
Postgraduate Research during COVID-19 in a South African Higher Education Institution: Inequality, Ethics, and Requirements for a Reimagined Future

Quraisha Dawood

The IIE Varsity College
qdawood@varsitycollege.co.za

Brenda Van Wyk

IIE Varsity College
bvanwyk@iie.ac.za

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Abstract

COVID-19 has distorted the teaching and learning pedagogy, as well as the research process of higher education institutions, particularly in Africa. This pandemic-imposed restrictions on movement and demanded a shift to online interaction. This blurred the lines between work and home life and has exacerbated the deep chasms of inequality upon which South African society operates. Established on empirical evidence, substantiated by documentary data, this paper explores how these existing inequalities, exacerbated by COVID-19, manifest in the postgraduate research space of South African higher education institutions. Qualitative data were collected during a recorded focus group interview, and thematically analysed. Through a Neo-Weberian lens, it will illustrate that the pandemic, among other challenges, posed significant ethical challenges to honours students completing their research projects, in turn, shifting policies and requirements of higher education institutions (HEIs) themselves to ensure the protection of their students and quality of research output. These include concerns around digital exclusion, locating participant consent, as well as the collection of data via online channels (Zoom, WhatsApp, Skype) and their privacy parameters. Considering these gulfs of inequality, the paper recommends key requirements for the future of ethically sound research in higher education in South Africa.

Keywords: Online supervision; ethics; research; COVID-19; digital exclusion

Introduction

In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak as a global pandemic (WHO, 2020). Preventive measures ranging from social distancing and the lockdown of HEIs resulted. Literature abounds on the distortion that COVID-19 is having on teaching and learning in HEIs, where particularly inequalities in African HEIs compounded by digital exclusion, remain barriers in attaining equity of tertiary education delivery. Here, several authors (including Van Wyk, Mooney, Duma and Faloye, 2020; and Hopman, Allegranzi, and Mehtar, 2020) confirm that the imposed pandemic restrictions on movement impact more severely on marginalised communities. It is possible that these long-standing inequalities and the way recent restrictions have exacerbated them are also evident in the production of quality and ethical research and scholarship. Adjusting to COVID-19 conditions, Van Wyk, Mooney, Duma and Faloye (2020) share that the HEI under study was compelled to shift to online interaction to continue its teaching, learning and research activities. This subsequently blurred the lines between work and home life. In an unequal society, this development will inevitably exacerbate the deep societal chasms of inequality and exclusion, where changes in the mode of delivery and learning will impact students subjected to digital exclusion (Hopman et al, 2020).

The HEI in this study offers undergraduate and postgraduate programmes to around 45 000 students in disciplines such as Education, Law, Commerce, Engineering, Social Sciences and Humanities. In a prior study at this HEI, Van Wyk, Mooney, Duma and Faloye, (2020) reported on the compulsory rolling out of the learning management system (LMS) used by the HEI since 2014. This development enabled the HEI to adapt to an online teaching model during the lockdown with the closing of campuses as a preventative measure during the COVID-19 pandemic in South Africa. Teaching and learning continued during the lockdown period by expanding its online synchronous and asynchronous learning guided by a crisis-driven innovation strategy. This extended the blended learning approach and essentially saw the move from the existing face-to-face mode of delivery to online classes and the use of online educational materials for most classes.

This study explored how postgraduate students' research activities had to be adjusted to pandemic conditions. It reports on the experiences and perceptions of supervisors on students' social status, level of digital fluency and the extent to which digital exclusion impacted on student success. It reports on the perceived ability to produce overall ethical and quality research and scholarship. Students were confronted with shifting their research to online and to gather credible and trustworthy data remotely, using the available online platforms. The focus was on how digital exclusion, as observed and experienced by postgraduate supervisors, affected research ethics, quality, and trust. Questions that begged further investigation included how the support of postgraduate students could be ensured. Similarly, the HEI had to ensure that quality scholarship and research output resulted under trying circumstances (Van Wyk, Mooney, Duma and Faloye, 2020). Societal issues, such as the extent of digital exclusion of postgraduate students, and the complexities of privacy parameters in an online research environment had to be investigated. The study is ethnographic in nature, looking at digital sociology in postgraduate research setting through the lens of Neo-Weberian stratification. The value of the study lies in the contribution to an under-researched area, offering best practice guidelines resulting from the findings.

