RESEARCH ARTICLE

The effects of technology on incarcerated student motivation and engagement in classroom-based learning

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Received: 8 November 2021 / Accepted: 21 July 2022 / Published online: 19 August 2022

Abstract
This article the influence of technology on incarcerated students’ motivation and engagement in classroom-based learning. The juvenile jails and prisons confine many students who depend on education for future prosperity. In the twenty-first century, technology has dominated the education sector, and has been improving education delivery both to the incarcerated students and released students. Concerning the Covid-19 pandemic that resulted in the closure of learning setups, this work explicitly considers the jails and prisons contexts. The goal is to determine the effects of technology, after which the technical field can work towards improving the experience of the incarcerated students in the classrooms. Incarcerated students need modern skills that would enable them to survive in the technology-demanding society. This paper gives a brief review of previous research work, and my present work to determine the direction of classroom-based learning for incarcerated students.

Keywords Incarcerated student · Juvenile · Classroom-based learning · Digitalize

1 Introduction
In United States (US), approximately 60,000 individuals under 18 years get incarcerated in juvenile facilities on any given day (ACLU 2021). Different states register different incarceration rates, but the primary conclusion is that there was a decrease in 48 states and an increase in only two states from 1997 to 2013. Idaho and West Virginia reported a rise, while a decline came from 48 states (ACLU 2021). Further research indicates that from 2013 to date, incarceration is still a significant issue that requires attention in the US. Racial and ethnic disparities play a crucial role in incarceration as the minorities are at the top in percentage (Light and Ulmer 2016). While juvenile jails and prisons try to shape their behavior with no suitable learning environments, this may be a drawback in implementing how to teach their behaviors. The youths under correction may feel unwanted in society and even worse when they get out of prison. In handling behavior issues, juvenile jails and prisons incorporate classroom-based studies to help shape behavior and make the young inmates become productive members of society. Learning is paramount even in the prisons, and more so when it is digital; the learners’ engagement and motivation factors increase in the classroom context. Specifically, this work explores the influences of various technologies on incarcerated student motivation and engagement in classroom-based learning to pave the way for incorporating technology in correctional facilities.

2 Background
Education is crucial in bettering the behaviors of the incarcerated students, their families, and their communities, which include reducing recidivism and enhancing employability chances after being released from correctional facilities. An example of an institution that works toward provisioning post-secondary education opportunities specifically for incarcerated students is the Vera Institute of Justice (diZerega 2021). This institution, among others, believes in the potential of education in decreasing the collateral consequences in line with incarceration. Through the Department of Education’s Second Chance, the federal government also provisioned technical
assistance to 130 colleges in 42 states as of 2020 (diZerega 2021). Such efforts to provide high-quality education in prison and post-release have been in existence with the intention of bettering American society. All students deserve quality education despite their localities. Since the correctional facilities host the inmates for quite some time, a better way of rectifying their behaviors is by bettering education delivery in the prisons.

The education aspect in the US follows a keen study on the number of children being arrested in the country each year. According to Youth Justice (2020), approximately 1,995 children get charged daily each year. Notably, these children attend schools, and even as their cases are being determined, their educational progress collapses. They miss classes, tests, and examinations that count towards progressing to the next grade in their respective schools. Perhaps, the continuity of education in the correctional facilities was a wise idea, only that the learning environments may differ a bit from the typical classroom setups. In 2018, 728,280 children in the United States were arrested, implying that only about 1995 children are charged daily despite the 63% decrease in arrests in the 2009–2018 timeline (Youth Justice 2020). The overall decline shows an increasing behavior among the young ones but does not mean that arrests have stopped. Still, 43,580 children became arrest victims on specific nights in 2017 (Youth Justice 2020). The provisions here are that for every three children arrested in 2017, 2 were confined in high-profile facilities (Youth Justice 2020).

Progressively in 2018, an estimation of 76,000 children was convicted or incarcerated yearly (Youth Justice 2020). The issue of children being locked up in correctional facilities is realistic, and therefore, education plays a crucial function in bringing all-rounded individuals once their sentences terminate. On another note, while 65% of children arrested were Caucasian, children of color had approximately twice the likelihood of getting arrested than Caucasian children (Youth Justice 2020). Such findings indicate that the incarcerated students are likely to be those already suffering from economic disparities, and perhaps, education is their only savior. With the shift in the number of children arrests, learning must continue to enable a smooth transition into adult life.

