Digital Inequality and e-Learning Barriers for Incarcerated Students in UNISA Correctional Hubs

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Abstract: Open distance e-learning (ODeL) has broadened access to higher education for marginalised groups worldwide. However, for incarcerated students, correctional environments impose restrictions on internet access, communication, and study time that undermine the flexibility central to ODeL. In South Africa, the University of South Africa (UNISA) operates e-learning hubs in partnership with the Department of Correctional Services (DCS). Despite this initiative, limited empirical evidence exists on the study experiences of incarcerated students, particularly regarding cognitive and contextual barriers. This study investigates (i) the cognitive and learning barriers faced by incarcerated distance students (RQ1) and (ii) the ways their experiences differ from those of non-incarcerated students (RQ2). A quantitative survey of 45 students across three UNISA hubs (Kgoši Mampuru II and Brandvlei Correctional Centres) was conducted using anonymous paper questionnaires to protect respondent anonymity. Data were analysed using descriptive statistics, with results reported as headcount frequencies due to the small sample size. Findings reveal significant structural constraints. 58% of respondents reported insufficient access time, with internet use restricted to weekday mornings and middays, and no evening or weekend access. The importance of this finding lies not only in the quantity of available time but in the fragmentation and unpredictability of access. ODeL systems assume continuity of engagement, whereas correctional access structures interrupt study routines and reduce students' ability to regulate their own learning. Nearly half engaged with the online library for less than one hour daily, while 62% received little or no librarian support. Peer collaboration was limited, with 40% unable to participate in online forums, and DCS oversight further constrained autonomy, with 58% requiring daily approval for educational activities. 87% enrolled with UNISA for the first time after incarceration, meaning that the correctional hub was their initial point of contact with tertiary e-learning. These results demonstrate a mismatch between ODeL requirements and correctional conditions. Recommendations include extending hub access hours, strengthening library and digital literacy support, improving academic responsiveness, and enabling supervised collaboration mechanisms compatible with security requirements. By providing empirical evidence from South Africa, this study advances understanding of correctional e-learning. It contributes to international debates on digital inclusion in correctional education and informs policy interventions aimed at promoting educational equity for incarcerated students. The findings also highlight the importance of aligning institutional support structures with pedagogical needs, ensuring that incarcerated students are not disadvantaged compared to their non-incarcerated Peers.

Keywords: Cognitive barriers, Correctional education, Learning centre access, DCS oversight, Digital literacy, Incarcerated students

1. Introduction

Open distance e-learning (ODeL) requires students to be self-directed, digitally literate, able to access resources flexibly, and capable of engaging in scholarly dialogue with peers and instructors across digital channels. For students in correctional facilities, each of these requirements constitutes a structural barrier. The intersection of correctional security requirements and distance education infrastructure constraints produces an experience that differs substantially from that of non-incarcerated students (Barrow et al., 2019, Hammerschick, 2010; Hofinger & Pflegerl, 2024). In South Africa, the University of South Africa (UNISA) operates e-learning hubs in several correctional centres under a memorandum of understanding with the Department of Correctional Services (DCS) (Unisa, 2017). Although these hubs expand formal access to higher education, little empirical evidence exists regarding whether correctional e-learning environments provide the conditions necessary for meaningful participation in ODeL. In particular, limited research has examined how institutional restrictions shape incarcerated students' access to digital learning, communication, academic support, and independent study within African correctional education contexts. However, existing scholarship has not adequately examined whether this bridge is effective in practice. While international studies document barriers such as restricted access times, limited library engagement, and constrained peer communication (Watts, 2010, Harrison; 2014, Becker-Pestka, 2022), few empirical studies quantify these barriers in the South African context. This study, therefore, examined whether the operational conditions within Unisa correctional hubs adequately support the pedagogical and technological requirements of ODeL. This study addresses that gap by investigating (i) the cognitive and learning barriers experienced by incarcerated students (RQ1) and (ii) the ways their

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experiences differ from those of non-incarcerated students (RQ2). In doing so, it provides evidence that can inform both institutional practice and policy development. Hofinger & Pflegerl (2024) emphasise that technology provision in correctional settings remains constrained by institutional risk-aversion, which prioritises security concerns over pedagogical requirements. Our study builds on this insight by providing empirical data from UNISA hubs, thereby contributing to the broader debate on digital inclusion and equity in correctional education. Although prior international studies have documented barriers to correctional education and digital exclusion in correctional settings, there remains limited empirical evidence from African correctional e-learning environments. This is particularly regarding how incarcerated students experience institutional access controls, digital learning systems, online libraries, and communication restrictions within formal ODeL programmes. Existing South African studies have largely focused on access to education in correctional centres generally, rather than on the operational realities of electronically mediated distance learning inside correctional hubs. Furthermore, little quantitative evidence exists regarding how incarcerated students' experiences differ structurally from those of non-incarcerated ODeL students. This study addresses that gap by examining the cognitive, learning, communication, and institutional barriers experienced by incarcerated Unisa students across three correctional e-learning hubs.

2. Research Focus

In this research paper, we focus on two research questions that guided the parent study (Maloma, 2025). The research problem stems from a fundamental contradiction within correctional e-learning. UNISA's ODeL model assumes that students can access digital resources flexibly, study independently, and communicate freely with peers and instructors. However, correctional environments impose structural constraints such as security protocols, supervised access, restricted hours, and monitored communication. This restricted access may fundamentally contradict these ODeL assumptions. While UNISA's memorandum of understanding with DCS establishes e-learning hubs, it remains unclear whether these hubs provide the conditions necessary for meaningful ODeL participation. This study investigates whether and how correctional constraints create distinct cognitive, learning, and institutional barriers that differentiate the incarcerated student experience from that of non-incarcerated distance students. Table 1 below lists the research questions and their objectives.

Table 1: Research questions and objectives covered in this paper

Question	Focus	Objective
RQ1	What cognitive (learning) problems (if any) are experienced with electronically mediated tertiary education by incarcerated students?	To understand the unique challenges of providing quality tertiary e-learning in correctional settings
RQ2	In what respects (if at all) do the study experiences of in-correctional centre and non-correctional centre Students differ?	To inform policy and practice improvements for educational equity in correctional education programmes

Table 2 links these questions to the five survey themes drawn on in answering them. While the study identifies specific technical and institutional barriers, it also seeks to examine how these barriers interact structurally to shape incarcerated students' participation in digitally mediated distance education environments.

Table 2: Mapping of research questions to survey themes

Research question	Survey themes
RQ1: Cognitive/learning barriers	Theme A2: The role of the learning centre Theme A3: Interactions with the Unisa online library
RQ2: Differences from non-incarcerated Students	Theme A1: Contextual profile Theme A4: Communication with lecturers and peers Theme A5: The role of the Department of Correctional Services

Source: (Maloma, 2025), Table 5.1.

3. Literature Review

3.1 Learning Centre Access and Cognitive Engagement

The learning centre forms the heart of the correctional e-learning environment. Its availability and opening hours and the quality of internet connectivity determine what is academically possible for incarcerated distance Students. Watts (2010) documents restricted access times as a primary barrier to distance higher education in correctional settings, while Harrison (2014) identifies the pressure between security requirements and internet access as a structurally unresolved problem in correctional education policy globally. Barrow et al. (2019) and Farley et al. (2016) document restricted access times as being among the most consistently reported barriers in international correctional distance education literature. Recent scholarship has intensified this critique. Knight, Ross & Wood (2024) argue that temporary access restrictions function not merely as logistical constraints but as structural pedagogical barriers that fundamentally alter the learning relationship between student and institution. Bradley & Davies (2021) found learning centre closures and reduced operating hours to have severe educational repercussions for incarcerated students who had no alternative access channels. This is a finding with direct implications for the South African Unisa hub context, where access is similarly confined to supervised institutional spaces.

