate burden of one trillion dollars. This approaches 6% of gross domestic product and dwarfs the amount spent on corrections.” *Id.*

\(^4^0\) See LOIS M. DAVIS ET AL., *HOW EFFECTIVE IS CORRECTIONAL EDUCATION, AND WHERE DO WE GO FROM HERE? THE RESULTS OF A COMPREHENSIVE EVALUATION* 1 (2014) (acknowledging that “[e]ach year, more than 700,000 incarcerated individuals leave federal and state prisons; within three years of release, 40 percent will have committed new crimes or violate the terms of their release and be reincarcerated.”); ALPER ET AL., *supra* note 4, at 1 (asserting that eighty-three percent of released inmates recidivate within nine years of release). See also Riley, *supra* note 4 (iterating that the phrase “revolving prison door” is used to refer to the many ex-inmates that are re-arrested and return to prison).
offending such that they are again incarcerated. Recidivism is multifactorial much like the overarching problem of mass incarceration, though considerations including age, criminal history, gender, and literacy are all statistically significant predictors. Problematically, although illiteracy is a strong predictor of recidivism, the incarcerated and formerly incarcerated population has significantly higher rates of illiteracy and unemployment than their non-incarcerated counterparts. Empirical findings demonstrate education programs and post-release employment reduce the chances that a former inmate will recidivate, often by a large margin.

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41 See Recidivism, Nat’l Inst. Just. (Oct. 25, 2021), archived at https://perma.cc/W86D-T8KS (defining recidivism as “a person's relapse into criminal behavior, often after the person receives sanctions or undergoes intervention for a previous crime.”).

42 See Tegeng & Abadi, supra note 5 (identifying recidivism factors of illiteracy, lack of vocational skills, lack of interpersonal skills, criminal history, and socio-economic factors including gender, age, and employment status); Bruce Frederick, Factors Contributing to Recidivism Among Youth Placed With the New York State Division for Youth 8 (1999) (finding “the three factors that were most consistently associated with the risk of recidivism were criminal history, age at discharge, and community characteristics.”).

43 See Mckenna Kohlenberg, Booked but Can’t Read: “Functional Literacy,” National Citizenship, and the New Face of Dred Scott in the Age of Mass Incarceration, 44 N.Y.U. Rev. L. & Soc. Change 213, 213 (2020) (indicating that “70% of America's adult incarcerated population and 85% of juveniles who interface with the juvenile court system are functionally illiterate”). A mandatory functional literacy requirement in federal prisons could be “the first step towards adequate preparation for successful post-release reintegration into society.” Id. at 231. See also Rampey et al., Nat’l Ctr. Educ. Stat., Highlights from the U.S. PIACC Survey of Incarcerated Adults: Their Skills, Work Experience, Education, and Training: Program for the International Assessment of Adult Competencies: 2014 (2016) (describing a study of approximately 1500 inmates from 98 prisons, which found literacy and numeracy rates well below the general public among prisoners: twenty-nine percent of inmates scored below level two literacy compared to nineteen percent of the general public, and fifty-two percent scored below level two numeracy compared to twenty-nine percent of the general public).

44 See Re-entry Pol’y Study Comm’n, Indianapolis-Marion County City-County Council Re-entry Pol’y Study Comm’n Rep. 12 (2013) (finding “[f]urther analysis of the data showed that the recidivism rate among the unemployed offenders was 42.4%; recidivism among the employed offenders was 26.2%. Employment was the number one predictor of recidivism.”); Davis, Evaluating the Effectiveness, supra note 10, at xvi (finding that “inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.”). See also Christy Visher et al., Employment After
C. Inmate Access to Digital Devices

Digital literacy is a broad term, but generally encompasses the ability to use technologies to both communicate and consume information. With advancing technology, the need for digital literacy skills in both professional and personal life has increased. In fact, technological and digital literacy has quickly become a requisite skill for most employment, even for jobs that previously required minimal technological engagement. This is especially true in light of the global Covid-19 pandemic, which saw technological reliance and use of the virtual environment reach an all-time high. Even looking outside the context of employment, the capacity to responsibly and

PRISON: A LONGITUDINAL STUDY OF RELEASEES IN THREE STATES 1 (2008) (concluding that “[r]espondents who were employed and earning higher wages after release were less likely to return to prison” in their first year after release). The odds of recidivating decrease the more wages rose, with individuals making over ten dollars and hour being half as likely to recidivate as those making less than seven dollars an hour. Id. at 8.

45 See Liana Loewus, What Is Digital Literacy?, EDUCATIONWEEK (Nov. 8, 2016), archived at https://perma.cc/GB2D-N3BB (defining digital literacy as “the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills” or, alternatively, as consisting of three buckets: “finding and consuming digital content. . . creating digital content; and. . . communicating or sharing it.”).
46 See Zina Bacha, Digital Literacy: Why It Is Vital For Workers, STRAMMER (Oct. 22, 2020), archived at https://perma.cc/Y78D-J9EM (explaining how digital literacy is more important now than ever before, as digital advances like automation and artificial intelligence are making digital literacy crucial for professionals); Benjamin Herold, Jobs at All Levels Now Require Digital Literacy. Here’s Proof., EDUCATIONWEEK (Sept. 25, 2018), archived at https://perma.cc/RUX6-L63T (indicating that even entry-level jobs that traditionally required minimal technical knowledge have become more technology-reliant). In 2002, working as a janitor received a score representing how much computer knowledge is required of only three, whereas in 2016 janitor scored an eighteen. Id.
47 See Herold, supra note 46 (stating that American workplaces are becoming more reliant on technology, and “nearly every rung of the employment ladder is becoming more digitized.”).
48 See LaBerge et al., supra note 8 (finding that the Covid-19 pandemic has “speeded up the adoption of digital technologies by several years” and that many of the changes are likely here to stay).
effectively navigate digital media is essential for tasks such as learning, networking, and safeguarding personal online security.\textsuperscript{49}

Despite the importance of digital literacy, most prisoners in the United States are not allowed significant use of technology nor internet access while incarcerated.\textsuperscript{50} The right of inmates to access the internet has been subject to significant debate.\textsuperscript{51} Detractors argue that access

\textsuperscript{49}See What is digital literacy and why does it matter?, RENAISSANCE (Oct. 24, 2021), archived at https://perma.cc/6Z4R-K8P4 (indicating that digital literacy skills are important for understanding the fundamentals of internet safety, including developing strong passwords, navigating privacy settings, and responsibly using social media); ELIZABETH WITHERS ET AL., CORRECTIONS AND REENTRY: DIGITAL LITERACY ACQUISITION CASE STUDY 1, 3 (2015) (discussing the importance of digital literacy skills). “Some of the most essential skills for a successful transition to post-release life, such as those needed for finding a job or housing, are increasingly reliant on digital literacy skills.” Id. “[O]ffering digital literacy training as part of the reentry curriculum has meant that the men who go through the digital literacy program receive hands-on practice with filling out online applications, creating resumes, sending and receiving emails, and conducting effective searches online.” Id.

\textsuperscript{50}See Dan Tynan, Online behind bars: if internet access is a human right, should prisoners have it?, THE GUARDIAN (Oct. 3, 2016), archived at https://perma.cc/7RRX-3TNS (noting that there is no way for the approximately 2.3 million inmates in America to access the internet, despite prison systems obligation to maintain prisoners First Amendment rights, and the fact that effective internet use is becoming an essential survival skill); Mirko Bagaric et al., The Hardship That is Internet Deprivation and What it Means for Sentencing: Development of the Internet Sanction and Connectivity for Prisoners, 51 AKRON L. REV. 261, 282 (2018) (noting that in general in the United States prisoners are totally prohibited from accessing the internet). [F]ive main reasons are offered in support of [the proposal that the internet should be made available to prisoners]. The first is that the main deprivation stemming from imprisonment should be limited to the deprivation of liberty—other burdens should be reduced to the maximum extent reasonably possible. Second, internet access provides prisoners with the best access to education, which is a key to reducing reoffending. Third, the internet will facilitate the reintegration of offenders into the community following their release. Fourth, it has been established that providing prisoners with access to the internet will improve their behavior. Finally, it will improve the lives of relatives of prisoners.

\textsuperscript{51}See Bagaric et al., supra note 50, at 306 (outlining five reasons in support of providing inmates with internet access: limiting the deprivation of liberty, providing access to education which reduces recidivism, facilitating reintegration of offenders into the community after release, improving prisoner behavior, and improving the
to the internet would allow for further illegal activity, such as attempting to intimidate and silence a witness. Supporters believe internet access is a vital tool in the rehabilitative process. Meanwhile, the United Nations has gone so far as to suggest that internet access is a human right. Nevertheless, in the United States, prison administrators largely bar inmate internet access.  

lives of relatives of prisoners). Key objections to allowing internet access include misuse for illegal activity and accessing pornography. Id. at 316–19. See also Withers et al., supra note 49, at 16 (arguing that while “current policy prohibits access to the Internet within a correctional setting[,][t]his policy . . . may not be helpful for those individuals who are close to the end of their time served and who are preparing to reenter society.”); Tynan, supra note 50 (arguing that while there is generally no way for America’s 2.3 million inmates to access the internet, the denial of internet access makes adapting to life outside of prison more difficult). While internet access is not a top priority for most prison reform activists, being internet savvy is both an essential skill and arguably intertwined with First Amendment rights. Id. In fact, a May 2011 United Nations declaration elevated internet access to the status of a fundamental human right. Id.

See Bagaric et al., supra note 50, at 316 (acknowledging that the potential problem of providing access to the internet to inmates is that they would have the opportunity to commit more crimes, such as threatening witnesses).

See id. at 308–09 (arguing that the lack of internet access limits inmates’ rehabilitative process). Key recidivism factors “are ‘lack of knowledge, training, and skills to support a successful return’ to the community[,]” which can be combatted via education. Id. at 309. Moreover, “[t]he internet is the most effective means of providing education to prisoners.” Id. Although there are risks associated with providing inmates internet access, the internet is likely the most effective way to provide education to prisoners, and education of offenders is a vital rehabilitative tool. Id.

See Catherine Howell & Darrel West, The internet as a human right, BROOKINGS INST. (Nov. 7, 2016), archived at https://perma.cc/PG2Y-MX4W (explaining how the United Nations made an addition to Article 19 of the Universal Declaration of Human rights stating “‘[e]veryone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.’”).

See Bagaric et al., supra note 50, at 308(iterating how most prisoners in the United States are not allowed internet access). See also Mark Rumold, Now More Than Ever, Prisoners Should Have Some Access to Social Media, ELEC. FRONTIER FOUND. (Mar. 27, 2020), archived at https://perma.cc/J2M8-386K (stating many states completely prohibit inmates from accessing or using social media, while some states, such as Alabama and Iowa, even limit the ability of third parties who are not incarcerated from posting on an inmate’s behalf).
Precedent dictates that a prison inmate’s constitutional rights must be protected regardless of their prisoner status; the Supreme Court noted in *Turner v. Safley*, that “[p]rison walls do not form a barrier separating prison inmates from the protections of the Constitution.”56 Case law also generally indicates that internet access is closely associated with the First Amendment and is subject to significant protection.57 For example, in *Packingham v. North Carolina*, the court held that statutes prohibiting sex offenders from accessing the internet for social media purposes violated the First Amendment.58 Similarly, in *Clement v. California Department of Corrections*, the court held that a regulation prohibiting inmates from receiving mail containing material downloaded from the internet violated their First Amendment Rights.59 Thus, while access to the internet and technology are not necessarily explicit constitutionally protected rights, they are integral parts of speech and sources of information that courts have sought to protect.60

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56 See *Turner v. Safley*, 482 U.S. 78, 84 (1987) (discussing how prisoners are entitled to their constitutional rights even while incarcerated, most significantly and succinctly stating “[p]rison walls do not form a barrier separating prison inmates from the protections of the Constitution.”).