For this reason, it is necessary to allow a positive learning environment to be championed in prisons. The students may only be in the correctional facilities for a while, and their behaviors matter once they are released. Without this, they are likely to repeat similar mistakes and increase the recidivism rates, showing the correctional systems and society are not helping their unhealthy behaviors.

3 Statement of the problem

The research problem is that the number of children getting arrested keeps on fluctuating with high recidivism rates. Either the children are not getting proper education while in the correctional facilities, or the economic disparities are hard to bear while outside. With the focus on technology, this research aims to check the outcome of the incarcerated students using technology in their learning setups with those who do not. Suppose technology appears to be more appealing in education delivery for the incarcerated students. In that case, the technologies will be championed and implemented in various correctional facilities in the US. Technology will, after that, be considered a solution to the education delivery challenge in juvenile jails and prisons and, most importantly, a long-term solution to the recidivism problem. Therefore, this paper intends to measure the impact of technology on learning outcome of incarcerated students.

4 Conceptual framework

Technology Acceptance Model (TAM) girds the study of technology influences on incarcerated student engagement and motivation in classroom-based learning. In juvenile prisons and jails, it is essential to research the available technologies, how users have embraced them, and their ultimate influence on education delivery. According to Davis (1989), TAM provides for utility based on two factors, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). PU provides the extent of performance based on the individual technology usage (Davis 1989). On the other hand, PEOU provides an individual’s belief regarding usability when embracing a unique technology (Davis 1989).

For this research, TAM is helpful because the incarcerated students utilize the available technologies in their confined setups. Education delivery is essential to all individuals, even outside prisons, and technology utilization matters. The incarcerated students have behavioral challenges that are deemed undesired in society. While some are in for abuse cases, others may have entirely dropped out of school to seek a living. Therefore, using technology in education delivery is essential due to the abundant information provided. The main goal is to build an all-rounded individual when they join their fellow societal members upon release. The effects studied in this work will determine the TAM’s practicability in prison and jails context. Technology can be challenging to use, but with time, the incarcerated students learn and even find it easy to adopt in the digital world.

5 Research question

What are the effects of Technology on Incarcerated Student Motivation and Engagement in Classroom-Based Learning?
6 The rationale for studying the topic

With the emergence of Covid-19, learning has been forced to go online with plans to mitigate the spread of novel coronavirus (Gadille and Impedovo 2019). Schools in the urban and rural areas did their best to ensure their students continue online studies. Education delivery is essential no matter the context, and therefore, researching on the incarcerated students shows the scientific community is fair. The same technology deployed in traditional schools should be made available to the incarcerated students to progress with their studies. In the end, they will join their peers, and expectations of being productive in society will still count. Notably, the research extends past the Covid-19 pandemic generated technologies to technologies used even before checking their general influence among the incarcerated students. The research outcome will be used as a gauge to invest in technologies in the correctional facilities to ensure learning continues for a better American society.

7 Importance to the scientific community

The scientific community believes in the continuous development of society through research on societal issues and practical solutions. In the twenty-first century, scientists have been keen on efficient and accurate technologies in improving life. In this case, the incarcerated students are victims, and their educational achievements matter, being the American education system works towards bringing skilled individuals on board. Not only should the students be skilled but also embrace ethical behaviors throughout their lives. Therefore, researching the effects of technology on the incarcerated students will signal the scientific community’s directions in improving the outcome of the correctional facilities. The scientific community can then decide on the relevant technologies to implement based on their positive influence on the incarcerated students.

8 Research hypothesis

In order to achieve the set objective of this study, the following hypotheses have been formulated:

Hypothesis I
H10: Technology education has no effect on student motivation and engagement in classroom-based learning.
H11: Technology education has effect on student motivation and engagement in classroom-based learning.

Hypothesis II
H20: Technology education does not enhance the standard of learning.
H21: Technology education enhances the standard of learning.

9 Literature review

This literature review section highlights the crucial research works which are in line with this topic. Scientists, among other professionals, have researched incarcerated students, emphasized various technologies, and suggested some ways for them moving forward. While it is essential to acknowledge their role in solving the existing issues, this research is relevant because it will emphasize strategic technologies vital during the Covid-19 pandemic period. The literature review will identify the gaps in the technology field in line with the engagement and motivation of the incarcerated students to improve the educational outcomes.