For students enrolled in ODeL programmes, time restrictions are particularly harmful. Distance education relies on flexible and self-directed study throughout the week. When internet and study access are limited to supervised weekday mornings and middays, this flexibility is substantially reduced, and the programme's basic teaching approach is weakened. Research supports the importance of adequate access time for effective online learning. Van Der Merwe, Serote & Maloma (2023) identified access-related difficulties as the third most frequently cited barrier category (14 citations across 25 reviewed studies). Across 25 studies, time constraints, infrastructure limitations, and restricted access to facilities were repeatedly identified as structural barriers. These studies collectively demonstrate that restricted access time is consistently associated with reduced participation and weaker engagement in e-learning environments. Similar findings were reported by Karasneh et al. (2021), whose study revealed limited access time and inflexible schedules to be important barriers to effective e-learning, particularly for students without independent access to online platforms. Across the literature, restricted digital access emerges not merely as a technical limitation, but as a structural mechanism that constrains learner autonomy, continuity of engagement, and participation in digitally mediated education. These conditions resemble access constraints documented in multiple supervised and resource-constrained e-learning environments.

3.2 Library Access and Academic Information Literacy

Challis, Holt & Palmer (2009) identify accessible, well-equipped library facilities as a foundational condition for effective higher education. For distance Students who lack physical access to a campus library, the online library is not merely supplementary; it is the primary means of engaging with the scholarly literature relevant to their coursework. Mdakane, Ngubane & Dhlamini (2022) found access to library resources to be a major barrier for incarcerated students at the University of South Africa (UNISA). Their study identified high data costs, slow download speeds and limited storage as key factors that prevented students from accessing academic materials. These findings suggest that incarcerated students may encounter layered barriers to accessing digital academic resources within constrained institutional environments. Similarly, Van Der Merwe, Serote & Maloma (2023) identified university-related obstacles as the most frequently reported barrier to e-learning in Sub-Saharan Africa. They also identified limited student support services, inadequate library access, and weak institutional responsiveness. Prior literature therefore indicates that institutional responsiveness and library support are central components of successful distance learning participation. This indicates limited access to effective library support in the correctional education context and that library access barriers remain an important concern in correctional e-learning environments.

Farley & Seymour (2022) document library exclusion in correctional settings as not operating as a single barrier but as a multi-layered system of technical, financial, and procedural obstacles. These obstacles collectively deny incarcerated students the independent scholarly inquiry that tertiary education presupposes.

3.3 Communication, Collaboration and Social Learning

Fong (2008), Hammerschick (2010) and Becker-Pestka (2022) each document significant restrictions on peer interaction and communication imposed on incarcerated students in both European and African contexts. These restrictions hinder the collaborative learning processes, such as peer discussion, group assignments, and online forum participation, that are integral to the pedagogical design of many distance education programmes. The

reduction of communication to a limited set of institutional channels (e-mail, LMS discussion forums) produces an academic experience that is more isolated than the ODeL model intends.

Hofinger & Pflegerl (2024) provide the most recent comprehensive analysis of this communication barrier, reporting across six European jurisdictions. They emphasize that communication monitoring and restriction in correctional education settings are implemented with minimal pedagogical consultation and maximum-security emphasis. This produces outcomes that systematically compromise the communication and collaborative dimensions of learning that modern higher education increasingly depends upon. This security–pedagogy imbalance is central to understanding the communication barriers documented in our study.

3.4 Contextual and Institutional Differences

The literature consistently identifies the contextual profile of incarcerated Students as a critical variable. Many enter correctional facilities without prior tertiary education experience (Mahlangu, 2017; Adeyeye, 2019). Digital literacy gaps, particularly in domain-specific skills such as library catalogue navigation and spreadsheet use, are documented in multiple African higher education contexts (Olasina, 2019, Zozi &, Chawinga, 2018; Azeez &Van Der Vyver, 2018).

Recent digital divide scholarship conceptualises inequality not merely as a lack of access, but as unequal autonomy, quality of connectivity, institutional support, and capacity to participate meaningfully in digital environments. The divide relates not merely to access, but also to quality, autonomy, and skill. These variables persist even when basic connectivity is present. This perspective is particularly relevant to correctional education, where students may possess limited technical access while simultaneously lacking the autonomy and continuity of engagement assumed in mainstream ODeL systems. The institutional dimension is captured in Brazzell et al. (2009) observation that Department of Correctional Services (DCS) oversight structures in correctional education simultaneously support and constrain student agency. This dual institutional role has been documented in several correctional education systems internationally. Mahlangu & Zivanai (2023) extend this analysis in reporting that institutional monitoring regimes, while framed as support mechanisms, frequently function as gatekeeping structures that limit rather than facilitate independent academic engagement. These observations suggest that institutional oversight structures may influence students' academic autonomy and participation.

4. Methodology

The study adopted an exploratory quantitative research design (Stebbins, 2025; Adi Bhat, 2024). A paper-based questionnaire that students completed on their own was applied to protect respondents' anonymity and reduce the risk of them limiting their answers out of concern about electronic monitoring in the correctional setting. No interviews were carried out. The study was exploratory and limited to three correctional hubs within one national ODeL institution. The relatively small sample and reliance on self-reported survey data limit statistical generalisability. Nevertheless, the study provides empirically grounded insight into an under-researched correctional e-learning context in South Africa.

The survey was conducted at three Unisa hubs in two South African correctional centres. These were the Kgoši Mampuru II Male and Kgoši Mampuru II Female hubs in Pretoria, and the Brandvlei hub in the Western Cape. At the time of data collection, the Kgoši Mampuru II Female hub was not operational. It lacked the infrastructure provided by the DCS, as a result, students had to pay for their own devices and internet data. This structural difference was taken into consideration throughout the analysis. A total of 45 completed questionnaires were returned. This represented almost all the registered hub students who were present at the time of the survey. The response rate was therefore, close to 100%, which in survey research is considered methodologically strong (Hossan, Dato'Mansor & Jaharuddin, 2023).

Due to the small sample size, the results are presented as headcount frequencies (n), since converting these figures to percentages could give a misleading impression of precision. The five themes discussed in this paper are summarised in Table 3. Some questionnaire items allowed multiple responses or optional responses. Consequently, totals in certain tables and figures may exceed or fall below the total sample size (n = 45). Where this occurs, the relevant figure or table is explicitly identified as either a multiple-response item or as containing missing responses.

Several measures were implemented to enhance the validity and reliability of the study. The questionnaire items were derived from themes consistently identified in prior correctional education and e-learning literature, thereby supporting content validity. The instrument was also reviewed for clarity and contextual

appropriateness before administration. Reliability was strengthened with standardised paper-based questionnaires administered under similar correctional conditions across all participating hubs. Because access conditions within correctional facilities limited opportunities for repeated administration or pilot testing, the findings should be interpreted primarily as exploratory but systematically collected evidence. The study used a purposive and context-constrained sample drawn from incarcerated students enrolled within three Unisa correctional hubs. Consequently, the findings are analytically informative but not statistically generalisable to all correctional education environments or incarcerated student populations.

Table 3: Survey themes relevant to this paper and their scope

Theme	Label	Scope
A1	Contextual profile	Prior myUnisa experience; digital skill self-assessment; attitudes of non-enrolled inmates
A2	Role of the learning centre	Location of internet access; allowed online times; adequacy of access time
A3	Unisa library interaction	Hours of library access; help from online librarians; full-text publication access patterns
A4	Communication with lecturers and peers	Permitted communication times; media used; internet location for communication
A5	Role of correctional services	Frequency of DCS oversight; DCS roles in providing access, devices, data and security

5. Findings and Discussion

5.1 Theme A2: The Role of the Learning Centre (Addressing RQ1)

Theme A2 explored where the respondents accessed the internet, the hours of access available to them, and whether they considered that time sufficient for serious study. These data relate directly to the cognitive and learning problems experienced by RQ1.