57 See KATE RUANE ET AL., ONLINE SPEECH AND THE FIRST AMENDMENT: TEN PRINCIPLES FROM THE SUPREME COURT 1 (2017) (stipulating that the “First Amendment’s protections apply to online speech as much as to offline speech.”).

58 See *Packingham v. North Carolina*, 137 S. Ct. 1730, 1732 (2017) (holding that a North Carolina statute restricting registered sex offenders from accessing social media networking website impermissibly restricted free speech in violation of the First Amendment). “A fundamental First Amendment principle is that all persons have access to places where they can speak and listen, and then, after reflection, speak and listen once more. Today, one of the most important places to exchange views is cyberspace[].” *Id.*

59 See *Clement v. Cal. Dep't of Corr.*, 364 F.3d 1148, 1150 (9th Cir. 2004) (detailing how the plaintiff asserted a violation of his First Amendment Rights due to a prison policy of prohibiting its inmates from receiving any mail that contained material downloaded from the internet). The court determined precedent indicated the First Amendment protects materials distributed over the internet and communication devices, and unequivocally stated “[p]risoners retain their First Amendment right to receive information while incarcerated.” *Id.* at 1151.

60 See *Reno v. Am. C.L. Union*, 521 U.S. 844, 844 (1997) (declaring the “indecent transmission” and “patently offensive display provisions” of the Communications Decency Act of 1996 violated the First Amendment). See also *United States v. Lacoste*, 821 F.3d 1187, 1191 (2016) (discussing how prohibiting internet access as a probation condition is only acceptable in limited circumstances because the internet is so important to individuals).
III. Facts

A. Incarceration in Massachusetts

There are approximately two million people incarcerated in the United States. Of that number, about 22,000 are Massachusetts residents. Criminal justice statistics in this state tell a hopeful story: for example, the three-year recidivism rate in Massachusetts sits at thirty-two percent, below the average of reporting states. Massachusetts also ranks above most states in the efficiency of its

Precisely because access to the Internet has become so vital, courts have upheld conditions prohibiting all use of the Internet only in limited circumstances. Thus far, such conditions have been permitted in one of two scenarios: when use of the Internet was “essential” or “integral” to the offense of conviction, or when the Internet played no role in the offense of conviction but the defendant had a history of using the Internet to commit other offenses.

See Roy Walmsley, World Prison Population List 2 (11th ed. 2015) (indicating that, as of the study, there were over 2.2 million prisoners in the United States of America and the U.S. had the second highest reported number of prisoners per 100,000 at 698). See also Jacob Kang-Brown et al., People in Jail and Prison in 2020 1 (2021) (noting there was an “unprecedented drop” in the number of people incarcerated in the United States between 2019 and 2020, from around 2.1 million to about 1.8 million). This drop is largely due to the pressure to reduce incarceration resultant of the Covid-19 pandemic.

See Massachusetts profile, Prison Policy Initiative (Nov. 21, 2021), archived at https://perma.cc/42Y4-KNUZ (identifying approximately 22,000 Massachusetts residents as incarcerated in either local jails, state prisons, federal prisons, or youth and involuntary commitment centers). Additionally, about 70,000 people are booked into jails annually in Massachusetts.

See Va. Dep’t of Corr. Evaluation Unit, State Recidivism Comparison (2018) (finding that of the forty-three states that report three-year recidivism data, Massachusetts rate was slightly below average at thirty-two percent). The highest recidivism rate belonged to Delaware at 64.5 percent, while the lowest was Virginia with only 23.4 percent. Compare Carol A. Mici, MA DOC Three-Year Recidivism Rates: 2015 Release Cohort 3 (2020) [hereinafter Mici, 2015 Release Cohort] (revealing Massachusetts’ overall three-year recidivism rate to be thirty-three percent, with thirty-three percent of males and thirty-two percent of females recidivating), with Alper et al., supra note 4, at 1 (reporting forty-four percent of offenders were rearrested within their first year after release).
correction system, and boasts the lowest incarceration rate in the country.64 Despite these encouraging figures, the state still spends over one billion dollars annually on its correctional system.65 Further, although Massachusetts has the lowest incarceration rate in the United States, its rate is still significantly higher than the median rate worldwide.66

B. The Need for Prison Programming

Data unequivocally demonstrates that both educational and vocational programs in prisons are effective at reducing recidivism, and thus combatting these incarceration numbers.67 The benefits of

64 See Katie Lannan, Report: Mass. Has The Lowest Incarceration Rate In The Country, WBUR (Apr. 25, 2019), archived at https://perma.cc/5LZT-XRFZ (stating that the Massachusetts state prison incarceration rate is the lowest in the country at a rate of 126 per 100,000 people, representing a 23.8 percent drop in the state’s prison population from 2008 to 2018). See also Crime & Corrections Rankings, U.S. NEWS (Feb. 19, 2022), archived at https://perma.cc/9EN2-9BA9 (indicating that Massachusetts is the overall fourth ranked state for crime and corrections, with a sixth place ranking for corrections and seventh placed ranking for public safety out of all fifty states).

65 See BENJAMIN FORMER & MICHAEL WIDMER, GETTING TOUGH ON SPENDING 7 (2017) (noting although there has been a significant decline in the total number of individuals held in correctional facilities in Massachusetts from 2011 to 2016 from 23,850 to 20,961, correctional budgets have sharply increased, with the state spending over one billion dollars on correctional facilities). Notably, despite a decline in inmate populations, a rise in correctional spending, and a rise in the cost of spending per inmate, there still was not a significant increase in spending associated with recidivism reduction. Id. at 7, 11. See also CHRIS MAI & RAM SUBRAMANIAN, THE PRICE OF PRISONS: PRISON SPENDING IN 2015 8 (2017) (reporting Massachusetts spent just under 600 million dollars a year on only its state prisons, a cost of about fifty-five thousand dollars per inmate per year).

66 See SINTIA RADU, COUNTRIES WITH THE HIGHEST INCARCERATION RATES, U.S. NEWS (May 13, 2019), archived at https://perma.cc/7HAE-YEHV (identifying the median prison population in the world as 145 per 100,000). See also Massachusetts profile, supra note 62 (placing the total Massachusetts incarceration rate at 275 per 100,000 people, including prisons, jails, immigration detention, and juvenile facilities in this number).

67 See DAVIS, EVALUATING THE EFFECTIVENESS, supra note 10, at xvi (indicating forty-three percent lower recidivism odds when an inmate has participated in correctional education programs). See also BETH A. COLGAN, PRISON AND DETENTION: Teaching a Prisoner to Fish: Getting Tough on Crime by Preparing Prisoners to Reenter Society, 5 SEATTLE J. SOC. JUST. 293, 298 (2006) (indicating that education and training opportunities during incarceration are proven to reduce the risk of incarceration).
inmate education are widely recognized, and a plethora of inmate programming is available through state and private entities in Massachusetts.\textsuperscript{68} This includes several college-in-prison postsecondary programs established by local universities.\textsuperscript{69} The Federal Bureau of Prisons even instituted a mandatory education requirement for inmates who do not have a high school or equivalent level of education.\textsuperscript{70}

Data supports this decision as studies have found educational programming alone can significantly reduce recidivism.\textsuperscript{71} Some studies have shown hugely impactful results, such as an Illinois prison population recidivating at nearly a ninety-two percent lower rate after

In fact, there is a direct correlation between a lack of education and the probability of incarceration. Of state prisoners throughout the United States, an estimated 40 percent have not received either a high school diploma or a GED. Leaving prison with that same deficiency has been linked to increased rates of recidivism. In contrast, where educational services are made available to prisoners, recidivism is dramatically reduced. In fact, providing adult basic education programs has been found to reduce recidivism by 5.1 percent. Vocational education programs result in a 9.0 percent decline in recidivism. Perhaps the most startling finding is that “post-secondary education can cut recidivism rates by nearly half.”

\textit{Id.} See \textsc{Carol A. Mici, Massachusetts Department of Correction Program Description Booklet 11} (2021) [hereinafter \textsc{Mici, Program Description Booklet}] (detailing numerous programs available to inmates via the Massachusetts Department of Correction, including an education division featuring programs from basic education up to postsecondary education).

\textit{Id.} See Quinn Chapelle, \textit{Private Prison Education Programs in Massachusetts: Are They Actually Helping?}, \textsc{Bos. Pol. Rev.} (July 14, 2020), archived at https://perma.cc/ZY8Q-5T78 (discussing some of the private institution education initiatives available to inmates, including programs from Boston University, the Massachusetts Institute of Technology, and Tufts University).


\textit{Id.} See \textsc{Davis, Evaluating the Effectiveness} et al., \textit{supra} note 10, at xvi (finding that “inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.”).
participation in an educational program. Vocational programming has likewise yielded positive results, such as an almost thirty-two percent recidivism reduction in one New York inmate group. As prison programming is proven to reduce recidivism, it provides tangible benefits to the areas the programs operate in.

The obvious benefit of reduced recidivism is a corresponding reduction in crime and increase in public safety. Less obvious, however, is the substantial economic benefit derived from less recidivism. In 2013, it is estimated that the Massachusetts correction system alone spent approximately 450 million dollars re-incarcerating repeat offenders. Accordingly, despite the funding required to facilitate inmate programming, most prison-based programs result in an economic benefit to the communities they operate in via the

72 See Claire Perry, Vocational and Educational Programs: Impacts on Recidivism 50 (Apr. 2014) (B.A. thesis, Haverford College) (finding that “[i]n Illinois, people who participate in education programs, holding all else constant, have a reduced rate of re-arrest by 91.9%”). This same group of inmates saw an over eighty-three percent recidivism reduction from participating only in vocational programming. Id.
73 See id. (identifying smaller, yet still significant programming impacts in New York, where “a 31.8% reduction in the rate of re-confinement” was observed).
74 See KIMBERLY FOLEY ET AL., REDUCING RECIDIVISM AND INCREASING OPPORTUNITY 2 (2018) (opining that reduction in recidivism “generate[s] substantial benefits to society by reducing criminal justice costs to the government, crime victimization costs, and the costs of incarceration to the reoffenders and their families.”).
75 See Colgan, supra note 67, at 294 (iterating that providing programming and treatment to the incarcerated population is a cost-effective method for improving public safety because it reduces recidivism). See also Matt Dummermuth, Reducing Recidivism in Released Offenders Improves Public Safety, U.S. DEP’T JUST. OFF. JUST. PROGRAMS (June 10, 2019), archived at https://perma.cc/Z842-LA5X (noting high recidivism rates “greatly impact public safety and the victims affected by those new crimes, as well as the lives of offenders who are unable to break out of the cycle of repeat offending.”).
76 See JONATHAN JONES & BENJAMIN FORMAN, MASS. INST. NEW COMMONWEALTH, REDUCING RECIDIVISM IN MASSACHUSETTS WITH A COMPREHENSIVE REENTRY STRATEGY 2 (2016) (reporting that, in 2013, “approximately two-thirds of defendants (more than 9,500 individuals) committed to state and county prisons in Massachusetts had been incarcerated previously.”). This resulted in a cost of approximately 450 million dollars to the Massachusetts corrections system alone. Id.
77 See id. (discussing the cost of recidivism in Massachusetts in light of nearly two-thirds of inmates arrested in fiscal year 2013 being re-offenders). The figure of 450 million dollars does “not include public safety and court costs or the economic toll that these crimes have for victims.” Id. at 3. “Victimization costs are substantial and by some estimates exceed the costs of incarceration.” Id.
resultant recidivism reduction. \(^78\) Importantly, only a minimal impact on recidivism—two percent, according to the Council of Economic Advisers—is necessary for these programs to yield an economic benefit. \(^79\) Despite empirical evidence demonstrating the benefits of inmate programming and there being numerous such programs in Massachusetts, they are either under-utilized or inaccessible to many prisoners. \(^80\) Many courses require inmates be near release or meet other qualifications to participate, while others only accept inmates

