

**Ethics & AI**

**Christian Prison Ministry Reforms through AI**

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## **Introduction**

The United States presently houses 2.3 million incarcerated individuals, or about 0.7% of the population. (Wagner & Bertram, 2020) These institutions include Federal and State prisons, private for-profit prisons, county jails, and transition houses. Differences exist with the operational protocols of these institutions; however, they are allied over a single concept – that of security. Security within these institutions is given the highest priority and minimizing security risks is negotiated with every administrative decision. Incarceration system's primary goal is to keep prisoners in and away from the public and to honor prison sentences as set by the courts, either by judge or jury. Security risk assessment is executed with every administrative decision, whether it be allowing visitors inside, or the use of new protocols. The number one objective of wardens and prison staff is to keep prisoners inside the prison, and to prevent prisoners from engaging with outside parties that may have nefarious intentions (gangs, terrorists, or white collar criminals).

However, the rigid focus on security can often create limitations for volunteers seeking to provide services to improve the welfare or rehabilitation of those incarcerated. These limitations can create barriers to improving prison conditions and lead to extended prison sentences and recidivism. One area in which we can observe this problem manifesting today is within the area of prisoner assessment and educational services.

Studies have shown that large numbers of prisoners are functionally illiterate and suffer from what is characterized by professionals within the field of medicine and teaching, as having learning disorders. In a study by K. C. Moody as much as 80% of the prisoners were functionally illiterate, and 48% were diagnosed with dyslexia. (Moody, 2000) Additionally, other learning

disorders include dyslexia, ADD, ADHD, and Autism. Statistically, the learning difficulty Dyslexia has the highest frequency within prisons. Often these individuals are labeled as having a learning disorder, which further stigmatizes them. The term 'learning disorder' labels the individual as 'other' from the outset and creates psychological problems which compound the individual's organic problems in traditional school settings. These individuals are fully capable of mastering reading, math, language (phonations), and strengthening of memory. Therefore, they should be defined as having some 'Learning Difficulties' (LD) which can be addressed through screening and appropriate training.

Additionally, this paper explores advances in artificial intelligence and new methods of encryption (homomorphic encryption) which offer new ways to globally improve prison conditions, shorten sentences, and reduce recidivism. Unfortunately, prison reform is hampered by an inadequate amount of political, social, and financial resources. Homelessness and immigration upstage and divert disproportionately high amounts of financial resources away from prison reform. In the end we must remind ourselves that "when one man's in chains, we're all in chains". As Christian leaders abiding within the constructs of 'servant leadership' we must remember the apostle Matthew's words "*The King will reply, 'Truly I tell you, whatever you did for one of the least of these brothers and sisters of mine, you did for me.'*" (Matt: 25:40, NRSV)

### **Review of Literature**

The findings in this paper are based on primary and secondary research articles within prison education, government websites, personal interviews with key individuals working within prison ministry, and technology news sources. Articles were chosen focusing on the educational

needs of prisoners, statistical information, programs currently provided (specifically dyslexia and other LD's), the impact of prison on the incarcerated, Christian leadership models, homomorphic encryption applications, and current novel applications of AI and IT training for prisoners in select prison systems. Advocates and teachers must focus on the problems contained in this study as "Over 10,000 ex-prisoners are released from America's state and federal prisons every week and arrive on the doorsteps of our nation's communities. More than 650,000 ex-offenders are released from prison every year, and studies show that approximately two-thirds will likely be rearrested within three years of release." (OSDOJ, 2021b) Intervention programs which include testing and training can reduce the present taxpayer burden or incarceration and re-incarceration.

What can be done to help people who are released from prison keep from being rearrested? With no job, no money, and no place to live, returnees often find themselves facing the same pressures and temptations that landed them in prison in the first place. Assisting ex-prisoners in finding and keeping employment, identifying transitional housing, and receiving mentoring are three key elements of successful re-entry into our communities.