The COVID-19 pandemic and its imposition on daily activities and interactions saw digital interactions replace daily face-to-face interactions and activities. (Van Wyk, Mooney, and Duma, 2020). With the rapid shift to online teaching coupled with worldwide lockdowns, which called for people to wear masks, stay at home to curb infection rates and practice social distancing when in public for essential activities, Van Dijk's (2020) argument became even more poignant – to socialise, work, learn or express oneself, one had to swiftly become a user or producer of digital technology to play a meaningful role in society. According to Zheng and Walsham (2021), 53.6% of the global population were online, and in comparison, only 19.1% were online in developing countries. While some countries embraced the move online, particularly in terms of education and home-schooling, this rapid shift online left others severely marginalised. This has further repercussions for those without mobile phones, the elderly or the impoverished who may not be able to access a physical space if they do not know how to use a screening app which clears them for entry. It could be argued that one of the disadvantages of technology is that by design, it further excludes the disadvantaged. Compounding this is a concern around privacy of information. With increased surveillance and screening apps which store personal information, sharing of this information without individuals' consent creates ethical dilemmas and potential for risk. For example, Yu (2020) refers to the bias and gender insensitivity of the 'male gaze' of digital surveillance.

In a tertiary research setting, these inequalities, insensitivities, and digital exclusion may impact research participants, researchers, students, and their supervisors alike. The ethical ramifications are often only realised *ex post facto* and may impact on the HEI prestige and stature. As such, it has the potential to negatively affect the research quality and integrity. The risk of infringing on the privacy of research participants is on the forefront of ethical concerns. Understanding the constructs of privacy of information will assist Higher Education (HE) in their governance of research ethics.

The research problem of this study is framed against the existing inequalities of access to technology in general, and more specifically how this situation affects research ethics of research conducted online during pandemic conditions. Where 21st century teaching and learning pedagogies and strategies are lacking, the digital divide in HE may increase. UNESCO (2015) warned that African HEIs are struggling more than the rest of the developed and developing world to make meaningful progress in teaching with technology. The unprecedented effect of forced lockdown amplified inequalities experienced in society.

Research Design and Data Collection

The rationale of this study is found in the challenges that researchers and supervisors of postgraduate students must endure during lockdown. There is a need for better guidance and support to equip and guide students to conduct online postgraduate research ethically. For this study, a focus group interview was conducted with eight postgraduate supervisors, responsible for supervision of the online research projects of a group of honours students, purposively selected, after obtaining ethics clearance and approval for the study. Focus groups, in research studies, can be described as a form of group interview in the presence of an interviewer or moderator (Bezuidenhout, Davis, and Du Plooy-Cilliers, 2014). In focus group studies, the interaction within the group is important to get the desired information on a specific research topic and the collective views are more important than the individual's view.

Qualitative data were collected through a focus group interview session with postgraduate supervisors, who had experience in conducting group supervision online, and guiding their students to conduct their research projects online. Vaismoradi, Jones, Turunen, and Snelgrove (2016) state that qualitative research, as a group of approaches for the collection and analysis of data, aims to provide an in-depth, socio-contextual, and detailed description and interpretation of the research topic. The eight supervisors, who were responsible for postgraduate honours research students, were invited to participate in the focus group interviews all accepted and participated. An observation schedule was used with a focus group interview schedule. Observation in qualitative research can be described as the systematic description of participant behaviour, and in this case, the online setting chosen for study (Bezuidenhout, Davis, and Du Plooy-Cilliers (2014). Observations enable the researcher to describe existing research environment using their senses to create a resemblance of the group. Participant observation allows the researcher to be part of the focus group activities and to get a better understanding of the phenomena under study. The observations allowed for triangulation of data collected during the interview recordings. The qualitative data collected during the focus group interviews were analysed using thematic reflective analysis.