\(^78\) See Colgan, supra note 67, at 325 (explaining how the cost of inmate programming is justified not only due to the resultant reductions in recidivism and increase in public safety, but additionally because these programs result in an economic benefit per dollar spent). The return on such an investment is significant. Providing adult basic education and post-secondary education programs has been found to provide a cost benefit of $10,669 per participant. Vocational education programs produce a per participant cost benefit of $13,738. In fact, correctional education programming has been found to be twice as cost effective as increasing prison capacity for greater incarceration. Likewise, correctional industries programs create a cost benefit of $9,439 per participant. Work release programs have been found to create approximately $6.16 in benefits per dollar of cost. 

Id. See also Madeline St. Amour, Mass. Prisoners to Get Education Program, INSIDE HIGHER ED (Mar. 12, 2020), archived at https://perma.cc/8AWR-QJWZ (acknowledging that research demonstrates every dollar states invest in prison-based education saves taxpayers up to five dollars). See also Benefits of Prison Education, NW. PRISON EDUC. PROGRAM (Nov. 21, 2021), archived at https://perma.cc/PN5Y-2GXE (stating that prison education is nearly twice as cost effective as incarceration, with a one-million-dollar investment in incarceration preventing 350 crimes while an investment of that amount in education will prevent over 600 crimes). 

\(^79\) See COUNCIL ECON. ADVISERS, supra note 38, at 5 (estimating that only a modest 2 percent reduction in recidivism would recover all of the costs of funding an educational program).

\(^80\) See STEVEN KLEIN ET AL., U.S. DEP’T EDUC., ASSESSING THE STATUS OF PRISON PROGRAMS AND INFORMATION NEEDS 10 (2004) (finding that just over half of all eligible inmates actually participate in correctional education programs, which is surprising considering the generally low levels of education attainment among inmates and the benefits of a GED). Further, many prisoners are not eligible to participate in the first place, as prisoners with disciplinary problems or certain sentences are restricted from enrolling, priority is often given to prisoners with close release dates or greater educational need, and there is usually not enough availability to meet inmate demand for courses. Id.
with a requisite level of education. Additionally, the quality of programs vary, with some doing little to teach necessary skills.

Just as the efficacy of quality prison education programs is clear, so too is the need for prisoners to have access to education and vocational skills. The majority of people incarcerated in the United States share several demographic factors, and two of the most strongly correlated with imprisonment are poverty and illiteracy. Studies reveal that most inmates are functionally illiterate. The incarcerated population also has a median annual income over forty percent lower than their non-incarcerated peers, while about two-thirds of people

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81 See id. (discussing how certain inmates, such as those close to being released, are given priority when enrolling in classes). See also Chapelle, supra note 69 (pointing out how some courses have requirements that most inmates cannot meet, such as a coding course offered by the Massachusetts Institute of Technology that requires higher mathematical knowledge while forty-four percent of male prisoners in Massachusetts have less than a sixth-grade education).

82 See Justin George, What Are Inmates Learning in Prison? Not Much., MARSHALL PROJECT (May 31, 2017), archived at https://perma.cc/QD7K-YDNW (discussing how many prison education programs are ineffective, citing reasons such as a lack of trained instructors, a scarcity of meaningful programs, limited availability of programs, and excessively expensive courses). A survey found that fellow inmates taught ninety-three percent of classes, and earning a college degree in federal prison was considered nearly impossible due to the cost. Id.

83 See RAMPY ET AL., supra note 43, at A–3 (describing a study of 1546 inmates from 98 prisons, which found literacy and numeracy rates well below the general public among prisoners: 29-percent of inmates scored below level two literacy compared to 19-percent of the general public, and 52-percent scored below level two numeracy compared to 29-percent of the general public). See also Lucius Couloute & Daniel Kopf, Out of Prison & Out of Work: Unemployment among formerly incarcerated people, PRISON POL’Y INITIATIVE (July 2018), archived at https://perma.cc/A7T5-VBK3 (noting the formerly incarcerated are unemployed at a rate of over twenty-seven percent, compared to about five percent unemployment for their peers in the general public).

84 See Adam Looney & Nicholas Turner, Work and opportunity before and after incarceration, BROOKINGS (Mar. 14, 2018), archived at https://perma.cc/582B-94EK (discussing how boys that grew up in families that were in the bottom ten percent of income earners are twenty times more likely to be in prison that children born to more wealthy families). In general, “the poorer your parents are, the more likely you are to be incarcerated[.]” Id. See also Kohlenberg, supra note 43, at 213 (iterating that seventy percent of the adult incarcerated population is functionally illiterate).

85 See Kohlenberb, supra note 43, at 213 (offering that about seventy percent of adults in prison are is functionally illiterate). See also RAMPY ET AL., supra note 43, at 7 (describing the low average literacy level of inmates relative to the general public).
detained in jails report an annual income under $12,000 dollars.\(^{86}\)

Additionally, poverty is also strongly correlated with illiteracy.\(^{87}\)

Poverty and illiteracy furthermore happen to be strong indicators of a lack of digital literacy.\(^{88}\) Poverty is associated with a lack of access to and competence with modern technologies.\(^{89}\) Functional illiteracy likewise precludes effective use of most technology.\(^{90}\) As the majority of prisoners are either functionally illiterate, come from a low-income background, or both, most prisoners are thus also digitally illiterate.\(^{91}\) This is especially true of

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\(^{86}\) See Bernadette Rabuy & Daniel Kopf, *Prisons of Poverty: Uncovering the pre-incarceration incomes of the imprisoned*, PRISON POL’Y INITIATIVE (July 9, 2015), archived at https://perma.cc/ACM3-EWR7 (finding that incarcerated people had a median annual income about forty-one percent less than their non-incarcerated peers of similar ages). See also THE RELATIONSHIP BETWEEN POVERTY & MASS INCARCERATION, CTR. FOR CMTY. CHANGE (stating “[p]eople who enter the criminal justice system are overwhelmingly poor. Two-thirds detained in jails report annual incomes under $12,000 prior to arrest.”).

\(^{87}\) See Jennifer Gunn, *The Lifelong Impact of Illiteracy*, RESILIENT EDUCATOR (Aug 5, 2022), archived at https://perma.cc/HWZ5-WXEY (indicating that there is a clear correlation between poverty and literacy, citing that people with the lowest literacy scores are more likely to be in the lowest wage group earning less than $300 per week).

\(^{88}\) See Dian Schaffhauser, *Poverty, Race Linked to Lack of Internet for Students*, THE J. (May 14, 2020), archived at https://perma.cc/9SGP-4B3W (referencing studies that found poverty and race influence young people’s access to the internet, including the finding that students living in households receiving food stamps were less likely to have internet access). See also Christopher Cocchiarella, *What is Functional Literacy, and Why Does Our High-Tech Society Need It?*, MINDFUL TECHNICS (Dec. 30, 2018), archived at https://perma.cc/B6ZZ-274N (defining functional literacy as requiring media and computer literacy, and noting “functional literacy keeps our high-tech society functioning.”).

\(^{89}\) See Schaffhauser, supra note 88 (noting the relationship between a low income and lack of access to the internet). See also Emily A. Vogels, *Digital divide persists even as Americans with lower incomes make gains in tech adoption*, PEW RSCH. CTR. (June 22, 2021), archived at https://perma.cc/A62S-EZDG (reporting that “13% of adults with household incomes below $30,000 a year do not have access to” a smartphone, a desktop, laptop computer, or a tablet).

\(^{90}\) See Cocchiarella, supra note 88 (describing how literacy with technology is an important piece of functional literacy).

\(^{91}\) See Looney & Turner, supra note 84 (noting boys from families with low incomes are more likely to be incarcerated). See also THE RELATIONSHIP BETWEEN POVERTY & MASS INCARCERATION, supra note 86, at 1 (indicating the majority of people who enter the criminal justice system come from poverty). See also Kohlenberg, supra
long-term inmates who are isolated from the technological advances of the outside world while imprisoned.92

C. The Legal Landscape in Prison

Despite the Supreme Court reaffirming the existence of constitutional rights in prisons via Turner, the rights enumerated in the Constitution and proscribed to individuals in the United States are not equally afforded to prison inmates.93 Though the Constitution does ultimately govern prisons and inmates, prisoners do not enjoy their constitutional rights to the same extent as the non-incarcerated.94 Instead, prison conditions are generally determined by an amalgamation of state and federal laws, with great deference given to prison administrations in determining specific policies.95 Nevertheless, there are limits to these policy decisions, and a constitutional basis does exist for preventing excessive infringement upon inmates’ rights.96

note 43, at 213 (iterating that seventy percent of the adult incarcerated population is functionally illiterate).

92 See David Simonsen, Doing Frozen Time: A 30-Year Inmate's View Of Modern Technology, FORBES (Feb. 15, 2017), archived at https://perma.cc/FZ65-YMGC (providing a long-term inmate’s point of view on the state of modern technology, stating he, for example, has never owned a cell phone). See also Bagaric et al., supra note 50, at 313 (noting “[i]nmates incarcerated for lengthy periods ’can be distressed by their sudden exposure’ to advanced technology on their release, particularly if they are not prepared in any way for it.”).

93 See Nolan v. Scafati, 430 F.2d 548, 551 (1st Cir. 1970) (confirming that “prison inmates do not have all the constitutional rights of citizens in society— and may hold some constitutional rights in diluted form.”). See also Turner v. Safley, 482 U.S. 78, 85 (1987) (noting the need for a standard of review for prisoners’ constitutional claims that balances the interests of the judicial restraint shown in such cases with the need to protect constitutional rights). Ultimately, the court decided to apply a less strict standard of scrutiny when assessing prisoners’ constitutional claims because “[s]ubjecting the day-to-day judgments of prison officials to an inflexible strict scrutiny analysis would seriously hamper their ability to anticipate security problems and to adopt innovative solutions.” Id. at 89.