5.1.1 Location of internet access

Figure 1 below shows the locations where the respondents were able to access to the internet within correctional centres. Respondents could select more than one access location because some students accessed the internet from both the computer laboratory and the learning centre/library. It is a multiple-response item.

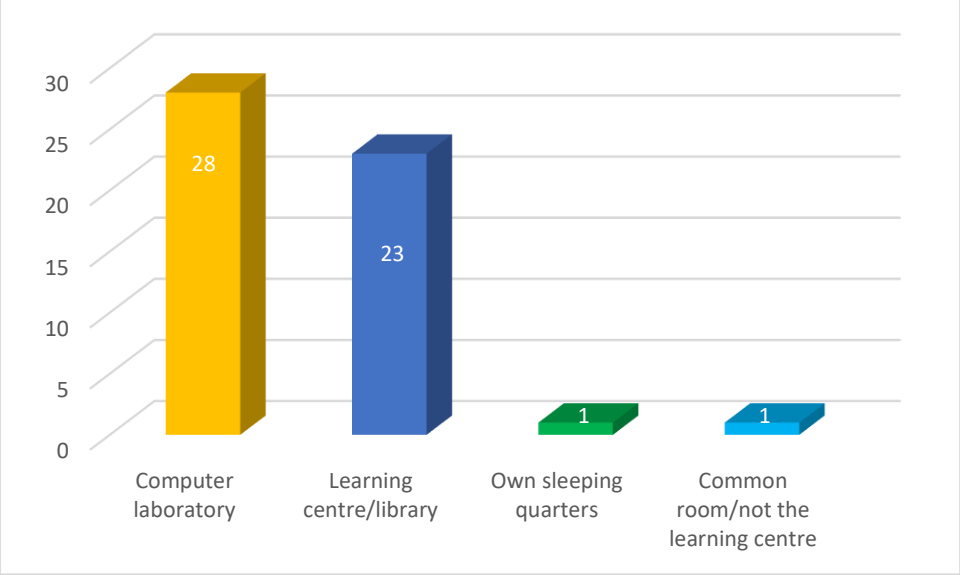

Figure 1: Location of internet access

The computer lab was the primary internet access location (n=28), followed by the learning centre/library (n=23). Only one student had internet access in their sleeping quarters, and one in a common room. Internet access was, therefore, institutionally mediated and spatially restricted. Students could engage with online learning only within supervised environments, reducing opportunities for flexible and self-directed study. This total dependence on designated facilities meant that any disruption, such as the hub not functioning, lockdown, maintenance, or staffing absence, created educational vulnerability. This is because any disruption to access immediately interrupts students' ability to participate in online learning activities. The scarcity of personal internet access is consistent with Watts (2010) account of the barriers faced by distance higher-education students in correctional settings. It is also consistent with Harrison (2014) analysis of the security education barriers governing incarcerated students' internet access.

According to Knight, Ross & Wood (2024), this location confinement is a defining feature of correctional education digitalisation. Internet access is provided not as an individual right or educational necessity but as a supervised, revocable institutional privilege tightly bound by space and time. This aligns precisely with the access profile documented in our study, where 95% of the respondents (n=43 of 45) had zero internet access outside designated institutional spaces, that is, the computer lab and learning centre/library.

5.1.2 Permitted online access times

Table 4 presents the distribution of permitted online access times in the learning centre. Respondents were allowed to select more than one response; the total therefore exceeds n = 45.

Table 4: Online times permitted in the learning centre on weekdays (n=45)

Permitted time period	Number of respondents (n)
Morning only	19
Morning and midday	18
Morning, midday, and afternoon	9
Midday only	2
Afternoon only	1

Source: Maloma (2025), Chapter 4, Table 4.8.

Many respondents had access for at most half a day (19 morning only; 18 morning and midday), with only 9 respondents having full-day access. Notably, no access was available in the evenings, at night, or on weekends. Figure 2 below indicates the number of hours respondents were allowed to work online at the centre during weekdays.

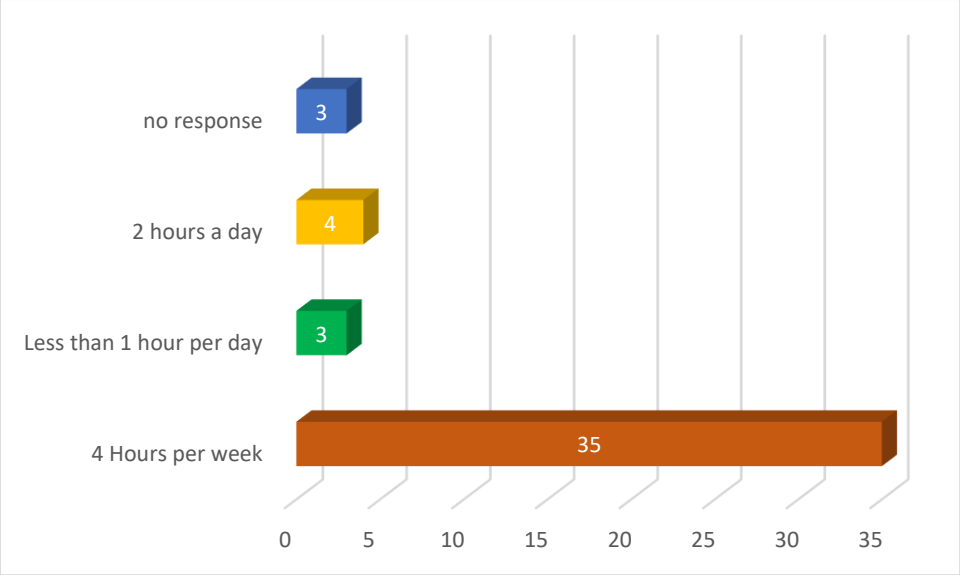

Figure 2: Number of hours respondents were allowed to work online at the centre during weekdays

Regarding the number of hours respondents were permitted to work online at the centres during weekdays, 35 respondents reported that they were allowed at least 4 hours per day; 4 students reported about 2 hours per day, and 3 reported less than 1 hour. These limits do not align with the structure of the Unisa distance education curriculum, which is designed for students who are able to access learning materials flexibly throughout the week. Many distance education students structure their study schedules around evenings and weekends because these periods allow uninterrupted engagement with coursework, assignments, and online resources. Distance education frequently depends on flexible study scheduling, including evenings and weekends, during which students can engage with coursework without institutional interruption. This absence of evening and weekend access reduced students' ability to organise study schedules independently, limiting continuity of engagement with coursework and online resources.

The survey data could not explain why students in the same hub reported different durations of access time. It is possible that access policies may not be applied consistently within facilities. The variation in reported access duration among students within the same hubs indicates that students may not experience access conditions uniformly. Such variation can itself become a learning barrier, as students are not able to plan their study time when access schedules are uncertain. Research shows that the learning environment, including the length of time students have in which to engage with online systems, significantly affects participation and outcomes. Jdaitawi (2020) found that limited access time and inflexible learning environments reduce student engagement and learning performance, even when the quality of the teaching materials remains the same. This finding helps explain how inconsistent or restricted access time may affect the learning experience of incarcerated students. Research by Bradley & Davies (2021) examined restricted learning centre hours in UK correctional centres during the pandemic. These authors found that reduced access time created increasing academic disadvantages. When students missed scheduled access periods and no replacement time was provided, they gradually fell behind in their coursework. The lack of evening and weekend access observed in our study created a similar form of time pressure. In this case, however, the restriction operated continuously rather than during a temporary disruption. This produced a persistent rather than a short-term educational constraint.