9.1 Podcasting

The podcasting technology avails the opportunity for teachers to quickly broadcast engaging content, which the incarcerated students can listen to at any time. According to Torres (2017), the incarcerated students undergo much stress, a particular hour set for learning may not be conducive for learning by the incarcerated students. Sometimes, they may be emotionally or psychologically down during the period set aside for learning, podcasting will assist such students to learn at their convenience. As stated by Armstrong (2020), podcasting has been used for lesson delivery in prisons. Although, there is disparity in internet access which is a bottleneck in the full exploitation of such technologies in prisons setup. As reported by Armstrong (2020), incarcerated students that use podcast-enabled learning shows more engagement with their teachers and collaborate easily with those that attend physical class.

9.2 Mobile technologies

Technology enhance learning has been introduced as mobile learning. This is used in open and distance learning. It affords learners to receive lectures, listen to podcast and read other lecture materials on their mobile devices. Mobile learning will greatly enhance learning ratio of incarcerated students. Mobile phone should be used with caution in order not to jeopardize the security of the prison security system as suggested by Hopkins and Farley (2014). This idea was supported by Farley and Murphy (2012). The authors suggest that Stand Alone Moodle (SAM) and eBook readers should be install on incarcerated student’s mobile devices.
9.3 Quality education delivery

Qualitative education delivery is a way of equipping students with necessary skills that are needed to succeed in the new world. As stated by Hopkins and Farley (2014), mobile technology help incarcerated students especially during Covid-19 period when the limited prison facilities indicate that the students cannot be shifted to other security purposes. This indicates that education delivery can be cumbersome without the technology. With mobile technology, teachers can direct the incarcerated students to specific pages and offer brief explanations. Therefore, technology helps in maintaining the teacher-student relationship (Kerr and Willis 2018). This is a motivating factor for the students with content regulations, the incarcerated students will still understand that the behavioral management is critical and that the correctional facilities are only there not to punish but to reinforce positive behavior.

In research conducted by Chappell and Shippen (2013), the findings provide that technology use in prisons motivates incarcerated students in life after prison. The students get equipped with experience in using technology as they reenter communities. Therefore, Chappell and Shippen (2013) note that implementing digital learning in juvenile jails and prisons is a source of motivation as ex-offenders become relevant to societal progress. However, with the present situation of the Covid-19 pandemic, releasing any inmate now with no concrete support mechanism, there are high chances they would still go back to their illegal deeds for survival. They see that people are losing their legitimate jobs.

Zoukis (2016) reports that technology played a crucial role in boosting prison education. The first approached to Zoukis' (2016) study is Blended learning, which combines traditional teaching approaches and supplementary methods. Perhaps, the acceptance of technology among the incarcerated individuals may differ and thus the need for incorporating both education delivery methods. Easy access to information is motivating as the inmates familiarize themselves with the current community survival tactics. For instance, the Covid-19 period has been occasioned with the need to "go online," a demand with advanced technology to accommodate all people. While in prisons, the individuals can learn of creative online content apart from the physical works that may not favor all incarcerated individuals. With such good intentions of technology, the incarcerated individuals do not have to lose hope as they can still earn because of the technical skills they acquire while confined.

9.4 Behavior and reoffending

McDougall et al. (2017) also researched the influence of technology in the incarcerated individuals, specifically on their behavior and reoffending. McDougall et al. (2017), opined that technology reforms prisons to assist offender rehabilitation. They stated that the US government is moving from punishment-based policies to education-oriented policies. Punishing an individual in prison may not end the economic disparities in the US that caused them to steal. Besides, negative reinforcement due to fights on allegations of being racially abused may not reform the racial equity need in the US. Only by educating the incarcerated individuals can the American context fully embrace the ethical standards. They argued that digital education is more responsive than traditional education delivery methods. They stressed further that digital rehabilitation changes the prison culture for the incarcerated individuals. The authors confirm that education in correctional facilities increases in the US, UK, Europe, and Australia. It was observed that the prisoners become motivated as they enjoy services utilized by their peers outside the jails and prisons contexts. With technology, the prisoners embrace self-directed rehabilitation, according to McDougall et al. (2017). There is an assurance of financial assistance, job training, and employment assistance with vast opportunities that tag along with technologies.

Statistically, the recidivism rates reduced in the UK among the 13 prisons examined in the seven years by McDougall et al. (2017). In 2 years, reoffending had gone down by 5.35%, courtesy of technology implementation in the prisons (McDougall et al. 2017). The basis of the authors' arguments is that technology equipped the confined individuals with skills that would enable them to survive in the sophisticated digital world. Most importantly, students in juvenile prisons and jails could quickly proceed with their studies while accessing relevant content at their educational levels; furthermore, with technology, McDougall et al. (2017) report that the incarcerated individuals feel more in control of their lives. Already, technology embrasure is a source of motivation to the confined offenders whose hopes of contributing towards societal development get revived.