94 See Nolan, 430 F.2d at 551 (discussing how inmates’ constitutional rights are limited).

95 See James Esposito, Virtual Freedom - Physical Confinement: An Analysis of Prisoner Use of the Internet, 26 NEW ENG. J. CRIM. & CIV. CONFINEMENT 39, 56 (2000) (pointing out the high “[d]egree of deference the Court has given to prison administrations . . . .”).

96 See Turner, 482 U.S. at 87 (1987) (determining that the key inquiry in evaluating whether prisoners’ rights have been impermissibly infringed upon is whether a
Through *Turner* in 1987, the Supreme Court established the test that continues to govern constitutional challenges to prisoner rights infringements.\(^97\) The Court held that the standard for determining whether a prison regulation that infringes an inmate’s constitutional right is valid is whether the infringing policy is reasonably related to a legitimate penological interest.\(^98\) Four factors were identified to take into account: (1) the existence of a valid, rational connection between the prison regulation and legitimate government interest, (2) whether inmates have alternative means of exercising the right restricted by the regulation, (3) the effect that accommodating the right would have on other inmates and prison staff, and (4) whether there is a ready alternative that indicates the regulation is an exaggerated response by prison officials.\(^99\) This low-scrutiny standard underlines the deference courts give to prison administrators.\(^100\)

“regulation that burdens fundamental rights is ‘reasonably related’ to legitimate penological objectives, or whether it represents an ‘exaggerated response’ to those concerns.”

\(^97\) See *id.* at 78 (holding “a lesser standard is appropriate whereby inquiry is made into whether a prison regulation that impinges on inmates' constitutional rights is ‘reasonably related’ to legitimate penological interests.”); Kevin O’Neil, *Rights of Prisoners, First Amend. Encyclopedia* (June 2017), archived at https://perma.cc/JQ25-3794 (noting that the test articulated by Justice Sandra Day O’Connor in *Turner* still prevails today).

\(^98\) See O’Neil, *supra* note 97 (referring to the *Turner* standard, which requires determining whether a regulation is reasonably related to legitimate penological interests).

\(^99\) See *Turner*, 482 U.S. at 78 (discussing the reasonableness factors to consider when evaluating the constitutionality of prison regulations). The Court discussed relevant factors such as:

(a) whether there is a “valid, rational connection” between the regulation and a legitimate and neutral governmental interest put forward to justify it . . . (b) whether there are alternative means of exercising the asserted constitutional right that remain open to inmates . . . (c) whether and the extent to which accommodation of the asserted right will have an impact on prison staff, on inmates’ liberty, and on the allocation of limited prison resources . . . and (d) whether the regulation represents an “exaggerated response” to prison concerns . . .

\(^100\) See Esposito, *supra* note 95, at 56 (referencing how the Supreme Court has “specifically mentioned that sufficient deference must be given to prison administrators to effectively manage the prison environment.”).
The ability to use the Internet is tightly intertwined with digital literacy.\(^{101}\) Although courts have indicated internet use is closely associated with the First Amendment, the extent of this protection in prisons is not yet clear.\(^{102}\) While it is widely accepted that prisoners do not have access to the internet, Massachusetts does not have any laws explicitly banning internet use in prison.\(^{103}\) Nevertheless, prison administrations generally allow little-to-no internet access, citing the dangers concomitant with inmate internet privileges.\(^{104}\)

Prisoner rights advocates counter by looking to the First Amendment.\(^{105}\) The Supreme Court has determined that the internet is entitled to the fullest extent of First Amendment protection and treats the internet as a public forum.\(^{106}\) Supreme Court precedent also

\(^{101}\) See Withers et al., supra note 49, at 9 (discussing internet use as a facet of a digital literacy skills acquisition course, as well as how participants believed learning to use computers and the internet would put them in a stronger position for success after prison).

\(^{102}\) See, e.g., Packingham v. North Carolina, 137 S. Ct. 1730, 1732 (2017) (holding that it is fundamental to the First Amendment that people can exchange views, and “one of the most important places to exchange views is cyberspace . . . ”); United States v. Lacoste, 821 F.3d 1187, 1191 (2016) (stating “[p]recisely because access to the Internet has become so vital, courts have upheld conditions prohibiting all use of the Internet only in limited circumstances.”).

\(^{103}\) See Bagaric et al., supra note 50, at 282 (noting most prisoners in the United States are not allowed internet access).

\(^{104}\) See id. at 316 (discussing the lack of inmate internet access and the justifications for this decision). “Of course, there are potential problems with providing internet access to prisoners, most notably the concern with providing prisoners a medium through which they could commit more crime, including harassing and threatening victims and witnesses.” Id.

\(^{105}\) See Ronald Kahn, Internet, FIRST AMEND. ENCYCLOPEDIA (2009), archived at https://perma.cc/9VQ2-K55P (acknowledging the argument that Congress and courts should hesitate to regulate the internet, as well as how courts have rejected the argument that the internet should receive a reduced level of First Amendment protection).

\(^{106}\) See Lacoste, 821 F.3d at 1191 (stating that internet access has become so vital that conditions prohibiting its use are scarcely allowed); Maria Wood, Access to Social Media Protected by First Amendment, LEGAL EAGLE LOWDOWN (May 12, 2020), archived at https://perma.cc/HRH8-6YMM (quoting Ellen P. Goodman’s opinion of Packingham v. North Carolina as “‘a strong First Amendment ruling that recognizes the prominence of the Internet in people’s lives.’”). See also Malory M. Pascarella, Status Update: Still in Prison A Critical Analysis of the Turner Standard As Applied to Social Media Speech, 70 RUTGERS U. L. REV. 1237, 1253 (2018) (noting that “the Supreme Court in Reno v. ACLU established that speech over the Internet enjoys broad First Amendment rights just like any other form of speech” and “the Court continues to recognize the internet as one of the leading forums of speech and expression.”).
dictates the First Amendment protects an individual’s right to “select what they believe to be the most effective means” for communicating ideas. However, there is a lack of precedent regarding inmates’ right to access the internet as a function of the First Amendment. On the contrary, precedent exists for a First Amendment Turner analysis on a related matter: the right to communicate via email. While inmates’ have a recognized First Amendment right to communicate with friends and family, the Third Circuit determined there was no First Amendment violation when a warden banned an inmate with a history of misusing the computer system from using email. Some legal scholarship nevertheless suggests that the failure to provide email access is unconstitutional under a Turner analysis. In short, advocates contend that email is safer than physical mail, is not adequately substituted for by the use of physical mail, has no negative impact on prison staff or other inmates, and is an “easy and obvious” way to meet the government’s safety interests such that denial of email is overly restrictive.

Though the basis of the right is unsettled, the Constitution also provides for the right of an incarcerated person to access the court

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107 See Meyer v. Grant, 486 U.S. 414, 424 (1988) (stating that “[t]he First Amendment protects appellees’ right not only to advocate their cause but also to select what they believe to be the most effective means for so doing.”).
108 See Esposito, supra note 95, at 56 (opining “[g]iven that the Internet is still quite foreign to many inmates, questions regarding a prisoner’s Constitutional right to access the Internet has not been challenged before the Supreme Court” and as such “[t]he lack of precedential authority makes predicting the possible outcome of such a case very difficult.”).
109 See Solan v. Zickefoose, 530 F. App’x 109, 110–11 (3d Cir. 2013) (holding that a warden’s decision to prevent an inmate from using email did not violate that inmate’s First Amendment rights when that inmate had a history of misusing computers in prison).
110 See id. at 110 (agreeing that inmates have a right to communicate with friends and family, and that the use of email is one way of exercising this right).
111 See Brennen J. Johnson, Jail (e)mail: Free Speech Implications of Granting Inmates Access to Electronic Messaging Services, 11 WASH. J. L. TECH. & ARTS 285, 304–08 (2016) (arguing that restricting email use has no rational relation to a legitimate government objective, that alternatives to email are not equitable and do not retain the same benefits as email, there is minimal impact on staff, prisoners, and prison resources via use of email, and that prison practices banning email are overly restrictive).
112 See id. at 290–91 (explaining the constitutional argument for email use to be allowed in prisons).
The Supreme Court specified that this access must be adequate, effective, and meaningful. This right extends to inmates’ access to legal information insofar as the lack of access to that information hinders the pursuit of a legal claim. With the advent of legal databases and increasingly digitized libraries, effective legal research is almost entirely conducted via online resources. More importantly, the majority of state prison law libraries are now exclusively digital. Taking these facts together, there is a coherent constitutional basis for the argument that prisoners should be allowed to conduct legal research online. As digital literacy entails the ability to conduct such research, it may be implicated in this constitutional right.

D. Digital Literacy in Prisons

See Christopher v. Harbury, 536 U.S. 403, 415 (2002) (acknowledging that a right to access the courts exists no matter “[h]owever unsettled the basis” of this constitutional right is); Bounds v. Smith, 430 U.S. 817, 821 (1977) (stating “[i]t is now established beyond doubt that prisoners have a constitutional right of access to the courts.”).

See Isaac v. Samuels, 132 F. Supp. 3d 56, 59 (D.D.C. 2015) (noting “[a]n inmate has a First Amendment right of access to the courts that is adequate, effective, and meaningful.”).

See Benjamin R. Dryden, Technological Leaps and Bounds: Pro Se Prisoner Litigation in the Internet Age, 10 U. PA. J. CONST. L. 819, 827–28 (2008) (indicating that the constitutional right to access to courts is violated when an inmate can “demonstrate that the alleged shortcomings in the library or legal assistance program hindered his efforts to pursue a legal claim.”).

See Ellie Margolis & Kristen E. Murray, Say Goodbye to the Books: Information Literacy as the New Legal Research Paradigm, 38 U. DAYTON L. REV. 117, 118 (2012) (stating that law libraries continue to shrink and put their information in cost-saving electronic forms, and “[t]he advent of free electronic legal databases . . . have made conducting legal research online easier than ever.”).

See Camilla Tubbs, Electronic Research in State Prisons, 25 LEGAL REFERENCE SERVS. Q. 13, 14 (2006) (claiming “it cannot be denied that the more than half of the America's state prison library systems are moving towards, or are completely handled by, electronic or CD-ROM legal databases, thereby replacing some or all of its print collections.”); Stephen Raher & Andrea Fenster, A Tale of Two Technologies: Why “digital” doesn’t always mean “better” for prison law libraries, PRISON POL'Y INITIATIVE (Oct. 28, 2020), archived at https://perma.cc/H58Z-LQQF (identifying that, as of 2018, eighty-eight percent of states “transitioned to electronic-only legal research tools.”).

See Dryden, supra note 115, at 843 (arguing “[t]he constitutional text most likely to give inmates the right to use the Internet for legal research and docket management . . . is found in the Due Process Clauses of the Fifth and Fourteenth Amendment.”).