*"This year, some 600,000 inmates will be released from prison back into society. We know from long experience that if they can't find work, or a home, or help, they are much more likely to commit more crimes and return to prison.... America is the land of the second chance, and when the gates of the prison open, the path ahead should lead to a better life."*

*--President George W. Bush, 2004 State of the Union Address" (USDOJ, 2021b)*

## ***Statistics and Educational Needs of Prisoners***

Dyslexia is no new comer to the list of learning difficulties identified by both medical and educational leaders. It was first identified in 1877 by Adolph Kussmaul, a German physicist when he coined the term “word blindness” Oxford University defines dyslexia as:

*Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling. Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed. Dyslexia occurs across the range of intellectual abilities. It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points. Co-occurring difficulties may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organization, but these are not, by themselves, markers of dyslexia. (U. of Oxford, 2021)*

Dyslexia legislation for public school screening and intervention is on a state by state basis subject to appropriations. As a result, there exists an uneven application for screening in kindergarten and elementary schools as well as appropriate training. Dyslexia screening legislation for prisoners has been mandated by the Federal Government for all federal prisons as of 2018 (Targeted News Service, 2021), but implementation has suffered from lack of funding. Studies performed by K. C. Moody show that as much as 80% of all prisoners are functionally illiterate, and within that number as much as 48% of prisoners have dyslexia. In a recent Australian study “The authors hypothesized that poor single word decoding ability is the primary evidence of dyslexia. They reported that 47.5% of the prisoners showed signs of dyslexia based on a word-attack (non-word reading) test.” (Morken, Jones, & Helland, 2021) Additionally,

The authors reported that the difficulties were most noticeable in the two categories, sequencing and memory. This study did not report data on the age of participants, apart from labelling the sample "young offenders". In Scotland, this is a label used for inmates in the age group 16-21. This was used as a basis for including this study into our sample. Lindgren et al. assessed the frequency of dyslexia in their sample of prison inmates, using an extensive diagnostic battery. In addition, they investigated the comorbidity of dyslexia and ADHD. The results showed that 62% of the participants fulfilled diagnostic criteria for dyslexia and an additional 18% were considered borderline cases. Altogether 55% of the inmates reported childhood ADHD, and for half of these subjects the symptoms persisted into adulthood. The authors suggested that ADHD alone or combined with dyslexia may account for the school failure of juvenile offenders. The need for early diagnosis and treatment for ADHD as well as dyslexia was emphasized. (Morken, Jones, & Helland, 2021)

The findings of this study have implications for both research and practice. First, the most important insight to be drawn from this study is perhaps the lack of studies on oral language difficulties in the adult prison population. The few studies that have looked at this problem report a very high incidence of these types of problems, indicating a greater need for more research into this area.

For both language and literacy, new studies should build on the current multifactorial understanding of these disorders, taking care to assess on several levels of explanation, while controlling for possible confounding factors. The complexity of the phenomena in question also means that combining several approaches to data collection is beneficial. Second, like research, clinical practice must employ a multifactorial approach, and again assess on several levels of

explanation. Knowledge of the individual profile of each person is key to tailor any intervention measures to their needs. To determine the need for qualified personnel targeting these issues within the prison system, in line with suggestions by Fitzsimons [78], it would be interesting to see large-scale intervention studies examining long-term effects of intervention for language and literacy in prisoners. Well-designed and comprehensive studies could contribute important knowledge that would inform policy and highlight the necessity of systematic assessment and targeted intervention for language. (Morken, Jones, & Helland, 2021)

Additionally, studies show that inmates who engage in training programs are less prone to violence within incarceration systems, and showed lower rates of recidivism.