5.1.3 Adequacy of access time

As reported in Figure 3 below, 58% of respondents expressed the view that their allocated learning centre time was insufficient for proper study.

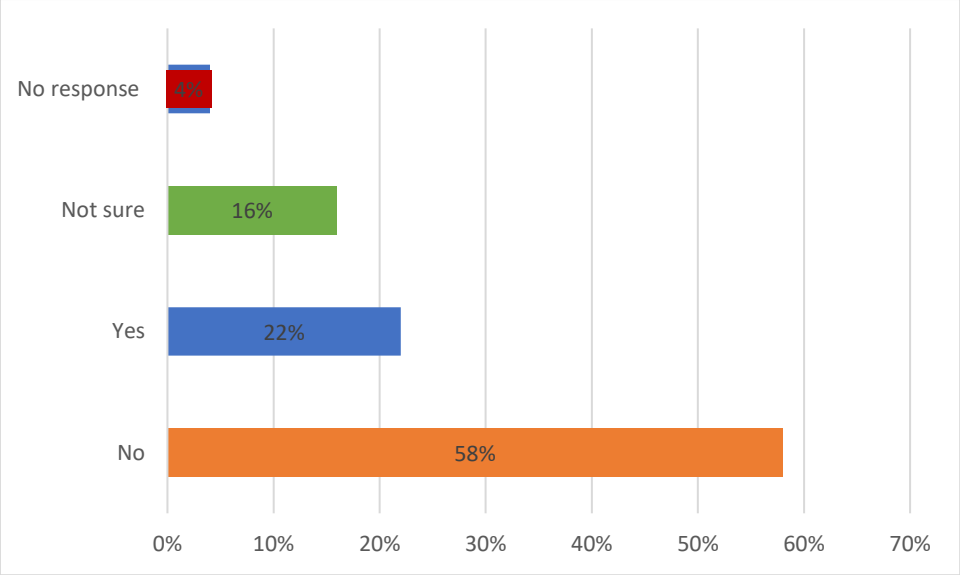

Figure 3: Allocated time in the learning centre

As shown by Figure 3 above, only 22% considered the time allocated for use of the learning centre to be sufficient; this figure includes two students with exceptional personal internet access (from sleeping quarters or common room). Excluding these two students, only 18% of respondents dependent on the learning centre found their access time to be adequate. A further 16% expressed uncertainty, and 4% did not respond.

The high level of dissatisfaction (58%) with allocated study time indicates that restricted access constitutes a major structural barrier within correctional ODeL environments. Barrow et al. (2019) and Farley et al. (2016) identify restricted access times as among the most consistently reported barriers to effective correctional distance education globally. This finding can also be confirmed for the South African Unisa hub context.

5.2 Theme A3: Interaction with the Unisa Online Library (Addressing RQ1)

Theme A3 examined the extent to which the respondents engaged with the Unisa online library and its support services, a dimension of the cognitive and learning problem addressed by RQ1 that is distinct from access time, but equally important for academic quality.

5.2.1 Daily hours of library access

Figure 4 below shows that almost half of the respondents spent less than 1 hour per day accessing the Unisa online library.

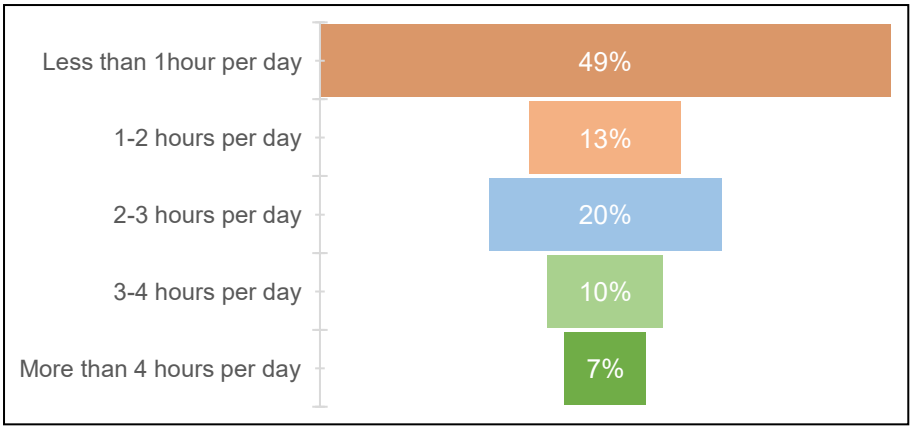

Figure 4: Unisa library access time

A portion is dedicated 1–2 hours; 20% dedicated 2–3 hours; approximately 10% dedicated 3–4 hours; and 7% dedicated more than 4 hours. These figures indicate that most students engaged minimally, or not at all, with the online library on most days. For a tertiary distance Student, this level of library disengagement is

academically unusual, since the online library is the primary channel through which students access the peer-reviewed literature required in their coursework. The relatively low daily use of the online library should not be interpreted as evidence that students did not require additional access time. Rather, the data suggest that structural access limitations, slow download speeds, restricted storage permissions, and low confidence in using the library catalogue may themselves have discouraged sustained engagement with library resources. Limited usage may therefore reflect constrained access conditions rather than low academic need.

5.2.2 Assistance from online librarians

In Figure 5 below, the data on librarian assistance present a particularly concerning picture.

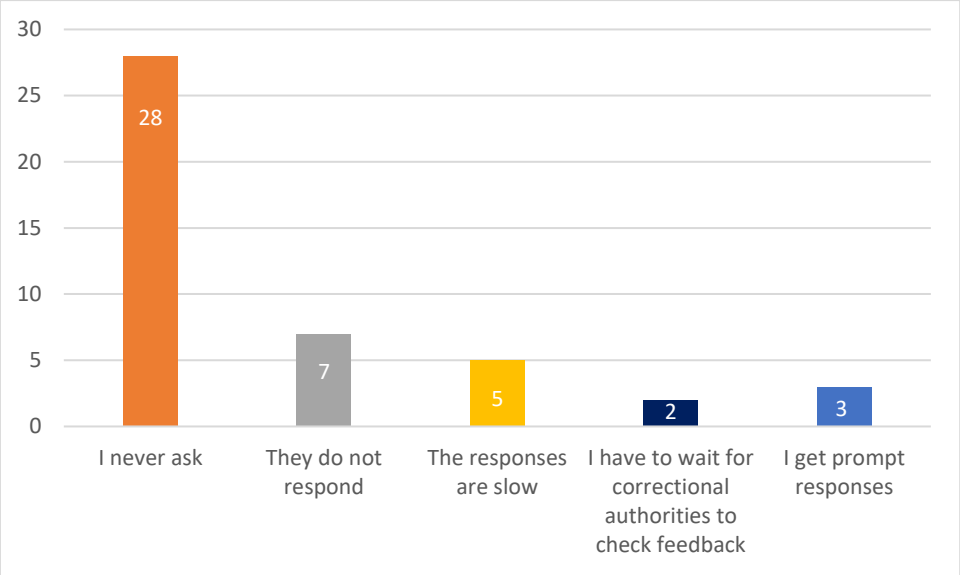

Figure 5: Assistance from Unisa online librarians

The most common response was that respondents did not seek assistance from Unisa online librarians at all (n=28). Of the respondents, 7 required assistance but received no response from online librarians, 5 received a slow response, and 2 were required to wait for correctional authority verification before receiving librarian feedback – this introduces an administrative layer that further delays academic support. Only 3 respondents reported receiving a prompt response from online librarians. The combined figure of 12 respondents who received either no or a slow response, and the 28 who never sought help, indicates a library support system that is failing incarcerated students on two levels: it is not proactively reaching students who need it, and it is not responding adequately to those who do seek it. Gupta et al. (2017) found delayed or absent technical and academic support to be a major factor leading to student frustration and disengagement in e-learning environments, particularly in resource-constrained settings, while Mdakane, Ngubane & Dhlamini (2022) identified institutional support services for incarcerated Unisa students as frequently failing to account for the specific constraints of the correctional environment. This pattern is confirmed by the data.