See WITHERS ET AL., supra note 49, at 3 (noting that an important digital literacy skill taught to program participants was “conducting effective searches online.”).
Because of their lack of access to technologies in prison, even inmates who begin a sentence with technological literacy skills fall behind while behind bars. Long-term inmates suffer most in this regard, as they are met with overwhelming technological changes upon being released. To mitigate this issue, there are some initiatives to provide inmates with modern technological devices—but these programs suffer from shortcomings of their own. One of the largest programs is conducted through the company JPay, and aims to provide prisoners with tablets they can use for communication and some educational services. This service, however, has been accused of predatory pricing and prioritizing profits, a sentiment many inmates have echoed. Despite being advertised as a “free” service, critics point out that JPay charges inmates far above market prices. For

120 See Sascha Brodsky, How a Technology Gap Punishes Former Prisoners, LIFEWIRE (Oct. 23, 2020), archived at https://perma.cc/GY7Y-K8P6 (noting former prisoners suffer from an inability to adjust to modern technology, putting them at a disadvantage in finding jobs or educating their children); Simonsen, supra note 92 (iterating how a long-term inmate cannot relate to the modern world, where an average of 25 hours a week are spent on the internet).

121 See Daniel Tucker, Former Inmates Struggle to Learn New Technologies, WNYC STUDIOS (Mar. 26, 2013), archived at https://perma.cc/X9TL-PFEB (offering former inmates’ viewpoints on re-entering a society that has seen significant technological advances while they were incarcerated). One inmate who was released after thirteen years of incarceration stated, “it was like going from the old ages to Star Wars” and that this new reality “was very overwhelming.” Id.


123 See JPay Tablets, JPAY (Aug. 6, 2022), archived at https://perma.cc/H42K-ZBZV (discussing how JPay offers the “most advanced tablet in corrections” and allows prisoners access to services such as placing phone calls, sending and receiving emails, education course materials, the daily news, and more).

124 See Tablets, supra note 122 (advocating for inmate’s perspective of JPay tablets, bringing up issues such as JPay charging high fees for content that is free outside of prison, as well as how JPay is expected to earn back the entire cost of the tablets plus nine million dollars in profit by 2022).


JPay charges an additional $4.15 service fee to transfer $20 from the outside to an inmate. Sending one email costs $.35, double that
example, a simple chat could cost as much as eighteen dollars an hour, while a music album could run an inmate as much as forty-six dollars.\textsuperscript{126}

Many of the educational and vocational programs available to prisoners use technology to enhance inmate’s learning experience.\textsuperscript{127} Some programs and services are even entirely technology-based, requiring inmates to use a device such as a tablet to access them.\textsuperscript{128} This aligns with contemporary education outside of prison; for example, about seventy-five percent of U.S. classrooms utilized desktop computers as of 2019.\textsuperscript{129} Technology in the modern era is considered one of the most effective educational tools, and is widely used in schools across the country throughout all levels of learning.\textsuperscript{130} However, just as a digitally illiterate student would not be able to successfully learn via technology, inmates cannot avail themselves of programs requiring technology use if they do not have a foundation of technological literacy.\textsuperscript{131} Especially in the midst of the Covid-19 pandemic, it becomes even more crucial for inmates to have access to technology to maintain their education. To include a photo, and quadruple to include a video. A song can cost up to $2.50, and an album can be — somewhat inexplicably — as much as $46. These prices seem all the more predatory when considering inmates earn an average of ninety-two cents per hour. \textit{Id.} See \textit{id.} (acknowledging the high prices of JPay’s tablet features and the large discrepancy between these prices and inmates’ income).

\textsuperscript{126} See \textit{id.} (detailing APDS’s program run through mobile devices).

\textsuperscript{127} See, e.g., \textit{Mass. Prisons Launch Tech-Enabled Education Program to Reduce Recidivism, Help Inmates Build In-Demand Skills, CISION} (Mar. 12, 2020), archived at https://perma.cc/MBJ4-6F92 (describing a program put into place by American Data Prison Systems that is a Massachusetts statewide initiative to provide education through digital mobile devices).

\textsuperscript{128} See \textit{id.} (detailing APDS’s program run through mobile devices).

\textsuperscript{129} See Larry Bernstein, \textit{New Global Survey Offers Snapshot of Technology in the Classroom}, EdTECH (Feb. 14, 2019), archived at https://perma.cc/P6TV-28TV (referencing a survey that found forty-eight percent of students ages twelve to nineteen worldwide use a desktop computer in the classroom, forty-two percent use smartphones, thirty-three percent use interactive whiteboards, and twenty percent use tablets, with seventy-five percent of U.S. classrooms using desktop computers).

\textsuperscript{130} See \textit{id.} (describing the widespread use of technology throughout global levels of education).

\textsuperscript{131} See \textit{Saida Mamedova & Emily Pawlowski, A Description of U.S. Adults Who Are Not Digitally Literate} 2 (2018) (opining a need for fundamental computer skills).

\textsuperscript{[I]}n order to operate effectively in today’s digital environment, one needs to master foundational computer skills, including (a) skills associated with manipulating input and output devices (e.g., the mouse, the keyboard, and digital displays), (b) awareness of
pandemic where face-to-face learning opportunities are limited, prisoners’ ability to rehabilitate themselves are limited by the level of their technological and digital literacy.\textsuperscript{132}

Despite the positive impact of participation in prison services on recidivism, the limited scope of this programming becomes evident upon examination of post-prison employment numbers.\textsuperscript{133} The rate of unemployment for former inmates is estimated at twenty-seven percent, whereas the national unemployment rate is about five percent.\textsuperscript{134} This is so problematic because the ability to attain employment post-release is one of the most significant predictors of recidivism.\textsuperscript{135} While digital literacy is of course not the only vocational skill the incarcerated population tends to lack, it is one of the most important employability skills in the current market.\textsuperscript{136}

\begin{itemize}
  \item Concepts and knowledge of how the digital environment is structured (e.g., files, folders, scrollbars, hyperlinks, and different types of menus and buttons), and
  \item The ability to interact effectively with digital information (e.g., how to use commands such as Save, Delete, Open, Close, Move, Highlight, Submit, and
  \end{itemize}

\textit{Id.} See Cameron Johnson, Lessons Learned from Prison Education Interruption during Pandemic 1–2 (2021) (indicating that the coronavirus epidemic resulted in the interruption of in-person correctional education courses, which is especially problematic because “[t]he majority of prison education programs use an entirely face-to-face teaching model due to either prison security restrictions or lack of financial resources.”). \textit{See also} Deborah Becker, SJC Says Pandemic Virtual Hearings Are Constitutional, WBUR (May 6, 2021), archived at https://perma.cc/2JCA-KBWS (explaining how even the legal system has had to transition into a largely online environment in light of the Covid-19 pandemic).

\textsuperscript{132} See Couloute & Kof, supra note 83 (indicating the formerly incarcerated are unemployed at a rate of over twenty-seven percent).

\textsuperscript{133} See id. (placing the national unemployment rate at about five percent for the general public, and over twenty-seven percent for former inmates). See also Bureau Lab. Stat., U.S. Dep’t Lab., The Employment Situation – July 2022 1 (2022) (stating that, as of July 2022, the national unemployment rate was under four percent).

\textsuperscript{134} See Re-ENTRY Pol’y Study Comm’n, supra note 44, at 12 (finding in its study that whether or not an inmate attained employment was the number one predictor of recidivism).

\textsuperscript{135} See Bacha, supra note 46 (explaining digital literacy is now crucial for professionals). “Digital transformations such as automation, digitalization [sic], and A.I. are also happening in the workplace[,] therefore, digital literacy is crucial at the
E. Laws in Massachusetts

Regulations in Massachusetts currently require all eligible inmates to be offered education programs offering basic literacy training, preparation for the GED, and instruction in the English language for non-native speakers. The regulations specifically indicate that the education program must include at least these features, but it is not limited to only them. Additionally, Massachusetts General Laws specifies the commissioner must make available a high-school equivalency program for all inmates incarcerated for over six months.

IV. ANALYSIS

A. Why Inmate Digital Literacy Matters

professional level. A study conducted by IBM in 2019 showed that ‘as a result of intelligent automation,’ up to 120 million workers will need retraining or reskilling.” Id. See also Herold, supra note 46 (asserting that even entry-level jobs that traditionally required minimal technical knowledge have become more technology-reliant). Digital literacy has become so important that if it is not taught to students from kindergarten through twelfth grade, they will be left behind their more digitally literate peers. Id. 137 See 103 Mass. Reg. 936.02 (Apr. 3, 2018) (providing that “an education program available to all eligible inmates that includes, but is not limited to, the following components: (a) basic literacy training; (b) preparation for the general education development test; and (c) instruction in the English language for those for whom English is not the native language.”). See also MASS. GEN. LAWS ch. 127, § 48 (2022) (describing the commissioner’s requirements to inmates).

Ensuring that at least 1 educational program leading to the award of a high school equivalency certificate is available to persons who are committed to the custody of the department or to a county correctional facility for not less than 6 months and who have not obtained a high school degree or equivalency.

Id. 138 See 103 Mass. Reg. 936.02 (Apr. 3, 2018) (iterating that the regulation requires certain courses be made available to inmates, but that the list is not limited to these courses).

See MASS. GEN. LAWS ch. 127, § 48 (2022) (describing the commissioner’s requirement of forming a high school-level program). This section requires the commissioner to make available, at minimum, “1 educational program leading to the award of a high school equivalency certificate is available to persons who are committed to the custody of the department or to a county correctional facility for not less than 6 months and who have not obtained a high school degree or equivalency.” Id.
While it is clear the incarcerated population on average lacks digital literacy skills, the preliminary question is whether there will be a societal benefit if prisoners obtain these skills. The key inquiry ultimately is: will digital literacy reduce recidivism? Because increased digital literacy will improve inmate’s vocational skills, allow for smoother reintegration into an increasingly digital society, and enhance their ability to utilize both rehabilitative and reentry resources, it will result in lower recidivism rates.

Empirical evidence demonstrates that the ability to obtain employment is a key predictor of recidivism, with employment being

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140 See The Relationship Between Poverty & Mass Incarceration, supra note 86, at 1 (indicating that the incarcerated are “overwhelmingly poor.”). But see, Kohlenberg, supra note 43, at 213 (identifying seventy percent of adult inmates as functionally illiterate). See also Rampey et al., supra note 43, at 34 (describing the low average literacy level of inmates relative to the general public); Schaffhauser, supra note 88 (discussing how a low income often means a lack of access to the internet). See also Vogels, supra note 89 (noting many adults with low incomes do not have access to technologies like smartphones, tablets, or computers). See also Cocchiarella, supra note 88 (stating functional literacy includes literacy with technology). See also Dummermuth, supra note 75 (opining that recidivism has a negative impact on public safety). See also Colgan, supra note 67, at 295 (reporting that “[a] fifteen-state study of prisoners, released in 1994, shows how critical recidivism rates are to public safety; within three years of release, 67.5 percent of prisoners released were rearrested, and those individuals committed ‘an average of four new crimes each.’” This volume of new crimes “create an enormous fiscal burden for taxpayers by ‘consuming public funds to investigate, prosecute, defend, and incarcerate the recidivists.’” Id. at 296.

141 See Colgan, supra note 67, at 296 (recognizing recidivism’s impact beyond that of just public safety, as it affects the offender and involved families). “Just as there are immeasurable emotional costs to crime victims, there are also broad societal costs that are similarly difficult to measure. The effects of incarceration on the American family can be crippling. In the United States, 1.5 million children have a parent who is incarcerated.” Id. See also Withers et al., supra note 49, at 15 (finding that a digital literacy acquisition program trialed as part of a reentry process in a New Orleans prison led to a forty-seven percent reduction in recidivism). This far exceeded the project’s goal of twenty percent. Id.