Background and Framework

Literature on ethics and philosophy, in particular research ethics, is intricate and can be confusing in practice. It is pivotal to conceptualise the key ethics constructs for this study to understand its nature, including the connection to moral values in an online research environment. To gauge the challenges of producing quality and ethical research projects in the target group, an understanding of the nature of ethics, in general, and specifically the nature of research-, information-, and digital ethics is required. Here, the Neo-Weberian approach proved valuable as Weber's explanation of ethics of convictions and responsibly laid the foundation for further discourse. As part of Critical Theory, the Neo-Weberian approach allows for assessing and criticising society and culture in terms of exclusion and power structures (Saks, 2016). Ragnedda (2016) emphasises the value of the Neo-Weberian approach in researching the rising digital divide and digital exclusion.

Through the ages, Ethics essentially has been nothing more than codes of good conduct (Floridi, 2013). Ethics transformed and evolved through time to the point where we find ourselves in a world

where technology developments impact every aspect of our daily lives and the impact is disruptive (Day, 2006). Aspects such as the difference between ethics, values and morals, digital exclusion in online teaching and research, research ethics as applied ethics, and disruptive technology need to be explained within the context of this study. The demands of pandemic conditions emphasised the importance and challenges of adhering to online research ethics.

The Neo-Weberian approach used to frame this study looks at three components of equality in society, namely class, status, and power as explained by Ragnedda and Mushert (2015). It is called the Weberian stratification of the three-class system. Ragnedda and Mushert (2015) share that even though the Weber may not have used this stratification to research the technology divides and exclusions, this approach opens opportunities to study elements of digital and education sociology. The framework is particularly suitable to research the fast-changing modern technologies, inequalities and fluctuations in society. "In this sense, Neo-Weberian work variously includes analyses of collective social mobility through professionalisation (Parry and Parry, 1976), the interplay between different occupational jurisdictions in the system of professions (Abbott 1988) and inter-professional working (Barrett, Sellman, and Thomas 2005). As a seminal theorist and ethical thinker, Weber's two-tier code of ethics, referring to personal or professional ethics codes, as well as the legal rules and codes of ethics, succinctly offers the tangent to make the connection with research ethics.

Research Ethics and Moral Values

Perceptions on ethics may differ from society to society and from culture to culture (Floridi, 2013), but academic integrity and research ethics are most often an agreed constant in academia. This is evident from the seminal Belmont report (US, 1978) explaining the concepts of justice, virtue, duty as it refers to conducting ethical research. The research policies in this study are founded on these principles which also include moral online communication. Quality challenges will result where a common denominator on online ethics is not reached. Day (2006) asserts that moral reasoning is a systematic approach in making ethical decisions. According to Ess (2014), relativism, absolutism and pluralism fall under meta-ethical frameworks. Here, meta-ethics refers to consequences of actions. It is about the theoretical meaning and reference of moral propositions and how their truth values can be determined. This in turn aligns with Weber's position on ethics of consequence.

Normative ethics refers to the practical means of determining a moral course of action. It subscribes to the rule of 'do unto others as you would have them do unto you'. Examples of normative ethics are utilitarianism, deontology, and pragmatism (Day, 2006). Research ethics can be regarded as normative and falls under applied ethics. Applied ethics is concerned with what the researcher is obligated and permitted to do. This case denotes the online research practices in a specific situation or a particular domain of action. Here, contemporary issues such as the right to privacy and anonymity in online research are of importance. However, perceptions around what is just or 'right' also develops individually and develops from how we view the world. Thus, the student, researcher as well as supervisor must be cognisant that different sets of values may exist concurrently in different areas of everyday life and within different cultures and subcultures. According to Dudley, Braman and Vincenti (2012) it implies that sometimes different value systems compete in sub-cultures, and this consequently underpins the need to set ethical standards and to get agreement on what is seen as accepted behaviour.