The study is about acquiring GED's "More than 92,000 males were eligible for study, reflecting all men admitted to Ohio prisons between January 2008 and June 2012. Inmates who earned GEDs or completed college classes were less likely than no program inmates to engage in violence during incarceration, whereas completing vocational training and apprenticeship programs had no such effect on any type of inmate misconduct examined. On the other hand, completing vocational training and apprenticeship programs, GEDs, or college classes at any point during incarceration coincided with lower rates of prison returns within 3 years after release. None of these benefits accrued to inmates who started but did not complete these programs/classes. (Pompoco, et. Al., 2017)

Additionally educational intervention for prisoners is beneficial. Most prisons offer GED classes as well as various forms of vocational training and apprenticeships, and many now offer college classes that can assist inmates in earning associate or bachelor degrees after release. AOs

and Drake (2013) observed that all three types of prison education programs cost taxpayers little but result in positive outcomes for inmates who participate. (Pompoco, et. Al., 2017)

Recidivism rates definitively drop when prisoners engage in education programs.

In their study exploring prison education programs across three states, Securer et al. (2001) found that inmates who participated in education programs had lower recidivism rates, Although still in early stages, the number of rigorous evaluations of correctional education programs is on the rise (eg, Cho and Tyler, 2010; Duwe, Haller, Hays, Jang, and Johnson, 2015; Kim and Clark, 2013).” (Pompoco, et. Al., 2017)

There is a direct correlation between illiteracy and incarceration and recidivism, and therefore every possible means should be used to correct dyslexia in prisoners. A recent press release from MENA shows that legislators at the highest level have engaged in promoting legislation to improve prison outcomes through legislation, specifically dyslexia.

Senator Bill Cassidy, M. D. (R-LA), a member of the Senate Health, Education, Labor and Pensions (HELP) Committee, released the following statement after meeting with Senior Advisor to the President Jared Kushner about prison reform. During the conversation, Cassidy stressed the need to identify and address dyslexia in early education in order to prevent students from being consigned to a path of illiteracy, crime, and incarceration.

“I thank Jared for prioritizing prison reform and meeting to discuss solutions, said Dr. Cassidy. I shared with him that while conducting health clinics in the Louisiana prison system, I learned that illiteracy is a major risk factor for someone turning to a life of crime.” (Al Bawaba, 2018)



There is a brighter future for change within prisons as it relates to learning difficulties. Politicians from various states have come together and recognized that if we don't educate, we will incarcerate. Another bright spot in legislative change "requires the National Science Foundation (NSF) to devote at least \$2.5 million to dyslexia research every year." (Al Bawaba, 2018)

But problems continue within the Federal Bureau of Prisons (BOP) as they interpret, and implement new legislative mandates. For example in a recent release from Targeted News Service:

Senator Bill Cassidy, M. D. (R-LA) sent a letter to the Federal Bureau of Prisons (BOP) about the implementation of dyslexia screening as outlined in the First Step Act of 2018 (FSA). Cassidy championed these provisions to ensure that BOP screen inmates for dyslexia during the intake process" (Targeted News Service, 2021) However the implementation of the First Step Act of 2018 (FSA) has been problematic. So much so that Senator Cassidy followed up with additional letters to the BOP stating "There must be accountability in the system if we are to be successful in transitioning inmates to a life of prosperity after their prison sentence, ultimately breaking the cycle of recidivism that too many are held captive because of inability to read. (Targeted News Service, 2021)

Cassidy continues in his concerns over the Bureau of Prisons administration and follow through of the First Step Act with: "As of October 2, 2020, 4,249 inmates were identified, using an initial screening tool, for further dyslexia testing. There are currently 13 inmates participating in a dyslexia mitigation program." In other words, 3 percent of inmates who were screened for dyslexia and required follow-up diagnostics were determined to have dyslexia and subsequently

were participating in a dyslexia mitigation program. This is a shockingly small number of inmates, especially when considering the fact that approximately 20 percent of Americans are believed to have dyslexia and it is the most common neuro-cognitive disorder. How is this possible? (Targeted News Service, 2021)

### ***Psychological and Social Impact of Incarceration***

The psychological impact on prisoners is an important factor which is often difficult to quantify and therefore neglected in mainstream statistical studies. Volunteers are exposed to some of the psychological disturbance as they attempt to enter into prisons for research or volunteer work. The first day entering a prison can take on surreal qualities as stated by Jane Carrigan in *Inside the Institution of the Prison: A Researcher's Perspective*.