142 See Colgan, supra note 67, at 298 (finding that educational and vocational rehabilitation programs have had significant impacts in reducing recidivism). See also What is digital literacy and why does it matter?, supra note 49 (addressing how vital digital literacy is due to its necessity for understanding fundamentals of internet safety). See also Bacha supra note 46 (claiming digital literacy in today’s world is more important than it ever has been before).
one of the most impactful factors reducing subsequent offenses.\textsuperscript{143} Digital literacy, meanwhile, is a key employment skill in the modern world, required in virtually all professions in some capacity.\textsuperscript{144} Despite the necessity of this skill in obtaining employment, the incarcerated population on average lacks digital literacy skills, rendering them less employable than their peers.\textsuperscript{145} Measures to increase inmate digital literacy will therefore reduce recidivism as it will arm the formerly incarcerated with a necessary skillset for obtaining employment, which dramatically reduces the rate of reincarceration.\textsuperscript{146}

In addition to reintegration on a vocational level, the ability to reintegrate into society-at-large requires a baseline level of digital

\textsuperscript{143} See \textsc{re-entry pol’y study comm’n}, \textit{supra} note 44, at 9 (finding in its study that whether an inmate attained employment was the number one predictor of recidivism). \textit{See also visher et al.}, \textit{supra} note 44, at 1 (pointing out how released inmates that obtained employment were less likely to recidivate, and the rate of re-offending diminished even further as wages rose). \textit{See also tegeng & abadi}, \textit{supra} note 5, at 2 (classifying employment status as a significant recidivism factor).

\textsuperscript{144} See Bacha, \textit{supra} note 46 (describing digital literacy as crucial for professionals). \textit{See also herold}, \textit{supra} note 46 (denoting many forms of employment as requiring more technological literacy than they previously did). \textit{See also laBerge et al.}, \textit{supra} note 8 (illustrating the increased reliance on technology due to the Covid-19 pandemic, such as consumers moving primarily towards online channels). \textit{See also becker}, \textit{supra} note 132 (noting how courts and the legal profession in general moved largely online as a result of the Covid-19 pandemic). \textit{See also Couloute & Kopf}, \textit{supra} note 83 (pointing out an unemployment rate of twenty-seven percent).

\textsuperscript{145} See Couloute & Kopf, \textit{supra} note 83 (pointing out an unemployment rate of twenty-seven percent for the formerly incarcerated, while the rate for their peers was only roughly five percent). \textit{See also the relationship between poverty & mass incarceration}, \textit{supra} note 86, at 18 (stating criminal offenders are “overwhelmingly poor.”). \textit{See also Kohlenberg}, \textit{supra} note 43, at 213 (noting seventy percent of adult inmates are functionally illiterate). \textit{See also rampsey et al.}, \textit{supra} note 43, at 34 (describing the low average literacy level of inmates relative to the general public). \textit{See also Schaffhauser}, \textit{supra} note 88 (relating a low income to a lack of access to the internet). \textit{See alsoVogels}, \textit{supra} note 89 (finding many adults with low incomes do not have access to technologies like smartphones, tablets, or computers). \textit{See also Cocchiarella}, \textit{supra} note 88 (stating functional literacy includes literacy with technology).

\textsuperscript{146} See Bacha, \textit{supra} note 46 (explaining digital literacy is now crucial for professionals); herold, \textit{supra} note 46 (asserting that jobs have become more technology-reliant). \textit{See also re-entry pol’y study comm’n}, \textit{supra} note 44 (finding in its study that whether an inmate attained employment was the number one predictor of recidivism); Tegeng & Abadi, \textit{supra} note 5 (classifying employment status as a significant recidivism factor).
literacy. This is especially relevant for long-term inmates, as even those who entered the criminal justice system digitally literate will fall behind due to rapidly advancing technology during their time incarcerated. While it is difficult to quantify the impact that assimilation to the modern technological world has on recidivism, the logical link is clear: an inmate who feels prepared to face the challenges of living post-release is an individual better prepared to live outside of prison walls.

Data also makes it clear that vocational and educational programming in prison significantly reduce the likelihood of an individual recidivating. However, many of these resources either

147 See What is digital literacy and why does it matter?, supra note 49 (addressing how vital digital literacy is due to its necessity for understanding fundamental of internet safety); Bacha, supra note 46 (claiming digital literacy in today’s world is more important than it ever has been before).
148 See Simonsen, supra note 92 (demonstrating a long-term inmate’s unfamiliarity with technological advances). An inmate for thirty years explains “[w]hat is now considered to be ancient, what I last knew as ‘modern technology,’ is still current to me.” See also Brodsky, supra note 120 (discussing the disadvantages former inmates face upon release due to their lack of familiarity with modern technology). This disadvantage can extend beyond personal challenges, as difficulties can include an inability to effectively educate children. Id.
149 See Kohlenberg, supra note 43 (indicating inmate’s need for “adequate preparation for successful post-release reintegration into society.”). See also Withers ET AL., supra note 49, at 3 (elucidating how digital literacy skills are “[s]ome of the most essential skills for a successful transition to post-release life” and listing key skills such as “filling out online applications, creating resumes, sending and receiving emails, and conducting effective searches online.’ ’). See also Simonsen, supra note 92 (providing the perspective of a long-term inmate who cannot see why, for example, the average person spends 25 hours per week on the internet). See also Anzilotti, supra note 9 (asserting that the current technology landscape is not navigable for people incarcerated before computers were widely available); Loewus, supra note 45 (defining digital literacy as “the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.”); What is digital literacy and why does it matter?, supra note 49 (stating digital literacy is vital for understanding the fundamentals of internet safety and using social media responsibly).
150 See Re-ENTRY POL’Y STUDY COMM’N, supra note 44 (finding “[f]urther analysis of the data showed that the recidivism rate among the unemployed offenders was 42.4%; recidivism among the employed offenders was 26.2%. Employment was the number one predictor of recidivism.”); DAVIS, EVALUATING THE EFFECTIVENESS,
partially or entirely require the use of technology to be effective.\textsuperscript{151} Digital literacy is therefore a barrier to entry for the incarcerated or ex-incarcerated seeking to take advantage of the resources available to them.\textsuperscript{152} Increasing digital literacy amongst inmates would increase access to these resources, thus widening their reach and lowering recidivism rates.\textsuperscript{153}

Because increasing inmate digital literacy will reduce recidivism, society as a whole stands to reap the rewards.\textsuperscript{154} A lower recidivism rate necessarily results in less crime and increased public safety.\textsuperscript{155} In fact, given the high recidivism rate in the United States, reducing this rate would likely have a greater impact on public safety.

\textsuperscript{151} See Marquez, \textit{supra} note 6 (noting “[m]any of the social services and job programs that former prisoners rely on to achieve re-entry into their communities are inaccessible without a comprehensive knowledge of the internet.’’). \textit{See also Mass. Prisons Launch Tech-Enabled Education Program to Reduce Recidivism, Help Inmates Build In-Demand Skills, supra note 127} (detailing the American Data Prison Systems that is a Massachusetts statewide initiative to provide prison education through digital mobile devices).

\textsuperscript{152} See Loewus, \textit{supra} note 45 (denoting certain technical and cognitive skills as integral to digital literacy); Bagaric \textit{et al.}, \textit{supra} note 50, at 306 (opining that prisoner’s ability to use the internet would provide access to education which reduces recidivism, as well as facilitate the reintegration of offenders into the community after release).

\textsuperscript{153} See Davis, \textit{Evaluating the Effectiveness, supra} note 10, at xvi (finding that “inmates who participated in correctional education programs had forty-three percent lower odds of recidivating than inmates who did not”). \textit{See also Colgan, supra} note 67, at 298 (finding lower recidivism rates for inmates who participated in educational and vocational rehabilitation programs, with post-secondary education programs showing the largest reduction in recidivism).

\textsuperscript{154} See Dummermuth, \textit{supra} note 75 (providing the conclusion that recidivism has a negative impact on public safety because it results in more crimes being committed). \textit{See also Colgan, supra} note 67, at 295 (offering that recidivism numbers are “critical” to public safety due to the large number of offenders who re-offend); Jones \& Forman, \textit{supra} note 76 (discussing how approximately two-thirds of those incarcerated in 2013 were repeat offenders, and the incarceration of recidivists resulted in a cost of approximately 450 million dollars to the Massachusetts corrections system alone).

\textsuperscript{155} See Colgan, \textit{supra} note 67, at 295 (noting about sixty-seven percent of crimes that result in incarceration are committed by individuals who were formerly arrested); Jones \& Forman, \textit{supra} note 76 (finding two-thirds of the incarcerated in 2013 were recidivists, resulting in substantial economic and intangible criminal justice costs).
than the diminishing returns of mass incarceration.\textsuperscript{156} Further, an effective digital literacy acquisition program would provide a large economic benefit to Massachusetts because of the cost-effective nature of programming that reduces recidivism.\textsuperscript{157}

\textbf{B. How to Increase Inmate Digital Literacy}

To increase digitally literacy in the incarcerated population, Massachusetts should expand the current prison regulations to include a requirement that digital literacy education be made available for all long-term inmates in the prison system.\textsuperscript{158} Massachusetts General Laws currently require an educational program be made available to all inmates without a high school diploma or equivalent and for those who have been incarcerated for at least six months.\textsuperscript{159} At the federal level, the Bureau of Prisons has likewise implemented a mandatory education program for inmates that do not have a high school

\textsuperscript{156} See Mauer, supra note 30, at 114 (supporting the concept of incarceration having diminishing returns in its effect on public safety). This is due to factors including individuals aging out of crime, and mass incarceration diverting resources from other initiatives that hold the potential for a greater impact on public safety. \textit{Id. See also} Chappel, supra note 15 (referencing the finding that people generally age out of crime by the time they are in their late thirties or early forties).

\textsuperscript{157} See St. Amour, supra note 78 (stating that every dollar a state invests in prison-based education saves taxpayers up to five dollars); Colgan, supra note 67, at 325 (noting that “adult basic education and post-secondary education programs has been found to provide a cost benefit of $ 10,669 per participant” while “[v]ocational education programs produce a per participant cost benefit of $ 13,738.”).

\textsuperscript{158} See 103 MASS. CODE REGS. 936.02 (2018) (providing that an education program be made “available to all eligible inmates that includes, but is not limited to, the following components: (a) basic literacy training; (b) preparation for the general education development test; and (c) instruction in the English language for those for whom English is not the native language.”). \textit{See also} MASS. GEN. LAWS ch. 127, § 48 (2022) (requiring the commissioner to “ensure that at least 1 educational program leading to the award of a high school equivalency certificate is available to persons who are committed to the custody of the department or to a county correctional facility for not less than 6 months and who have not obtained a high school degree or equivalency.”).

\textsuperscript{159} See 103 MASS. CODE REGS. 936.02 (2018) (requiring a GED-preparation educational program in prisons); MASS. GEN. LAWS ch. 127, § 48 (2022) (requiring a program leading to the award of a high school equivalency certificate in prisons).
Further, there is a clear trend toward progressive criminal justice reform both at a national and state level in Massachusetts. An amendment dictating the commissioner make an educational program for digital literacy available to inmates serving extended sentences would fall in line with current federal and state goals in addressing recidivism. Considering a mandatory high school level program already exists, this approach would minimize additional legislation while allowing the Massachusetts Department of Correction the flexibility to create its own digital literacy programs.