Society is a dynamic system and has ethical systems in place for guidance and for maintaining good order. Day (2006) refers to the importance of standards and shared values required for ethical behaviour. Society dictates that which is wrong and right. It is generally accepted that higher education codes of conduct, research policy and procedure dictate what is wrong and right. Research ethics in HEI is a result of a research culture. Where regular revision and updates to stay abreast of

changes are considered, it may be argued that HE policies will not always be aligned to the complexities that disruptive technologies pose. There is a need to revisit policy and practice to align with various forms of ethics such as medical information, cyber ethics, and research ethics.

Cyber Ethics, Digital Ethics, Online Information, and Online Research

During lockdown, research in the case under study moved from the real world to cyberspace, where information searches and data gathering took place online and the results were mostly stored in the cloud. This shift raises questions and alludes to potential pitfalls for students and researchers lacking the foresight of consequences, and where digital literacy and fluency could play a role to enhance ethical use of information as well as upholding online ethics towards credible research output.

Vincenti, Braman, and Dudley (2020) describe cyber ethics as the philosophy and study of a particular subdivision of ethics. It pertains to the human interaction, in this case, research participants with computers, internet and web networks, and their presence in cyber space. Cyberspace is explained as a graphic representation of data obtained from many computers and computer systems. (Vincenti et al, 2012). The COVID-19 conditions reminded us that there is no longer a separate or alternative cyber world. Enabling devices, such as smartphones, are becoming so sophisticated that some authors already referred to a new and different reality or “new world” or “second life” (Vincenti, Braman and Dudley, 2012). They allude to a host of ethical dilemmas ranging from privacy, the use of big data without consent, amplifying the digital divide, defamation, hacking, crowdfunding, cookies, to name but a few, that necessitate the ability to make ethical and moral decisions.

Doing Online Research Where Technology is Disruptive

Social stratification has long been a concern for Neo-Weberian theorists, who traditionally view divisions in society along racial, economic, and gendered lines. Considering our stance that the pandemic has further exposed inequalities in society, it is pertinent to apply the Neo-Weberian framework to contemporary South African society, paying particular attention to inequalities that have arisen in the digital sphere in the context of COVID-19. While literature has traditionally spoken of the ‘digital divide,’ between the haves and the have-nots, based on research of access to technology, authors have recently argued that such a binary division does not consider the complex and multifaceted elements of digital exclusion, or ‘digital inequality’ as Zheng and Walsham (2021) suggest. This digital inequality compounds long standing social inequalities which are reproduced in a ‘recurring cycle between social and digital inequalities,’ (Park and Humphrey, 2020). This subjugates certain members of society based on exclusion and erects boundaries around those who reap the benefits of inclusion.

Clarifying these terms, Park and Humphrey (2020) explain that social exclusion exists when certain people ‘cannot fully participate in key social activities,’ based on their education, location, language, gender, or employment – or in the case of South Africa, the legacy of Apartheid and marginalisation based on race. Due to the recurring cycle of inequality, social exclusion also implies a lack of control over one’s status in society and very little potential for social mobility. Compounding this is digital exclusion, which is the inability to participate in society due to a lack of access to contemporary digital technology, including access to social media. Essentially, the exclusionary nature of society and digital technology, despite success in automation and information systems, creates gulfs of inequality between members of society. Debates around digital inequalities is thus no longer restricted to who has a personal computer and who does not; rather, it is the fact that people can ‘no longer play a meaningful role in contemporary society without using digital technology’ (Van Dijk, 2020).