There are some things that books or journal articles cannot tell you - what your first moment in prison will feel like, who will help you with your research and who will attempt to hinder you, or why the particular institution you're in works in that particular way but by reading as much as you can, understanding the prison for what it is, knowing the context in which it operates and in particular by making connections with others, you hopefully will be able to negotiate the journey ahead and be in a position to help others too. (Carrigan, 2015)

The experience many feel on their first day in a prison is often unquantifiable and confusing and is only made sense of later in what is referred to through an "apres-coup" process. Apres-coup "refers to something an individual experiences at a certain time but makes sense of only later. An experience that leaves traces that may be gathered together after the event." (Earle, 2021) For volunteers, researchers and teachers, interaction with prison life is frequently charged

with external social perceptions of prisoners “From day one I had been told how to feel about people I had yet to meet. The entire structure of the system creates a separation between the insiders and the outsiders. It was truly a grand hurdle to move past this heavily imposed distinction and inter act as students, scholars.” (Dreisinger, et. al., 2014) This perspective is affirmed in the *Prisons, Pipelines and Pedagogy* article wherein Carrigan states that his perspective of prison life:

... had been based on popular culture with films such as *The Shawshank Redemption*. Goffman (1961) and others, including Christie (2000) and Becker (1963), have argued that in the criminal justice system of a modern society an offender is "symbolically forced outside the normal life of the social group" (p.192) so that he becomes an outsider, or "other". The idea of the prisoner as 'other' was, in hindsight, already in my consciousness.” (Carrigan, 2015)

Baz Dreisinger, the author of *Prisons, Pipelines and Pedagogy: Diary of the Birth of a Behind-Bars College Program*, had started a university program for prisoners and he states in his diary,

I have flashes of their expressions as they received their grades – the letter ultimately aimed at replacing their Scarlet-A DIN numbers. There is no effort nobler than that of a person who has erred gravely but labors, steadily, to come correct. Being part of that divine laboring is what motivated me to start this program, and stay with it.” (Dreisinger, et. al., 2014)

This brings us back to the apostle Matthews verse which states that we serve Christ directly when we help “the least of these.” (Matt. 25:40, NRSV)

Incarceration leaves powerful psychological and social scars for men and women. In one study on incarcerated women, we learn that as recently as 2019 many of the women who were incarcerated had dropped out of high-school, and dyslexia was often cited as the reason. (Brock & Brekken, 2019) A case in point is an incarcerated woman named Kelly.

Kelly reported a dyslexia diagnosis at a young age. She remembered attending school in Indiana, where she received support from teachers who understood her dyslexia and facilitated her learning. However, teacher support changed when Kelly was 13 and her family moved to the West. Kelly remembers the school not having special education classes or programs that supported students with dyslexia. The lack of special education classes and programs forced me out of school and dropping out in eleventh grade. It dropping out of school was easier than being embarrassed. I would have panic attacks in class when it was my turn to read aloud. I couldn't focus on the lesson because of my trepidation about reading. Kelly described her teachers as kind and caring but uninformed about the learning disability she was living with. Because they were uninformed about dyslexia, teachers could not offer support for Kelly. Despite her mother's frequent trips to her Wyoming high school to advocate for special services, Kelly never received special services. Lack of educational support and no teacher training resulted in Kelly's decision to drop out of high school in the eleventh grade. (Brock & Brekken, 2019)

Stories like these abound in prison culture, but Kelly could have been the girl next door, your neighbor, your child's playmate, and she fell through the cracks of the public school system. “Assertions from Freire's (1970) Pedagogy of the Oppressed are that true education is

emancipatory, participatory in nature, and relevant in the lives of the women interviewed. In contrast to what Freire asserted education should be, the women described their membership in adolescent schooling as members of what Freire (1970) described as the culture of silence.” (Brock & Brekken, 2019) As Christian leaders there can be no room for a “culture of silence” or a lack of transparency when it comes to serving in the education of our children. Servant leadership requires vigilance and patience to navigate what appear to be insurmountable problems in our culture.