Through modernization of education in prisons, the prisoners have been in the limelight for positive responses to behavioral change (Pedroni 2007). Most importantly, the prisoners are getting meaningful content that they can use to secure jobs once they are out of the correctional facilities. This motivates the prisoners to acquire the needed community living skills and self-management skills. Therefore, digital-based learning in prisons has more to do with securing jobs, according to Kerr and Willis (2018). Individual behavior is essential since the workplace requires collaboration with other workers.

9.5 Communication

While in prison, keeping up with family members has always been a challenge, especially the foreign incarcerated students...
However, modern education delivery in the prisons will guarantee that they must also be trained on communication skills (Pedroni 2007). Through this avenue, communication with family and friends outside the prison is ensured. This does reduce not only suicide incidences but also encourages improved attitudes and prospects among the prisoners (McDougal et al., 2017). Having access to family members will encourage them to join the education program seriously as they are eager to join them. This will prompt them to focus more on individual productivity for an ethical lifestyle.

9.6 Online classes are hard in prisons

Technology based learning in prison is very hard to implement. Ernst Geleno, the Senior Program Coordinator of Prison Education Projects laments the challenges faced in implementing Online Learning (Armstrong 2020). The author noted that there is disparity in access to digital devices since not all centers are equipped. Also, he noted that channeling of funds that could otherwise be used in improving education delivery to another sector as well as directing effort towards the health of American prisoners are major constraints. He stressed further that the use of legacy system in prison as against acquisition of modern system for learning may lead to slow productivity response.

9.7 Limitations of the literature review

While the provisioned literature reviews are helpful in the current research, they have limitations that the recent study aims at handling. The previous researchers mainly dealt with incarcerated individuals without a primary focus on the students. Notably, some individuals get arrested in their adulthood when they are done with their studies. Besides, offenders may be confined for only a short period in that they do not get to experience the technology influence the current paper seeks to handle. Therefore, the focus group deems as a limitation, yet different groups appreciate technology differently. Besides, the previous researchers primarily focused on general technology implementation and did not specify the classroom-based learning context. The current research considers incarcerated students' engagement in the classroom to discuss the technologies applied to understand their influence.

While reviewing the literature, the influence of new technologies on students lacked in these articles, new technologies may pose unique benefits or challenges. Using the TAM model would have shed more light on the general use acceptance in jails and prisons. The current research will discuss the acceptance levels since various students may embrace similar technology differently.

10 Research methods

This section seeks to provide a clarification of the methodology utilized while conducting this research. It starts by describing the research question that the fundamental research aimed at answering. Besides, the study design and study context elaborate on the effectiveness of the study. The participants, data sources, and data collection prevail to acknowledge the general influence of technology in juvenile setups. In this section, data analysis and ethical considerations will help understand the research conducted among the incarcerated students within US jails and prisons. Therefore, it is essential to acknowledge that the data is critical and security of the data developed during the data collection process is very important.

10.1 Research question

What are the effects of Technology on Incarcerated Student Motivation and Engagement in Classroom-Based Learning? This research question forms the basis of the data collection process. Therefore, all the questions posed in the survey aimed at getting the effects, either positive or negative, as responded by the participants.

10.2 Research design

Surveys were conducted to have qualitative research that can solve the research question, this is because they offer such excellent and diverse reports from the respondents, according to Seixas et al. (2018). Furthermore, the surveys always make the researchers aware of insights not earlier thought of while drafting the research. On the other hand, Doyle et al. (2019) have it that a relevant research design is vital in directing the study. Mihalache (2019) also notes that this extends to configuring the sense where implication develops following a thorough analysis.

10.3 Research context and intervention

The research context, in this case, is the juvenile jails and prisons where the incarnated students are engaging in classroom-based learning. For the intervention, technological changes prevail as it is the driving factor in responding to the engagement and motivation of the incarcerated students. Therefore, better technologies can be applied in producing the desired and lasting change in the juvenile contexts.

10.4 Participants

Halcomb and Peters (2016) point out that it is impossible to research in the absence of participants. For the
current research, the participants best define the influence of technology in their confined setups, specifically in classroom-based learning. Therefore, the incarcerated students are the participants of this research and help understand the phenomenon of the research question.