Farley &Seymour (2022) argue that failures in library support for higher education in correctional settings are not purely service provision problems; they reflect a deeper structural issue within institutions. According to their analysis, incarcerated students are often treated as if they need less academic support, deserve fewer resources, and benefit less from full access to library services than students outside correctional centres. The very low level of librarian responses observed in this study appears consistent with this pattern.

5.2.3 Full-text publication access patterns

Figure 6 below illustrates patterns of full-text publication access.

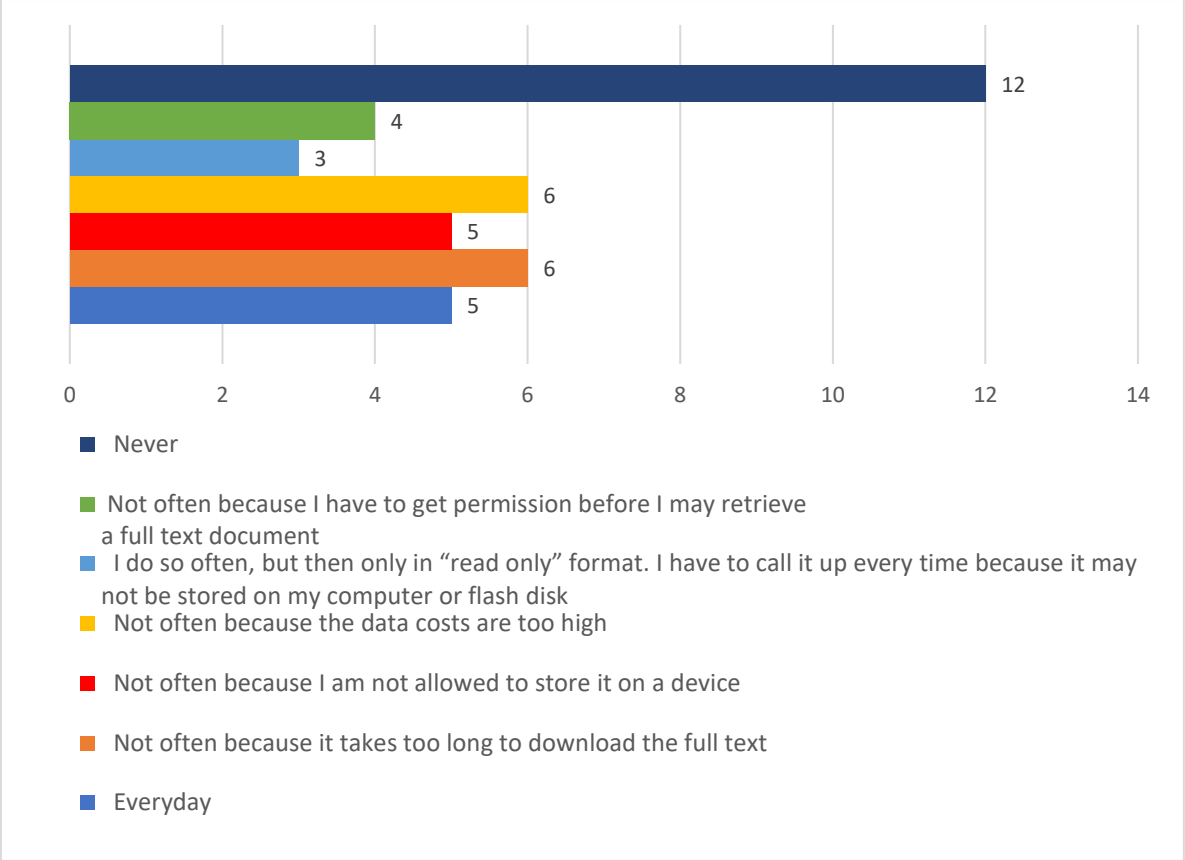

Figure 6: Full-text retrievals from the library

Several respondents experienced more than one barrier simultaneously. The frequencies, therefore, reflect the number of reported barriers rather than mutually exclusive student categories. Figure 6 above shows that 12 respondents reported never accessing full-text publications from the library, while 6 reported infrequent access due to high data costs. Another 6 respondents reported infrequent access due to slow download speeds, while 5 reported restrictions on saving publications to personal devices, 4 required permission before retrieving full-text materials, and 3 were able to access publications in read-only format only, preventing local storage. Only 5 students accessed full-text publications daily.

These data reflect a multi-layered system of exclusion from the academic literature. The barriers operated cumulatively rather than independently. Students who overcame one constraint frequently encountered additional procedural or technological limitations. A student who manages to avoid the data cost barrier may still have to contend with slow download speeds, and a student who downloads a publication may be prohibited from saving it for offline reference. Taken together, these barriers mean that most hub students are effectively excluded from the scholarly literature underpinning their degree programmes. Challis, Holt & Palmer (2009) identify accessible library facilities as a foundational condition of effective distance education; however, our data indicate that this condition was not met for most respondents in our study.

5.3 Theme A1: Contextual Profile of Students (Addressing RQ2)

Theme A1 explored respondents' educational backgrounds, digital skill levels, and social environments. These data address RQ2 by establishing the baseline from which the learning experience of incarcerated respondents diverged from that of non-incarcerated Unisa students.

5.3.1 Prior UNISA experience

Table 5 presents the duration of respondents' myUnisa experience. One respondent did not answer this question.

Table 5: Duration of experience with the myUnisa system (n=45)

Time period	Number of respondents (n)
Since January 2022	10
Since January 2021	6
Since January 2020 or earlier	28

Source: Maloma (2025), Chapter 4, Table 4.2

Table 6 presents the critical contextual finding that 87% (n=39) of respondents enrolled with Unisa for the first time only after incarceration.

Table 6: Prior myUnisa experience outside correctional centre (n=45)

Prior use of myUnisa outside facility	Number of respondents (n)
No — first use occurred after incarceration	39
Yes — used myUnisa before incarceration	6

Source: Maloma (2025), Chapter 4, Table 4.3

This finding shows that the correctional hub is not only a place that provides access. For many students, it is their first point of contact with ODeL at the tertiary level. Mahlangu (2017) documents this pattern in the South African correctional context, stating that incarceration functions as an unexpected first-entry point into university-level e-learning for a population that had not previously engaged with it. These students cannot be assumed to have the baseline ODeL competencies that Unisa curricula require.

Zivanai & Mahlangu (2022) identify this late digital education entry pattern as a critical barrier to successful re-entry preparation, noting that students who first encounter digital learning environments only after incarceration face intensified disadvantages. They must simultaneously acquire digital literacy skills, academic study skills, and domain content knowledge. This is a triple burden that incarcerated students carry.

5.3.2 Digital skill self-assessment

Table 7 presents respondents' self-assessed digital skill levels across six domains, using a 1 (low) to 5 (high) scale. Values reflect the percentage rating of their skills at 4 or 5.

Table 7: Self-assessed digital skill levels – percentage rating 4 or 5 out of 5 (n=45)

Skill domain	% reporting 4 or 5
Navigating and searching the WWW for additional study material	82%
Using MS Word for academic purposes	78%
Navigating search engines (Yahoo, Google, etc.)	77%
Using the e-learning system (myUnisa)	64%
Using MS Excel for academic purposes	57%
Navigating and searching the Oasis library catalogue	27%

Source: Maloma (2025), Chapter 4, Table 4.4

Basic internet navigation (82%) and word processing (78%) confidence was high. However, Oasis library catalogue proficiency was critically low (27%), and MS Excel proficiency was moderate (57%). The library catalogue is essential for finding and accessing academic resources, including journals, e-books, and other scholarly materials. The critically low Oasis score is directly connected to the library underutilisation documented

in Theme A3. Students who rate themselves as unable to use the library catalogue effectively are unlikely to seek out and engage with full-text publications. This skill gap and the access barrier together form a mutually reinforcing system of library exclusion.