### ***Christian Leadership in Prisons***

The need for Christian leadership within prison reform is necessary, as scandal and gang influence continue to spread, strengthen, and disrupt prison security in the United States. California, the birth place of gang structure within prisons, has the most entrenched problems. Many of the scandals facing prisons exist within the management structure themselves which can be breeding grounds for graft and fraud. For these reasons there is a high percentage of turnover within management. A recent 2019 news article printed in the WSFU Public Media quoted Darryl Collins, a warden of the Madison County Correctional Institution in Florida, stating that turnover “for correctional officers there is 51 percent.” (Dailey) This is primarily due to hierarchical leadership styles within prisons. Traditionally, prisons attract ‘transactional’ leaders who focus on “a steady-state situation and generally get performance from others by offering rewards.” (Santiago, 1998) Christian servant leaders are “transformational leaders who inspire “others to excel, giving individual consideration to others, and stimulating people to think in new ways.” (Santiago, 1998) Christian leadership in wardens is desired because their entire commitment is to God through Christ, first and foremost, and believe that:

“To lead biblically, an individual's entire identity must be committed to the Christian mission and vision, which is rooted in the Bible. As mentioned by James Orr (1897):

*He who with his whole heart believes in Jesus as the Son of God is thereby committed to much else besides. He is committed to a view of God, to a view of man, to a view of sin, to a view of redemption, to a view of the purpose of God in creation and history, to a view of human destiny, found only in Christianity. (Law, 2021)*

Christian servant leadership in prison wardens is desirable as “The warden provides the leadership and vision which shapes the character of the organizational culture for both staff and inmates.” (Santiago, 1998) The problems in prison systems are daunting as “Prisons basically operate from *coercive power*; this separates them from virtually most other existing organizations. Prisons operate as *isolated systems*, due to their emphasis on security and their population of societal outcasts.” (Santiago, 1998) Christian leadership or servant leadership will be required to navigate the disparate patchwork network of institutions that work together. Maxwell’s Law of creating alliances, the law of buy in, the law of priorities, the law of sacrifice, and the law of legacy, and Dillon’s insights on ‘forging alliances’ will be needed to establish cooperation and success when introducing new ideas and programs. (Maxwell, 2007) (Dillon, 2014) Ultimately, reliance on God through prayer will be essential in meeting the ethical challenges posed by prison reform.

### ***Safety and Security within Prisons***

When examining the safety and security systems that presently exist within incarceration systems, we begin to understand why transactional leadership methods have been accepted for

hundreds of years. Wardens are responsible for keeping prisoners inside and away from the public. This single, primary priority becomes the dominant factor in all administrative decisions until wardens and prisoners eventually succumb to similar obsessions, i.e., “As the French filmmaker Robert Bresson, who had himself spent time behind bars in a German prisoner-of-war camp, observes, “When you are in prison, the most important thing is the door.” (Earle, 2021)

The psychological effects of incarceration on prisoners are damaging and often considered less important in prison sentencing.

### ***Novel Applications and Future Potential***

New and well rated applications in AI development for dyslexia have been designed for open market purchase. Among these programs are text to speech apps that read texts, PDFs, and books (once they have been photographed or scanned) for the student, such as Speechify. Ironically, this app is equally useful to adept readers who can increase their reading, tracking and comprehension speed beyond 400 wpm (or twice the national average reading speed). Other AI applications include games that work on memory skills, phonics and sequencing, or note taking devices that allow dyslexics to organize note taking using graphic organizers or mind maps to write notes quickly and easily. But fully on-line educational systems that specifically teach reading in a systematic program are unavailable to prisoners. Information technology, for the most part, is not allowed in prison cells. However, employing sand box systems in walled gardens with encrypted lines may offer new hope for teaching and treating dyslexia in larger numbers without compromising prison security. This system would allow for broad screening and testing as well as education without the need for on-sight instruction. Tutors would be virtually admitted across encrypted lines into an “air-gapped” classroom where computers are

connected to each other but not to outside systems. A single point of contact (prison staff) would open and close the encrypted lines. New advances in encryption have led to the development of HE (homomorphic encryption) which allow additional opportunities for prisoners to code (as noted in The Last Mile).