10.5 Data sources and data collection

A survey tool was applicable in the current research to gather information from the incarcerated students on the effects of technology on the engagement and motivation on the classroom method (see Appendix). The survey questions were distributed to 100 incarcerated students, and their feedback was stored for further analysis.

10.6 Data analysis

Upon the completion of the data collection process in two weeks, the researcher embarked on data entry. As illustrated in the tables, the research questions were structured to enhance information gathering and recording. The surveys provided data that could be analyzed both quantitatively and qualitatively. The choice enabled the researcher to describe the general influence of various technologies applied in the classroom learning context. Quantitative results were formulated in tables, while the qualitative results prevail in paragraphs formats to define the general feeling and opinions of the incarcerated students on the technologies within their confined classrooms.

10.7 Research ethics

According to Komić et al. (2015) and Roth et al. (2018), ethical principles should be part of any research generating information from participants. In this work the fundamental moral principles are taken into consideration.

11 Informed consent

The incarcerated students were informed of their contribution to making the research as successful as possible. Besides, all the incarcerated students gained approval from the juvenile setup management before filling out the surveys. Both management and the incarcerated students were made to understand the importance of research, especially to better education delivery for a better society. They understood that they were taking part in the study and contributed competently. For the respondents, they appended their signature in the consent form as a sign of agreement.

12 Anonymity principle

The anonymity principle explores the protection and confidentiality in line with the incarcerated students. The information provided by the participants is sensitive and mentioning individual names or even attaching their images would be regarded as a breach of privacy. The current study worked closely with the anonymity principle and assured the participants of a confidential discussion process.

12.1 Assumptions, delimitations, and limitations

With the emergence of the Covid-19 pandemic, most research works have been limited to online presence. Physical interactions with the incarcerated students are discouraged, and the present study had to liaise with the prison management to collect information. The 100 students responded to the online survey and submitted via emails. The researcher made assumptions that the students would fill the forms in the form of Google Docs. There is also an assumption that the incarcerated students sincerely responded to the duly filled forms to the best of their knowledge.

13 Results

In this "Results" section, factual reporting of the study results is given. For the current research, the findings are generally organized around the research questions. The tables presented here summarize the information in addition to the factual paragraphs (see Appendix for the research survey).

There were 100 participants chosen out of which only 80 responded. This represent 80% of the total questionnaires administered.

13.1 Demographics

Below table showed the distribution of respondents by their gender: 72% of the respondents are male, while 27.5% were female (Table 1).

Table 2 depicts the education qualification of the respondent.

From the above table, college/university degree holder are the major respondents representing 30% of the total population, while 5% of the respondents have primary school certificate.

The 1 to 10 scale received various ratings as the incarcerated students individually filled the survey forms.

Source: Field survey, 2021.

In Table 3 above, 35 respondents representing 43.75% of the total population rated classroom-based learning high.
From Table 4 above, eighty students responded with a “yes” to inquire whether they could access digital devices for their classroom-based learning.

The variation in the responses provided prevailed in line with what the incarcerated students deemed as technologies. The names provided to the technologies may be hard to identify, but the information provided indicated the incarcerated students indeed utilized technologies in their classroom-based learning as you can see in Table 5 below.

In Table 6, 88.75% of the total population indicated that technology was very helpful in motivating and engaging them during classroom learning.

Table 7 shows that 71 respondents representing 88.75% were motivated with technology enhanced teaching.

In Table 8 above, 86.25% of the total population indicated that they standard of learning were improved with technology enhanced learning.

### 13.2 Overall description experience

The qualitative research response indicated a positive response on most responses as they felt technology was changing their lives for the better. Specifically, 70% of the incarcerated students under study reported a feeling of ease during their learning. Their teachers utilized the digital devices that they also had access to during the class sessions. The 70% threshold also confirmed that they were generally embracing the digital skills such as typing that they said would be useful in the digital world. The remaining 30% utilized similar digital devices as their peers, though the response to experience varied. The three incarcerated students could not respond to their overall experience but stated their experience with single terms, “good,” “best,” and “bad.” It is not all times that experiences are good, and for the 30% threshold, 10% claimed not appreciating their presence in the juvenile classrooms as they claimed they were innocent.

### 13.3 Evaluation of learning outcomes

In order to know if learning has occurred, the teacher may employ the use of direct and indirect assessment method (Calderon 2013). The direct method includes the use of test, homework, and quiz, while indirect assessment method includes face-to-face/interview and survey.