As Olasina (2019) and Zozie & Chawinga (2018) show, students from resource-constrained backgrounds often have basic digital skills, but struggle with more advanced academic skills. The data in our study followed the same pattern; students were able to navigate the web, but many lacked the specialised information-literacy skills needed for academic research. Azeez & Van Der Vyver (2018) specifically identify this pattern in South African higher education contexts. Non-incarcerated Unisa students have access to digital literacy workshops, campus computing facilities and peer support networks through which to develop these advanced skills; hub students do not.

5.3.3 Social dynamics: Peer attitudes toward education

The data in Figure 7 show that some inmates who were not studying had negative attitudes toward those who were enrolled in education programmes. Respondents were allowed to select more than one statement; totals therefore exceed n = 45.

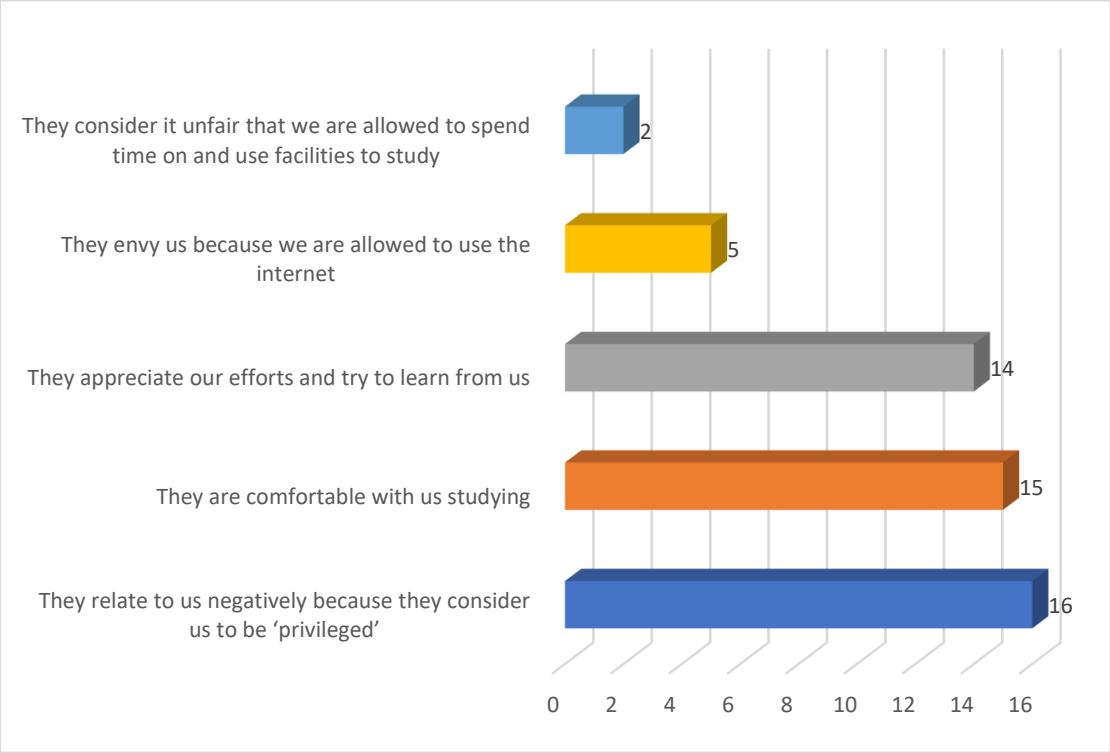

Figure 7: Attitude of inmates not enrolled for studies

Nevertheless, several enrolled students reported supportive behaviour on the part of other inmates. Some non-enrolled inmates said that they respected students who were studying and were willing to learn from them or give them time to focus on their studies. This creates a mixed social environment for learning. Students must continue studying even when some of those around them demonstrate a negative attitude. This situation differs from the experience of most students outside correctional centres, where the surrounding peer group is usually also engaged in education.

Recent research supports the importance of peer influence in correctional education. A study by Mahlangu (2024) revealed incarcerated students' motivation to study using educational technology to be markedly influenced by the attitudes of other inmates. Supportive peers can encourage learning, while negative peer responses may discourage participation in educational activities. Research on correctional social networks also shows that inmates rely heavily on one another for emotional and practical support. Peng et al. (2026) demonstrate that peer networks inside correctional centres often become central sources of support in daily life. These networks influence participation in activities such as education because inmates' behaviour and attitudes are shaped within these social groups. Similar findings appear in research on incarcerated women

studying in higher education. Parry PhD (2023) and Parry (2024) show that peer relationships inside correctional centres can both support and shape educational participation. Some Students reported strong encouragement and shared commitment to study among peers, while others experienced scepticism or indifference from inmates who were not involved in education.

5.4 Theme A4: Communication with Lecturers and Peers (Addressing RQ2)

Theme A4 examined the times at which students were permitted to communicate with lecturers, the frequency of online peer collaboration, the communication media used, and the location of internet use for communication. These data address RQ2 by exposing communication constraints that have no equivalent in the non-incarcerated student experience.

5.4.1 Permitted communication times with lecturers

Table 8 presents the distribution of permitted communication times with lecturers. Please note that one respondent did not answer this question hence, the total is n=44.

Table 8: Permitted communication times with lecturers (n=45)

Time of day	Number of respondents (n)
Morning only	21
Midday only	6
Morning and midday	7
Afternoon only	0
Morning, midday, and afternoon	10

Source: Maloma (2025), Chapter 4, Table 4.9

The most common restriction reported (n=21) was that students were permitted to communicate with lecturers only during the morning. No respondent reported that afternoon-only communication was allowed. This differs from the experience of most students at Unisa, who are usually able to contact lecturers at any time using personal devices. Restricting communication to limited supervised periods reduced students' ability to seek clarification, receive timely feedback, and maintain continuous academic interaction with lecturers. Students must ask questions, request feedback, and resolve academic issues within this limited time, creating a communication bottleneck. Research shows that restricted technological access and controlled communication environments in correctional centres can limit interaction with lecturers and delay feedback, which may affect learning engagement (Mahlangu, 2024).

5.4.2 Frequency of online peer collaboration

Table 9 presents the frequency of internet use for peer collaboration. Four respondents did not answer the first collaboration item, and two did not answer the second one.

Table 9: Frequency of internet use for peer collaboration (n=45)

Frequency	With peers in correctional centres (n)	With peers outside correctional centres (n)
Most of the time	14	8
Sometimes	4	10
Seldom	5	8
Never	18	17

Source: Maloma (2025), Chapter 4, Table 4.10

The largest group in both categories was 18 students for collaboration within the same facility, and 17 students for collaboration with students outside the correctional centre. This group was never permitted to use the internet for discussion forums or team projects. For certain Unisa programmes, collaborative learning is not optional – it is embedded in assessment design through group assignments and discussion-based activities. Restrictions on online collaboration may disadvantage students enrolled in modules that incorporate discussion-based or group-learning activities. The almost equal restrictions on communication with both incarcerated and non-incarcerated peers are notable. Students who are permitted to communicate are usually allowed to do so regardless of where the other students are located. Fong (2008), Becker-Pestka (2022) and Hammerschick (2010) report similar restrictions in correctional education systems in other countries, indicating that this type of limitation is common internationally.

Hofinger & Pflegerl (2024) provide a recent analysis of restrictions on peer collaboration in correctional education, reporting that broad restrictions on communication between incarcerated students are often introduced mainly for administrative convenience and for reasons of security rather than being based on clear educational evidence. The findings in our study appear consistent with this pattern, as 40% of respondents (18 of 45) reported that communication with peers was never permitted.