HE is a special kind of encryption scheme, which allows any third party to operate on the encrypted data without decrypting it in advance. Indeed, the idea of HE has been around for over 30 years; however, the first plausible and achievable Fully Homomorphic Encryption (FHE) scheme was introduced by Craig Gentry in 2009. Since then, different FHE schemes demonstrated that FHE still needs to be improved significantly to be practical on every platform as they are very expensive for real-life applications. (Acar, 2018)

## **Procedures and Methodology**

Studies included in this paper examine the need for screening and training in dyslexia, the impact of neglect in teaching and training within the public schools for individuals with learning difficulties, and the overall societal damage caused by those overlooked individuals. This paper examined operational education programs within prisons, the psychological effects of the incarceration system both on prisoners and society in general, and examines methods for improving existing problems. Among the research findings are programs that use technology in a secure manner to assist prisoners in learning technology skills and helping to establish job skills and a work history before leaving prison. Two areas were examined which include the program “The Last Mile” (Last Mile, 2021) at San Quentin (just north of San Francisco), and the potential use of homomorphic encryption as a tool to enable prisoners to work on data anonymously. “TLM’s approach is based on the premise that re-entry transitioning must begin during



incarceration and continue post-release with the end result of gainful employment. The core curriculum includes HTML/CSS and JavaScript, WordPress, Node, AngularJS, React, and D3.js.” (Last Mile, 2021)

Homomorphic encryption may prove to be an adaptable tool that opens doors for prisoners to work on encrypted data in the cloud without actually having access to that data. “Today, data is encrypted while it is in transit over the internet as well as at rest on a storage device. However, in order to use or analyze data, it has to be decrypted, posing a security risk. Homomorphic encryption is a novel solution to this challenge, allowing users to process data without having to decrypt it. Encrypted data is processed and results are also provided in an encrypted form using homomorphic encryption. Data encryption is an essential part of cybersecurity strategy for any organization. As governments implement new legislation and data breaches become common, encryption is a must to reduce risks, establish confidence, and stay compliant. (Debanjan, 2021)

IBM has demonstrated that homomorphically encrypted data can be used to train AI systems without exposing any of the underlying data to human eyes. (Obermeyer, 2021)

## **Research Findings**

### ***Problems***

There is no doubt, based on numerous studies, that millions of incarcerated individuals have dyslexia. They are the victims of a public school system that failed to give them the adequate support to assist with their learning disorder. Unable to excel in school, most of these individuals dropped out and headed into criminal behavior, angry at a system that ‘didn’t care’.

These same individuals now languish in prisons, still not receiving the screening or treatment they need and deserve. How can we call ourselves a compassionate nation? We know that Dyslexia is highly treatable. There are screening exams and treatments available for children at kindergarten ages. Why these aren't screening exams being universally applied by our school districts and why aren't there enough resources within schools to teach those with learning disabilities? Many of the studies cited in this paper state the need for additional primary studies on this subject alone. Moody's 2000 study, which was the impetus for launching numerous academic papers and the recent First Act Legislation, is over two decades old. There simply haven't been enough statistical studies in the area of prisoner illiteracy. Subsequent to Moody's study, legislation has been passed to assist prisoners with learning difficulties such as The First Act legislation which was passed in 2018, and mandates screening in federal prisons for learning difficulties. However this legislation is an unfunded mandate. This means that regulations have been imposed by the Federal Government onto the Bureau of Prisons without any accompanying appropriations to cover the cost of compliance. In short this legislation has no teeth.