In line with the arguments of Neo-Weberian proponents, social and digital inequality and exclusions result in the social position of individuals in society based on power, social structures, and access (Saks, 2016). In fact, Zheng, and Walsham (2021) encapsulate this predicament by stating that digital inequality operates at the ‘intersection of multiple fracture lines of difference that mediates the various spaces of inclusion and exclusion.’ Thus, it is pertinent to note that inequalities are interconnected, such that there is a spectrum along which exclusion and shelters of inclusion exist, rather than a clear digital divide as previously theorised (Blank and Groselj, 2015). This application of the Neo-Weberian approach is particularly relevant to the South African context, which bears the brunt of a legacy engrained in racial and geographic segregation, as well as contemporary inequalities around access to technology and digital education.

Privacy in a Disruptive and Unequal World

In Table 1 the four types of privacy explained by Floridi (2013) are explained as it pertains to online research:

Table 1. Types of Privacy impacting online research (as adapted from Floridi, 2013)

Privacy Dimension	Result
Physical privacy	Freedom of interference and intrusion of all physical aspects
Mental privacy	Freedom from intrusions by others on the mind
Decisional privacy	Freedom to make decisions without intrusion on matters concerning health, career, gender, education, etc.
Information privacy	Freedom from intrusion and interference on information about research participants

Using online platforms, such as Zoom, when doing research interviewers could potentially infringe on all the above types of privacy. Floridi (2013) explains that hacking is one of the oldest online security problems, where unauthorised access to online information systems infringes on privacy and confidentiality. The users of the online environment may intrude and invade our privacy very easily. Personal information obtained illegally and without our consent and knowledge may be misused. Floridi (2013) stated that digital technologies amplified and complicated previous moral and ethical problems. The increase in the processing speed of data as well as the increase in the quantity and quality of data that can be collected makes online privacy very difficult.

Trust, Quality and Ethics in Online Research

It stands to reason that HEIs should strive to produce research and scholarship that are credible and trustworthy. As such, De Laat (2008) defines trust as the reliance on good intentions of others in situations that could be high risk for existing vulnerabilities. Trust assumes that something (e.g., a website, or an online survey questionnaire), a HEI or person is trustworthy. Petit, as cited by De Laat (2008), calls this “primary trust”, while Weber (1947) refers to "associative relationships" as being trust relationships. Day (2006) rightly states that there is a great deal of mistrust on the internet's ability to safeguard privacy and security.

Digital Literacy and Access to Technology

Due to the proliferation of digital and educational technologies, digital literacy and digital fluency are required skills for both lecturers and students. Digital literacy entails individual awareness, attitude, cognitive reasoning, and the ability to appropriately utilise technological tools and infrastructures. It

also entails locating, assessing, analysing, and integrating digital information sources to generate new insight in a specific context.

The socio-technical realities experienced in HE today compels improved digital literacy and digital fluency (Nelson, Courier, and Joseph 2019). While the ubiquitous and pervasive nature technologies have brought reformation of some societies, it has also emphasised inequalities and exclusions in disadvantaged communities (Matli and Ngoepe 2020). Considering the continuous evolution of technology and the emergence of the fourth industrial revolution (4IR), technological skills have become essential for participation in the current digital era. Academic institutions have also witnessed the transformation triggered by technological advancement. The chances of those students who are lacking in digital literacy skills to succeed are severely jeopardised (Matli and Ngoepe 2020). To this, Oyedemi (2012) adds that students normally have access to the internet while on campus. During the COVID-19 lockdown this access has been disrupted, as on-campus access only accounts for 5% of access location in South Africa. Students especially from the rural areas, have been severely disadvantaged.