Mandating this program’s availability to all long-term inmates would ensure the prison population who needs these skills the most will have access to it. Many inmates are prevented from accessing several programs that may improve their digital literacy based on not meeting entry requirements. For example, inmates with disciplinary records or those too far away from release are often unable to participate in many programs. Predatory pricing schemes also serve

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160 See McCollum, supra note 70 (discussing the Federal Bureau of Prisons mandatory literacy policy requiring a high school diploma or its equivalent as of 1991).
161 See Williams & Kaplan, supra note 37 (noting public perception of criminal justice has changed to become more progressive). See also Brownsberger, supra note 35 (detailing “An Act Relative to Criminal Justice Reform” in Massachusetts, a progressive piece of legislation aimed at the criminal justice system). This landmark act passed unanimously in the Senate and almost unanimously in the House, demonstrating the widespread agreement on a need for progressive criminal justice reform. Id.
162 See Fed. Bureau of Prisons, supra note 33 (stating the intention to increase public safety by, inter alia, developing a recidivism risk assessment program); Brownsberger, supra note 35 (detailing “An Act relative to criminal justice Reform” in Massachusetts, a progressive piece of legislation aimed at the criminal justice system). See also Williams & Kaplan, supra note 37 (noting public perception of criminal justice has changed to become more progressive).
163 See 103 MASS. GEN. LAWS ch. 127, § 48 (2022) (requiring the commissioner make available a program leading to the award of a high school equivalency certificate in prisons).
164 See KLEIN, supra note 80 (discussing how certain inmates, such as those close to being released, are given priority when enrolling in classes). See also Chapelle, supra note 69 (pointing out the requirements to enter some courses that most inmates cannot meet, such as a requirement of higher mathematical knowledge).
165 See KLEIN, supra note 80 (identifying several factors that prevent inmates from accessing prison programs).
166 See id. at 21 (noting how many inmates are unable to access programming).
as another barrier. Despite deals negotiated to bring limited technology into prisons, inflated pricing renders these initiatives unimpactful. Moreover, even if inmates are assumed to have access to substantial educational programming and available technological devices, they are still restricted from achieving digital literacy without access to the internet.

The main argument against implementing digital literacy programming likely would be regarding the cost of implementing such programs in light of how much money is already spent on corrections. However, cost-benefit analysis of educational and vocational programming for inmates has proven to be one of the most efficient methods of reducing recidivism. In fact, several studies indicate that investment in inmate education and vocational skills saves money in the long run due to the resultant reduction in recidivism. The cost of implementing a program, even if it were

167 See Tablets, supra note 122 (bringing up issues such as JPay charging high fees for content that is free outside of prison, as well as how JPay is expected to earn back the entire cost of the tablets plus nine million dollars in profit by 2022).
168 See id. (noting the excessive cost of using JPay tablets). See also Waters, supra note 125 (pointing out the fees JPay charges for use of its tablets, including a "$4.15 service fee" to transfer money to an inmate, "$0.35" per email and “double that to include a photo, and quadruple to include a video.”).
169 See Bagaric et al., supra note 50, at 282 (stating that most prisoners in United States prisons are totally prohibited from accessing the internet).
170 See Wagner & Rabuy, supra note 38 (estimating that at least $182 billion is spent per year maintaining mass incarceration in the United States). See also COUNCIL ECON. ADVISERS, supra note 38 at 3 (placing the figure at about 270 billion dollars); MCLAUGHLIN ET AL., supra note 39 (estimating the complete cost of incarceration, accounting for the financial impact on families, communities, and social costs at about one trillion dollars).
171 See St. Amour, supra note 78 (acknowledging research demonstrating “every dollar states invest in prison-based education can save taxpayers up to [five dollars].”); Benefits of Prison Education, supra note 78 (stating prison-based education programs are twice as cost-effective as incarceration); Colgan, supra note 67, at 294 (describing prison programming as a cost-effective method for reducing recidivism).
172 See St. Amour, supra note 78 (acknowledging research demonstrating “every dollar states invest in prison-based education saves taxpayers up to [five dollars.]”). See also COUNCIL ECON. ADVISERS, supra note 38, at 5 (estimating that a 2 percent reduction in recidivism would recover all of the costs of funding an educational program).
entirely state funded, pales in comparison to the per-inmate cost of incarceration.173

An additional counterargument is that digital literacy is simply not important enough for resources to be dedicated to it before more pressing issues in our criminal justice system are addressed.174 First, digital literacy is a key skill for any United States or Massachusetts resident, without which the modern world is largely un navigable.175 Moreover, while there may be more pressing issues in the American criminal justice than the digital literacy of its prisoners, recidivism is one such issue.176 While providing for the improvement of inmates’ digital literacy is of course no substitute for larger-scale criminal justice reform, it is a cost-effective way to reduce recidivism, and should not be avoided due to the existence of other problems.177

C. The Legal Framework for Digital Literacy

Improving inmate digital literacy must be done in a fashion that is legally defensible and aligns with the objectives of the Constitution.178 Because prison administrations are given such great deference in setting the policies of their respective prisons, a

173 See Mai & Subramanian, supra note 65 (reporting Massachusetts spent just under 600 million dollars a year on only its state prisons, a cost of about fifty-five thousand dollars per inmate per year). See also COUNCIL ECON. ADVISERS, supra note 38, at 3 (finding that about 270 billion dollars was spent funding the criminal justice system in 2016 alone).
174 See Lee, supra note 1 (discussing the United States’ incarceration of about twenty-two percent of the world’s prisoners while making up just over four percent of its population). See also Wagner & Rabuy, supra note 38 (placing the annual cost of corrections in the United States to be at least $182 billion).
175 See What is digital literacy and why does it matter?, supra note 49 (stating digital literacy is vital for understanding the fundamentals of internet safety and using social media responsibly). See also Anzilotti, supra note 9 (asserting that the current technology landscape is not navigable for people incarcerated before computers were widely available).
176 See ALPER ET AL., supra note 4, at 1 (finding that five out of every six prisoners released in 2005 were arrested again within nine years of their release). See also Riley, supra note 4 (referencing the phrase “revolving prison door” to refer to the many ex-inmates that are re-arrested and return to prison).
177 See Colgan, supra note 67, at 294 (describing prison programming as a cost-effective method for reducing recidivism).
178 See Turner v. Safley, 482 U.S. 78, 87 (1987) (defining the key question in a prisoner constitutional challenge as whether a “regulation that burdens fundamental rights is ‘reasonably related’ to legitimate penological objectives, or whether it represents an ‘exaggerated response’ to those concerns.”).
mandatory policy should be rooted in both strong policy and legal justifications.\textsuperscript{179} From a legal standpoint, a mandated digital literacy program will better protect inmate’s constitutional rights and would survive a challenge from prison administrators.\textsuperscript{180}

A digital literacy program will safeguard the constitutional rights prisoners are entitled to by providing them with an opportunity to express these rights, as well as the skills to take advantage of them.\textsuperscript{181} Primarily, this program will closely align with inmates’ First Amendment rights through access to limited internet use.\textsuperscript{182} Though the extent to which internet use is protected by the First Amendment is not clear, it is unequivocal that courts consider the internet a vital public forum subject to significant protection.\textsuperscript{183} The First Amendment’s protection of free expression and participation in public forums has long been restricted in its application to inmates, such as through a lack of internet access or email privileges.\textsuperscript{184} Though there are legitimate security concerns with providing inmates unfettered

\textsuperscript{179} See Esposito, supra note 95, at 56 (referencing the Supreme Court’s holding that “sufficient deference must be given to prison administrators to effectively manage the prison environment.”).

\textsuperscript{180} See Turner, 482 U.S. at 87 (defining the key question in a prisoner constitutional challenge as whether a “regulation that burdens fundamental rights is ‘reasonably related’ to legitimate penological objectives”). See also United States v. LaCoste, 821 F.3d 1187, 1191 (2016) (stating that internet access is so important that conditions prohibiting its use are not typically allowed).

\textsuperscript{181} See WITHERS ET AL., supra note 49, at 9 (referring to internet use as a digital literacy skill). The study also identified digital literacy skills of sending and receiving emails and conducting effective searches online. Id. at 3.

\textsuperscript{182} See id. (associating internet use with digital literacy). See also RUANE ET AL., supra note 57, at 1 (noting First Amendment protections apply to online speech). See also Packingham v. North Carolina, 137 S. Ct. 1730, 1732 (2017) (offering that cyberspace has become one of the most important places to exchange views, and access to place to exchange views is one of the fundamental principles of the First Amendment).

\textsuperscript{183} See Pascarella, supra note 106, at 1253 (explaining how the Supreme Court established that speech over the Internet enjoys broad First Amendment rights and the internet is recognized as a leading forum of speech and expression). See also Reno v. Am. C.L. Union, 521 U.S. 844, 844 (1997) (holding the indecent transmission and patently offensive display provisions of the Communications Decency Act of 1996 violated the First Amendment).

\textsuperscript{184} See Bagaric et al., supra note 50, at 282 (establishing that internet access is not allowed in most United States prisons). See also Solan v. Zickefoose, 530 F.App’x 109, 109 (3d Cir. 2013) (upholding the decision to prevent an inmate from using email).
access to these services, providing access via a secure digital literacy program alleviates these concerns while lessening the First Amendment constraints prisoners are subjected to.\(^\text{185}\) Additionally, by providing the incarcerated with a medium through which they can learn to responsibly and effectively participate on the internet, they will be better situated to utilize their constitutionally guaranteed freedom of speech.\(^\text{186}\)

Similarly, inmates’ right to access courts will be greatly enhanced by the imposition of digital literacy programming.\(^\text{187}\) As most prison libraries are now digitized, effective use of these libraries requires a minimum level of digital literacy, such as the ability to conduct effective searches.\(^\text{188}\) A digitally illiterate inmate lacks the ability to adequately, effectively, and meaningfully access legal information and the court system, which directly conflicts with the Supreme Court’s interpretation of the right to access courts.\(^\text{189}\) In light of the digital literacy skills required for an inmate to access courts in

\(^{185}\) See Bagaric et al., supra note 50, at 284 (noting that the hesitancy to provide internet access to prisoners is largely predicated on the ability of them to use it to commit more crimes, such as intimidating witnesses). See also Withers et al., supra note 49, at 2 (discussing use of the Learner Web, which is an online platform used to teach digital literacy to adult learners).

\(^{186}\) See Packingham, 137 S. Ct. at 1732 (describing cyberspace as one of the most important places to exchange views). See also Clement v. Cal. Dept of Corr., 364 F.3d 1148, 1151 (9th Cir. 2004) (determining the First Amendment protects materials distributed over the internet and communication devices).

\(^{187}\) See Isaac v. Samuels, 132 F. Supp. 3d 56, 59 (D.D.C. 2015) (noting “[a]n inmate has a First Amendment right of access to the courts that is adequate, effective, and meaningful.”). See also Christopher v. Harbury, 536 U.S. 403, 415 (2002) (acknowledging that a right to access to the courts exists no matter how “unsettled the basis” of this constitutional right is). See also Bounds v. Smith, 430 U.S. 817, 821 (1977) (stating “[i]t is now established beyond doubt that prisoners have a constitutional right of access to the courts.”).