5.4.3 Communication media used

Table 10 presents the communication media used by students.

Table 10: Communication media used by students (n=45; multiple selections possible)

Communication medium	With fellow course mates (n)	With Unisa staff (n)
Phone call	1	7
E-mail	15	40
myUnisa discussion forum	36	26
myUnisa blogs	10	0
Instagram and Skype	0	2

Source: Maloma (2025), Chapter 4, Table 4.11

The myUnisa discussion forum was the main method used for communication between students (n=36), while e-mail was the main method used to communicate with Unisa staff (n=40). Social media platforms such as Instagram and Skype were rarely available. Only 2 respondents reported using them to communicate with Unisa staff, and none reported using them to communicate with other students. This restricted communication environment differs greatly from that of most students at Unisa. Non-incarcerated students are usually able to use multiple communication channels such as WhatsApp, video calls, social media, and online collaboration tools. By contrast, the respondents in our study relied mainly on the myUnisa discussion forums for peer interaction and e-mail for communication with staff. The restricted communication environment narrowed opportunities for informal academic exchange, peer support, and collaborative learning that are often central to digitally mediated distance education.

5.4.4 Location of internet use for communication

Table 11 confirms that all internet-based communication was restricted to specific locations within the correctional facility. One respondent did not answer this question.

Table 11: Location of internet use for communication (n=45)

Location	Number of respondents (n)
In the library, computer room, or study centre	42
In personal sleeping quarters	2

Source: Maloma (2025), Chapter 4, Table 4.12

Table 11 indicates that almost all internet-based communication occurred only in supervised institutional spaces. The two students who reported internet access in their sleeping quarters appeared to be exceptional cases that the survey data cannot explain. For most students, internet communication was limited to specific supervised locations. This means that every academic activity, such as sending an e-mail to a lecturer, posting on a discussion forum, or working with other students, required students to be physically present in a designated space during approved hours. Students studying outside correctional centres at Unisa do not face these restrictions.

Recent studies confirm that digital learning in correctional centres is usually closely controlled. In many correctional systems, security policies stipulate that students may use computers and the internet only in supervised areas and only at specific times (López-Armijos & Romero, 2025; Barros, Monteiro & Leite, 2023). These restrictions place limitations on the ease with which incarcerated students can communicate and participate in online learning.

5.5 Theme A5: The Role of the Department of Correctional Services (Addressing RQ2)

Theme A5 looked at the involvement of DCS in students' education, concerning both supervision and support. These findings are important for answering RQ2. The role of DCS is unique to students in correctional centres and stands out as one of the most distinctive aspects of distance education in correctional centres.

5.5.1 Frequency of DCS oversight

Figure 8 below shows the degree to which respondents depended on correctional staff for supervision and approval of their educational activities.

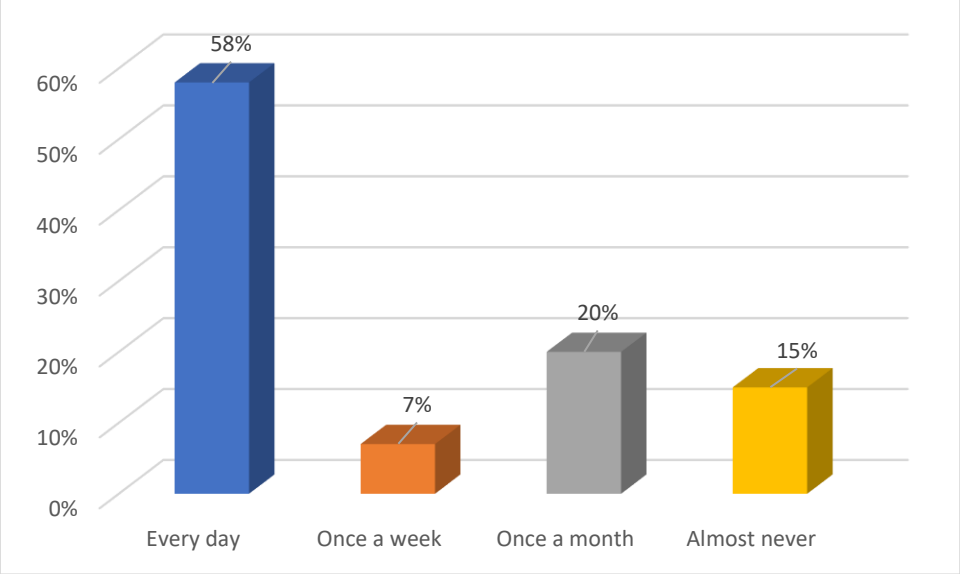

Figure 8: Correctional staff oversight and approval of educational matters

It can be seen from Figure 8 that 58% of the respondents required daily DCS supervision and approval for their educational activities, with 7% requiring weekly oversight, 20% relying on monthly oversight, and 15% reporting rarely needing DCS involvement. The high level of reported daily oversight indicates that students' participation in education activities remained closely mediated through institutional approval processes. This aligns with what is reported by Brazzell et al. (2009), who contend that institutional oversight in correctional education can both support and limit student agency, a pattern reflected in the DCS support data discussed below.

Mahlangu & Zivanai (2023) found that daily supervision in correctional education, while meant to help students, often reduces their independence, limits their ability to study on their own, and makes them rely more on the institution. The fact that 58% of the respondents in our study needed daily DCS oversight supports this finding.

5.5.2 DCS's enabling and constraining roles

Figure 9 below documents students' assessments of DCS's specific roles.

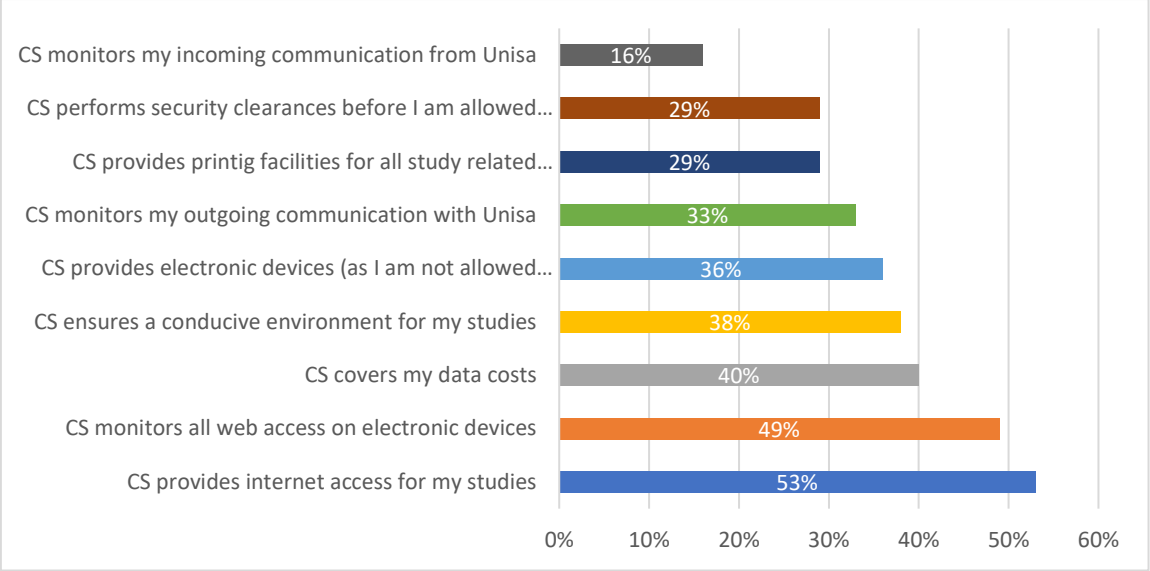

Figure 9: Evaluation of DCS support services for students

The data show that DCS played a major role in the respondents' education. Over half reported that DCS provided internet access, nearly half stated that web use was monitored, and many noted that DCS supplied devices, covered data costs, checked communication, and maintained study areas. Incarcerated students often have limited internet and device access, with correctional staff supervising or managing most digital learning activities (Barros, Monteiro & Leite, 2023). The data show that DCS has a dual role in students' education: it facilitates learning by providing internet access, devices, data, study spaces, and printing, but it also limits learning through web and communication monitoring and security clearance requirements. These oversight mechanisms may reduce communication privacy, delay academic interaction, and discourage open engagement with lecturers and peers.