### ***Solutions***

Senator Cassidy has requested that the BOP answer his requests on why enforcement of this legislation has been poorly implemented. His February 2021 letter to the BOP regarding this ongoing issue remains unanswered and unresolved. The Federal Government must follow through and insure that appropriate funding is allocated to every federal prison in the United States to screen for learning disabilities. Once individuals have been identified with learning difficulties, appropriate training should be started. State prisons should also comply in like-

minded support with the Federal Government and mandate legislation for screening and training in all state and county incarceration systems.

### ***Methodology***

Ramping up the scale of screening and training will require more interfacing with prisoners. COVID 19 introduced obstacles to volunteers and service providers attempting to connect with prisoners on location. I recommend developing AI software that teaches prisoners to read and adapts to their learning styles. Many types of dyslexia software exist on the market but are not adapted for prison use on a large scale. The primary problems behind the use of AI as a teaching and monitoring tool are in its potential for misuse. A recent incident in Alameda County, California demonstrates that ‘tablets’ which were distributed to prisoners could be hacked, and the software within them modified to enable reaching entities outside of prison. However, San Quentin has adapted a program called “The Last Mile” which allows prisoners to work within a ‘sandbox’ also known as a ‘walled garden’ which is disconnected from the internet. They are trained to write code, which is supported by outside partners in the tech industry, and their code which is developed under contract is handed off to a prison staff, which then transfers the data to the employer. However, these prisoners already know how to read. In order to learn coding one must be able to read. What happens to all the other prisoners who are illiterate? Using a sandbox system and a specifically designed AI system that can screen for learning difficulties and teach and train prisoners is certainly doable. The primary hazards exist in creating a dedicated encrypted line. However, if this line is monitored by vetted staff and a single point of contact on either end, the opportunity for intrusions, hacking, or manipulation is greatly reduced. Further if this line is also a homomorphic line, it would allow prisoners to work

on data sent by third party contractors, and yet never know what was in the data. This opens up new potential job possibilities for those who are incarcerated

### **Summary, Discussion and Implication**

We fully understand that the problems of illiteracy are intertwined with crime and incarceration, and cost taxpayers millions of dollars. Unfortunately, public schools have been remiss in identifying children with learning disorders, and teaching them the proper reading skills they will need to thrive. As a result, millions of men and women can't connect or compete in today's world of fast paced technology and manufacturing. They turn to crime as a dysfunctional adaption to their condition and eventually serve prison sentences. This paper demonstrates that we have the tools to screen for learning difficulties, and to teach individuals with learning difficulties using AI systems. The federal and state governments of the United States need to mandate that screening for learning difficulties begins as early as possible and appropriate teaching and training for those with learning difficulties commences and is maintained throughout the educational lifetime of the individual. These two legislative entities must also mandate the same legislation for incarcerated individuals. When we reduce illiteracy, we reduce crime and recidivism. Additionally, wardens and management staff within prison should be open to management styles which include transformational leadership instead of traditional transactional leadership, and open pathways for prisoners to receive education while in prison.

“Jose Colon is the warden of Dade Correctional. “With little programs available, these offenders have a lot of idle time. And with idle time, comes a lot of negative behavior,” Colon

said. Educational programming is perhaps the most effective tool in giving those incarcerated better outcomes when they get out, according to Colon:

“Of the 1,582 inmates currently assigned, 245 have life sentences – leaving 1,337 reentering back into society to be my neighbor and your neighbors – and your family’s neighbors. If we can provide more programs, this will reduce recidivism and assist these men in re-entering society as a better, more productive citizen.” (Ryan Daily News article)

While many prisons offer a GED program and many offer University programs, neither a GED, a University diploma, or a coding program such as San Quentin’s - TLM, is possible if the prisoners are functionally illiterate. As more prisoners transition back to the outside they will need bona fide working skills to integrate into a technological world. These skills can be acquired in prison. Wardens should look at the possibilities of programs like the Last Mile at San Quentin and adapt similar methods which include large scale testing, screening and teaching programs for prisoners with learning difficulties.

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