In this research, indirect method was used in measuring the learning outcome of technology enhanced learning. The result of the survey to measure the impact of technology on learning outcome is presented in Tables 6 and 8. The purpose of measuring learning outcomes in this regard is to ascertain whether technology-assisted learning helps students learn better.
13.4 Test of hypotheses

13.4.1 Hypothesis I

H$_{10}$: Technology education has no effect on student motivation and engagement in classroom-based learning.

H$_{11}$: Technology education has effect on student motivation and engagement in classroom-based learning.

13.4.2 Statistical tool

The statistical tool employed in the test is the chi-square ($x^2$) which is calculated using the below formula:

$$x^2 = \sum \frac{(O - E)^2}{E}$$

where $O$ is the observed frequency and $E$ is the expected frequency. Here, response from Table 7 is used and we expect to have equal preference among the participants; hence, the expected frequency will be 40 (i.e. $\frac{80}{2}$):

$$x^2 = \sum \frac{(O - E)^2}{E} = 24.024 + 24.025 = 48.05$$

13.4.3 Level of significance

In this research work, 0.05 level of significance is used, i.e., $\alpha = 0.05$

$$x^2_{k-1} = x^2_{2-1} = x^2_1 = 3.84 \text{ at } \alpha = 0.05$$

Since $x^2 = 48.05 > x^2_1 = 3.84$, the null hypothesis H$_0$ is rejected. Therefore, we accept the alternative hypothesis H$_1$ which says technology education has effect on student motivation and engagement in classroom-based learning.

13.4.4 Hypothesis II

H$_{20}$: Technology education does not enhance the standard of learning.

H$_{21}$: Technology education enhances the standard of learning.
To test the above hypothesis, response from Table 8 is used. As mentioned above, our expected value is 40.

\[ x^2 = \sum \frac{(O - E)^2}{E} = 21.024 + 21.025 = 42.05 \]

### 13.4.5 Level of significance

As stated above, 0.05 level of significance is used, i.e., \( \alpha = 0.05 \)

\[ x^2_{k-1} = x^2_{2-1} = x^2_1 = 3.84 \text{ at } \alpha = 0.05 \]

Since \( x^2 = 42.05 > x^2_1 = 3.84 \), the null hypothesis \( H_0 \) is rejected. Therefore, we accept the alternative hypothesis \( H_{21} \) which says technology education enhances the standard of learning.

### 14 Discussion

This study aimed to see how technology affected incarcerated students’ motivation and involvement in classroom-based learning. The table above shows that technology-based learning affects students’ learning outcomes. Although a small percentage of respondents said that technology did not affect their learning style or rate, most respondents said that technology-enhanced learning is beneficial.

In addition, it was discovered from the responses that all of the respondents have access to modern learning devices, which could have been the driving force behind their motivations. Table 6 shows that 88.75% of respondents said technology-enhanced learning aided them, whereas Table 7 shows that 88.75% were inspired by technology-enhanced learning. Similarly, 86.25% said that technology helped and enhanced their learning.

The analysis results are presented in Tables 9 and 10, respectively, testing the significance level. The presented results show that technology-enhanced learning motivates student learning as the null hypothesis I was rejected, and the alternative hypothesis was accepted. Also, null hypothesis II, which says that technology education does not enhance standard learning, was rejected, and the alternative hypothesis was accepted. The results from the two-hypothesis testing indicated that technology accelerated the mode of learning of the students in question.

### 15 Conclusion and recommendation

The current study has established that technology positively influences incarcerated student engagement and motivation in classroom-based learning. The incarcerated students filling the survey helped identify how various technologies have impacted their stay in the juvenile setups. By improving education delivery, the incarcerated students believe that they will be relevant once they get released. Some of them may have found themselves in juvenile jails and prisons after dropping out of school. Before being convicted, they engage in illegal activities in the search for financial stability. The difference emerges as technology comes in to increase ethical survival rates in society. The tremendous digital skills they acquire are sufficient to make it possible for them even during the Covid-19 pandemic since most activities go online. Most incarcerated students are motivated and engaged shown from the results section courtesy of technology installed in the confined setups. The incarcerated students hope to secure employment while in jails and prisons and, upon release, give the incarcerated students confidence to participate in the class-based learning. The research recommends further implementation of technologies to make the incarcerated students productive as they reform the undesired behaviors. In the future, we plan to offer suggestions of the specific technologies that would be meaningful in creating a conducive learning environment in juvenile jails and prisons.

### Declarations

**Conflict of interest** The authors declare no competing interests.

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