The fact that 16% of respondents reported that incoming communication from Unisa was monitored highlights how oversight can affect access to lecturer feedback and grades, influencing academic freedom and independent study. This pattern reflects a common feature of correctional digital education, where access to technology is a conditional privilege under continuous supervision (Knight, Ross & Wood, 2024). This characterisation precisely captures the DCS role documented in our study, where internet provision (53%) and web monitoring (49%) were reported at nearly equivalent rates. It confirms that access and surveillance are inseparable dimensions of the same institutional arrangement. Viewed collectively, the findings indicate that incarcerated students participate in a structurally constrained form of ODeL characterised by restricted temporal flexibility, institutionally mediated communication, constrained digital autonomy, and uneven access to academic support systems.

6. How the Findings Answer RQ1 and RQ2

6.1 Answer to RQ1: Cognitive and Learning Barriers

The survey data confirm that the respondents experienced significant cognitive and learning barriers. The findings from the research data are summarised in Table 12 below.

Table 12: Findings from research data

Findings	Discussion
Severely restricted access time	Internet and study access were limited to weekday mornings and middays (Table 4); 58% of students found this insufficient (Figure 3). No evening or weekend access. From a digital inequality perspective, insufficient access time represents more than a scheduling limitation. It reflects constrained digital autonomy, where students' participation in e-learning depends on institutionally regulated access structures rather than independent learner control.
Library underutilisation	The data show that many of the respondents made very limited use of the online library. Nearly half spent less than an hour online each day, and 12 respondents never accessed full-text publications. Barriers included high data costs (6 respondents), slow download

Findings	Discussion
	speeds (6 respondents), limited device storage (5 respondents), and the need to seek permission to access resources (4 respondents).
Digital skill gap in academic information literacy	Only 27% of the respondents felt confident using the online Unisa Oasis library catalogue, which is essential for finding and using academic resources independently. Combined with limited access, data costs, slow downloads, storage limits, and permission requirements, this low confidence restricted respondents' ability to study independently.
Location confinement	Internet access was available to most of the respondents (42 of 45) but only in supervised areas (Table 11), with sleeping quarters and common spaces off-limits. This limited flexibility, reduced opportunities for independent study, and added a monitoring element that had the potential to affect engagement.
Librarian support failure	Most respondents reported very limited or no support from librarians when using the online library. Of the 45 respondents, 28 never sought assistance, suggesting a lack of either awareness, confidence or opportunity to contact library staff. Of the 17 respondents who did attempt to get help, 7 reported receiving no response at all, while only 3 received prompt support. This indicates that online library support was effectively absent for most of the respondents.

6.2 Answer to RQ2: Differences Between Incarcerated and Non-incarcerated Students

The survey data showed marked differences between the study experience of incarcerated and non-incarcerated Unisa students. These differences are summarised in Table 13 below.

Table 13: Findings from research data

Findings	Discussion
First-time ODeL enrolment	Most of the respondents (87%) enrolled with the Unisa for the first time after being incarcerated (Table 6). By contrast, non-incarcerated students typically have prior experience with digital learning before starting their studies.
Digital skill gap in library navigation	Only 27% of the respondents reported feeling confident using the Unisa Oasis library catalogue (Table 7). Non-incarcerated Unisa students are more easily able to access digital skills training and library support services, which help them navigate online resources and develop research skills.
Restricted and time-limited internet access	Internet and study access for the respondents was limited to weekday mornings and middays, and restricted to supervised areas (Tables 4 and 11). There was no access in the evenings or over weekends. Non-incarcerated Unisa students, on the other hand, can use online resources at any time and from multiple locations.
Communication channel restriction	Incarcerated students were able to communicate only through LMS discussion forums and via e-mail, with no access to social media or video tools (Table 10). Non-incarcerated students, by comparison, can use a full range of communication platforms, including messaging apps, video calls and collaborative online tools.
Near-prohibition on peer collaboration	18 of the 45 respondents were not allowed to collaborate online with peers inside the correctional centre, and 17 of 45 were not allowed to collaborate with peers outside the centre (Table 9). The findings indicate that incarcerated students participate in a structurally compressed version of ODeL characterised by restricted autonomy, constrained communication, and institutionally mediated access.
Extensive DCS oversight	Most of the respondents were subject to strict oversight. 58% needed daily approval for their educational activities, 49% had all web use monitored, and 33% had outgoing communication to Unisa checked. Non-incarcerated students, by contrast, have full control over their academic work.
Mixed peer social environment	A significant proportion of non-enrolled inmates displayed negative attitudes toward enrolled peers (Figure 7). Non-incarcerated distance Students do not experience equivalent social pressure.

7. Conclusions and Recommendations

The findings demonstrate that correctional e-learning environments do not merely restrict access to technology; they reshape the pedagogical assumptions underlying ODeL itself. Core ODeL principles such as flexibility, student autonomy, continuous access, and collaborative engagement become institutionally constrained within correctional settings. Access to study time, library resources, peer collaboration and communication is restricted, while all academic interactions are subject to DCS oversight, creating a structurally constrained learning environment shaped by institutional security requirements and restricted digital autonomy.

Key barriers include limited access hours (weekday mornings/middays only), low digital literacy (only 27% of the respondents were confident in using the Oasis library catalogue), minimal library engagement, and restrictive

communication protocols. Nearly 60% of the respondents required daily approval for academic activities, and online collaboration was denied to a significant percentage, further limiting independent study and peer learning.

Overcoming these barriers requires structural interventions rather than individual workarounds. Priority recommendations include extending learning centre hours, the provision of hub-based digital literacy training, the establishment of a pre-approved batch download system for full-text resources, assigning dedicated librarian contacts with rapid response standards, and the development of supervised online collaboration protocols. Staff training should focus on facilitating learning while balancing security requirements.

This study contributes to e-learning scholarship by demonstrating that digital inclusion in ODeL depends not only on technological availability, but also on autonomy, continuity of access, institutional responsiveness, and communication freedom. The correctional education context, therefore, exposes structural assumptions within mainstream e-learning systems that often remain invisible in conventional higher education environments. The findings therefore suggest that correctional e-learning environments expose structural assumptions embedded within mainstream ODeL systems, particularly assumptions relating to flexibility, self-directed learning, and unrestricted digital engagement.

Future research should examine the longitudinal impact of these interventions, investigate students' subjective experiences, and assess how DCS oversight shapes learning outcomes across multiple correctional hubs.

Ethics Declaration: All empirical findings in this paper are directly traceable to primary survey data collected at the Kgoši Mampuru II (male and female) and Brandvlei Unisa hubs, as documented in Chapter 4 of the thesis on which this paper is based (Maloma, 2025). Ethical approval was obtained from Unisa's Research Ethics Review Committee, the Department of Correctional Services, and the University of Stellenbosch Ethics Review Committee. All survey responses were anonymised. No identifiable personal data were collected. The author declares no conflicts of interest.

AI Declaration: No generative artificial intelligence tools were used in the design, data collection, or analysis of this study. AI assistance (Grammarly tool) was applied only in the preparation of the manuscript for language editing and formatting. All substantive academic content, interpretation of findings, and conclusions remain the responsibility of the author.

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