The Nature of Research Ethics in an Online Context

Woodfield (2018) alludes to conventional research facing the same fundamental existential, epistemological, and ontological limitations as research conducted in an online environment. However, the context differs and poses significant and complex challenges to the researcher, the research subjects and the participants doing research online. Legewie and Nassauer (2018) agree and add that there is a paucity in literature, that is compounded by a lack of institutional guidelines to guide the researcher. At present only partial solutions are available to these issues. There is a need for further ethical discussions and applying them to the use of online research in the following areas:

- Informed consent
- Unique opportunities
- Privacy
- Transparency
- Minimising potential harm
- Weighing challenges, risks, and benefits
- Online privacy

Literature suggests that the rapid shift from face-to-face teaching to an online mode of delivery (both synchronous and asynchronous) has exposed the shortcomings of HE practices, systems and pedagogies alike (Rashid and Yadav, 2020). Literature abounds (including the recent work of Matli and Ngoepe, 2020; and Sibiyi and Sengani, 2020) that this is particularly true for students from rural areas, where there is little to no access to technology or the internet. Devkota (2021) takes this observation further by reporting on students experiencing a 'disengagement from formal learning,' due to the shift online and the simultaneous return to rural homes. This inequality is evident especially in the juxtaposition between students in urban areas with internet access and those in rural areas who are entirely shut off from higher education. Therefore, Devkota (2021) argues that the students' right to education and right to equality are violated. Sibiyi and Sengani (2020) agree that this is an infringement on students' rights, arguing that access, slow internet, and no real best practice in this context have seen many not being able to access their courses, or properly grasp the content of course materials, raising questions around the quality of content and course materials. The disruption of the higher education space due to COVID-19 has indeed raised questions around the role of open access, inequality, career trajectories of students and researchers as well as a myriad of gendered, socio-economic, and political considerations. Ultimately, higher education is a global commodity, which many in developing nations cannot afford to access.

Findings

The focus group interview was recorded and transcribed. The transcription was audited as a truthful copy of the recordings. Findings were analysed thematically. Thematic analysis is related to phenomenology in that it focuses on the human experience subjectively (Noon, 2018). This approach focuses on the participants' reported experiences, perceptions, opinions, and feelings as the object of study. Collected data from the transcribed recording, field notes and observation schedule were triangulated.

Many participants indicated that research ethics were severely compromised during lockdown:

"Ethics went out the window. Elephant in the room. A lot more copying. One case, copied from previous situation. We could not completely be on the ball...Students took advantage" (Participant 6, FGI, 6/5/2021)

As such Participant 6 went on to declare:

"I think one of the biggest challenges in terms of research ethics are faced in online changes. Questions like is the platform I am using secure? We changed from paper- pencil surveys to online...now online – have we disable cookies, IP addresses disabled, or can we be identified? There are definite ethical concerns. For qualitative research... and in fact is quite funny that we are doing this online now. I come from psychology background where some topics can be quite sensitive, and some of dilemmas are different from the so-called traditional way where we are now taking it to the virtual environment..." (Participant 6, FGI, 6/5/2021)

The participants reported that students mentioned that it was burdensome to ensure that the online research reached the right participants and recipients. They also could not ensure that research subjects were in a space where they felt comfortable to share confidential information.

The participants in the focus group interview (FGI) reported that many of their students were from marginalised communities, where the blurring of home and studies were experienced negatively. On the challenges of the digital exclusion and access to the required technology:

"...with poor connection experienced by some students, you would find that they often miss chunks of information. Where there were electricity cuts, I found that the flow of thought was disrupted, and you see someone go offline, trying to come back on and loose that strand of logic" (Participant 3, FGI, 6/5/2021).

"We have a WhatsApp group to support students. Or... Finding that intrinsic motivation... for some students, home is in a rural area.... So you had to wait for them to get into town to where they could listen to a recording...and... You really had to find that balance...Some had great connectivity and some not" (Participant 3, FGI, 6/5/2021).

One of the unanticipated findings of this study was that the ethical expectation of a 'good' supervisor came to the fore. While the face-to-face environment allowed supervisors to build trust relationships with students, and facilitated relationships between students, the online environment changed all this. Participants 4, 5 and 6 lamented as follows:

"As a professional, I know I have this disadvantage... I was disappointed what my students got to ... I have not allowed them...Or ... I was not able to...it is not a [good] place to be as a supervisor... you almost feel as if you failed your students...and that's not nice" (Participant 5, FGI, 6/5/2021).