\(^{188}\) See Withers et al., supra note 49, at 3 (noting that an important digital literacy skill is the ability to conduct effective searches online). See also Tubbs, supra note 117, at 14 (claiming over “half of the America's state prison library systems are moving towards, or are completely handled by, electronic or CD-ROM legal databases[.]”). See also Raher & Fenster, supra note 117(identified eighty-eight percent of states now use electronic-only research tools). Even more prisons and jails are likely to move to a digital format for their law libraries in the future. Id.

\(^{189}\) See Isaac, 132 F. Supp. 3d at 59 (noting the need for adequate, meaningful, and effective access to the courts). See also Tubbs, supra note 117, at 17 (rooting the right to access courts in the Supreme Court’s Lewis v. Casey decision, yet addressing the Court’s lack of guidance regarding what qualifies as an “adequate” law library).
the modern age, it could even be argued that a digitally illiterate individual is unconstitutionally prevented from accessing the courts. 190

Importantly, an attempt to restrict inmates from this digital literacy course would not survive scrutiny under a Turner analysis. 191 In the event that a qualified inmate was denied access to such a course, that inmate could raise the argument that his or her constitutional rights under the First Amendment were impeded. 192 For example, denying access to the internet use associated with a digital literacy program could give rise to such a claim. 193 Using the standard that courts have articulated applies to constitutional challenges in prisons, a challenger would have to prove that this restriction is reasonably related to a

190 See Isaac, 132 F. Supp. 3d at 59 (reiterating the constitutional guarantee of adequate, meaningful, and effective access to the courts).
191 See Turner v. Safley, 482 U.S. 78, 78 (1987) (establishing the test for constitutional right infringement in prisons). The infringement test consists of four factors:
(a) whether there is a “valid, rational connection” between the regulation and a legitimate and neutral governmental interest put forward to justify it . . . (b) whether there are alternative means of exercising the asserted constitutional right that remain open to inmates . . . (c) whether and the extent to which accommodation of the asserted right will have an impact on prison staff, on inmates’ liberty, and on the allocation of limited prison resources . . . and (d) whether the regulation represents an “exaggerated response” to prison concerns, the existence of a ready alternative that fully accommodates the prisoner’s rights at de minimis costs to valid penological interests being evidence of unreasonableness.

Id. at 78–79.
192 See id. (articulating the standard and test for an inmate to challenge a prison regulation on a constitutional basis).
193 See Esposito, supra note 95, at 56 (opining that “sufficient deference must be given to prison administrators[].”)

In light of the degree of deference the Court has given to prison administrations, an inmate would be hard-pressed to persuade the judiciary that Internet access is a fundamental right that outweighs the cost of maintaining safety and security in prison. Given that the Internet is still quite foreign to many inmates, questions regarding a prisoner’s Constitutional right to access the Internet has not been challenged before the Supreme Court. The lack of precedential authority makes predicting the possible outcome of such a case very difficult.

Id.
legitimate penological interest. A prison administration would fail at this first hurdle: so long as inmate use of the internet in the program is properly limited and supervised, there would be no legitimate security risk warranting First Amendment infringement. Because inmates have no viable alternative of acquiring digital literacy skills—or, in most cases, of accessing the internet—the second prong of the Turner test would also be failed. The third prong, the effect accommodating the right would have on other inmates or prison staff and resources, clearly weighs in favor of the inmate. Digital literacy training in a structured course would not negatively affect other prison personnel, and would be cost-effective via reducing recidivism. Finally, creation of a digital literacy course is the most easy and obvious method of improving inmate digital literacy while also upholding their constitutional rights.

D. How a Digital Literacy Program Would Operate

194 See Turner, 482 U.S at 78 (describing the first factor in evaluating the reasonableness of a prison regulation as whether there is a “valid, rational connection” between that regulation and a legitimate government purpose).  
195 See id. (noting the first prong of the Turner test). See also Bagaric et al., supra note 50, at 317–18 (discussing how advances in technology have made internet supervision in prison secure and simple to monitor). “Internet endpoint security solutions allow for total control over what inmates can access, and can allow for complete, real-time monitoring of every search and keystroke of a person when they are using the internet.” Id. Monitoring of this nature “can cover every single type of interaction that an inmate has via the internet, including web accesses, analysis of the sites visited, nature of searches undertaken, and full text recognition and analysis of all information sent and received.” Id. at 318.
196 See Turner, 482 U.S at 78 (describing the second factor in evaluating the reasonableness of a prison regulation as whether there exists “alternative means of exercising the asserted constitutional right[.]”).  
197 See id. (describing the third factor in evaluating the reasonableness of a prison regulation as a weighing of the effect that exercising the right will have on prison resources, staff, and other inmates).  
198 See Colgan, supra note 67, at 325 (noting that educational and vocational programs were found to result in an economic benefit of $10,669 per participant and $13,738 per participant respectively).  
199 See McCollum, supra note 70, at 33 (discussing the Federal Bureau of Prisons mandatory literacy policy, requiring a high school diploma or its equivalent as of 1991). See also 103 MASS. GEN. LAWS ch. 127, § 48 (2022) (requiring the commissioner to “ensure that at least 1 educational program leading to the award of a high school equivalency certificate is available to persons who are committed to the custody of the department or to a county correctional facility for not less than 6 months and who have not obtained a high school degree or equivalency.”).
There is at least one published case study that examined the effect a digital literacy skill acquisition program had on inmates looking to re-enter their communities after incarceration. The study found that the digital literacy program boasted an impressive forty-seven percent reduction in recidivism since its implementation. The study outlined key aspects of the course that can be emulated, including a curriculum based on the “Learner Web”, which is an online platform for adult learners, tutor support, and allowing participants to identify their own goals. Specific skills taught included “filling out online applications, creating resumes, sending and receiving emails, and conducting effective searches online.” The reentry program emphasized the importance of developing participant’s self-confidence and combat their previous fears of new technology, as well as improving soft skills like problem solving and interpersonal communication. The program was voluntary, allowing inmates with a legitimate interest and desire to improve their digital literacy skills to benefit. A course based on this proven curriculum would maximize the efficacy of a digital literacy program while still allowing

200 See Withers et al., supra note 49, at 3 (discussing the premise of the case study examining men who participated in a digital literacy acquisition reentry process).

201 See id. at 15 (reporting that “[t]he program director noted . . . a 47% reduction in recidivism since implementing the reentry process; this is more than double the Department of Corrections targeted reduction of 20%.”).

202 See id. at 2 (describing three key components of the digital literacy acquisition program as consisting of a “curriculum on the Learner Web, an online platform designed specifically for adult learners, which included digital literacy material in English and Spanish,” a system for “in-person tutor support[,]” and “the opportunity for learners to work at their own pace and identify their own goals[.]”).

203 See id. at 3 (noting the course taught “[s]ome of the most essential skills for a successful transition to post-release life,” which include skills “needed for finding a job or housing[,]”). These skills are becoming “increasingly reliant on digital literacy skills.” Id. Participants in the program “receive hands-on practice with filling out online applications, creating resumes, sending and receiving emails, and conducting effective searches online.” Id.

204 See Withers et al., supra note 49, at 8 (acknowledging that participants experience fear of technology as well as a rise in self-confidence as a result of the digital literacy acquisition process). The soft skills participants learned, the authors opined, set them up for success far beyond computers. Id. at 14.

205 See id. at 5 (noting participation in the program is voluntary).
for it to fit into a defensible legal framework.\textsuperscript{206} In order to balance this efficacy with prison administrations’ safety concerns, there must be limits on what inmates have access to.\textsuperscript{207} For example, direct access to popular social media applications would likely pose a significant security threat such that the course would conflict with legitimate penological interests.\textsuperscript{208}

Data demonstrating the tangible effects that operating such a program would have is plentiful.\textsuperscript{209} Educational programming is proven to reduce significantly reduce recidivism, with studies boasting reductions of forty-three percent or more.\textsuperscript{210} Likewise, vocational programming studies found reductions of nine percent, thirty-two percent, and even as high as over eighty percent.\textsuperscript{211} Moreover, a digital literacy-specific program saw a reduction of forty-seven percent.\textsuperscript{212} This is massively significant given that the council of economic advisers found only a two-percent recidivism reduction is needed for


\textsuperscript{207} See Bagaric et al., supra note 50, at 316 (acknowledging the main potential problem with providing inmates with internet access is the potential for more crimes to be committed).

\textsuperscript{208} See Turner, 482 U.S at 87 (holding the important question in assessing a prison regulation’s impact on prisoners’ constitutional rights is whether this regulation is related to “legitimate penological objectives, or whether it represents an ‘exaggerated response’ to those concerns.”).

\textsuperscript{209} See, e.g., DAVIS, EVALUATING THE EFFECTIVENESS, supra note 10, at xvi (finding that “inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.”). See also WITHERS ET AL., supra note 49, at 15 (indicating recidivism was reduced by forty-seven percent as a result of the digital literacy skill acquisition program). See also St. Amour, supra note 78 (finding that, for every dollar invested in prison-based education, taxpayers are saved up to five dollars).

\textsuperscript{210} See DAVIS ET AL., supra note 40, at 14 (identifying correctional education programs as leading to a forty-three percent reduction in recidivism). See also Perry, supra note 72, at 50 (noting the rate of re-arrest in education participant was reduced by over ninety percent).

\textsuperscript{211} See Colgan, supra note 67, at 298 (noting vocational programming reduced recidivism by nine percent). See also Perry, supra note 72, at 50 (identifying an over eighty-three percent recidivism reduction from participating only in vocational programming).

\textsuperscript{212} See WITHERS ET AL., supra note 49, at 15 (finding a forty-seven percent reduction in recidivism).
a course to be cost-effective. In fact, recidivism reducing programming has been shown to save taxpayers as much as five dollars per every dollar invested. Seeing as Massachusetts General Laws already mandate a course be available for inmates to achieve a high school level education, the minimal added burden of also requiring availability of a digital literacy course is far outweighed by its potential benefits.

V. CONCLUSION

Amending Massachusetts’s General Laws to require the availability of a digital literacy course is a small addition to existing prison regulations that will make a quantifiable difference for inmates and Massachusetts communities. The fact that teaching digital literacy to prison inmates will reduce recidivism is not only logically sound, but is supported by empirical data. Additionally, the framework for such a requirement is already in place, as seen in the requirement of a program for inmates seeking a high school level of education. Moreover, the economic benefits of reducing recidivism through programming have been consistently proven. While there is no one solution to the multi-faceted issue of mass incarceration, recidivism reduction is undoubtedly one prong of an effective prison reform scheme. Improving digital literacy is a simple, cost-effective, and impactful way to start closing prisons’ revolving doors.

213 See COUNCIL ECON. ADVISERS, supra note 38, at 5 (estimating that only a modest 2 percent reduction in recidivism would recover all of the costs of funding an educational program).

214 See St. Amour, supra note 78 (opining every dollar invested in prison-based education resulted in taxpayer savings up to five dollars).

215 See MASS. GEN. LAWS ch. 127, § 48 (2022) (requiring the commissioner to make sure a high school equivalent level education program is available to all inmates who do not have a high school or equivalent education).