And:

"I think building on what my colleagues have said..., from my own experience as being supervised for my masters...you learn to adapt to your teaching styles... You build a relationship with your supervisor, even if this is not as daunting on honours level...the online detract from that ability. The way we convey the information ... it became blanket vanilla way offering of teaching... you have an introspective look... are we doing what we should..." (Participant 4, FGI, 6/5/2021)

"It takes some time to relax and then trust was not built because of strangeness of online we never really got to build that, never got to the point where people could trust each other. They might go to the canteen, have coffee together... And the never socialised as class... so I think THAT.. and that I think made face to face classes where they see each other outside of class and where they can socialise...THAT leads to collaboration... and.. creates that trust..." (participant 6, FGI, 6/5/2021).

All the participants reported that online supervision required a measure of role extension and asked much more from them than the face-to-face sessions:

"This is going to sound heartless... I did not give emotional support ... I did not want to open myself... I did not want to... I have never really reflected on this. I think it was a mechanism to protect myself, I did not want to go down that rabbit hole... I did not see a need for emotional support..." (Participant 1, FGI, 6/5/2021).

The participants, being academics and supervisors reporting on their experiences, displayed a good understanding of the HEIs codes, policies, and research ethics. They were able to identify, elaborate and report research ethics risks posed by doing online research. Participants reported similar disengagement during online and group supervision sessions conducted via the LMS. The identified themes coded after the thematic analysis are corresponding with the constructs of the Neo-Weberian stratification of three class systems, being wealth, class, and power.

Legewie and Nassauer (2018) alluded to the paucity in literature on the challenges of online research, and this study confirmed their findings. It is evident that supervisors in this study needed more preparation, support, and training in eTeaching, as opposed to eLearning and eResearch. Sadeck (2016) makes the following distinction: whereas eLearning can be seen as technology-enhanced teaching and learning for students, e-teaching focuses on what the lecturer does and how they apply technology to pedagogy. E-research refers to the use of specialised technology to the practice of research such as visualisation, and research data management tools. Additional themes for investigation worth mentioning are the need for improved meta-literacies, towards digital fluency training and support, plus more preparation on the necessity of research and research ethics.

The findings of the study are in line with similar and previously reported research, such as Devkota (2021). The findings further correlate with the desk research reported by Ragnedda and Muschert (2015) where they justify the usefulness of the Neo-Weberian framework to explore the complexities of the digital divide as a social phenomenon.

Conclusion and Recommendations

The LMS is effective for continued eLearning, but research and supervision were not geared for online engagement. The HEI has embedded digital sources and services to assist students, but these sources must be championed to improve usage. It is evident that continues lecturer and supervisor training and support is required to manage difficult online situations such as disengagement and dropouts. This is especially important where plagiarism and research ethics problems are reported. The study can confirm that Jacobson and Mackey (2013) were correct in alluding to the danger of narrow definitions of digital literacy. Much more needs to be done to inculcate meta literacies to succeed in online teaching and learning. Lecturers, supervisors, and support services need to

inculcate a more comprehensive approach to improving meta literacy and must advance critical thinking and reflection in online learning pedagogies.

Based on the findings of this study the following key requirements for future ethical online research are offered. This is summarised in Figure 1 as follows:



Figure 1: Key requirements derived from this study towards future ethical and quality online research

Based on the finding of the study, the HE governance under this study should re-evaluate existing research ethics protocols, policies, and procedures to interrogate and support the complexity of online research adequately. The existing extent of digital inequities and exclusion identified in the target group must be explored on a broader institutional level. The elements depicted in Figure 1 were derived from the themes in this study and this model should become part of the research culture and processes for both online research and supervision.

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