STRENGTHENING RESEARCH
SUPERVISION IN UNIVERSITIES IN KENYA

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Abstract:

The vision for university education in Kenya is to provide globally competitive quality research and training. The aim is to produce highly trained researchers who can contribute significantly to the country's national and economic development. However, several studies show that there are a number of supervision shortfalls in universities in Kenya; and this presents a great concern in the training of research students. The aim of this study therefore was to explore the perspectives of postgraduate students and supervisors on how postgraduate supervision can be strengthened in universities in Kenya. This was a qualitative study located within a social constructivist paradigm. Convenient and purposive sampling was utilised to select 18 participants from three public universities in Kenya. The participants were academic supervisors and postgraduate students doing Masters and Doctoral studies. Data collection was done using unstructured individual interviews with supervisors and focus group discussions with students. The data generated was analysed thematically and Vygotsky's social-cultural theory was used to make meaning of the findings. The results revealed that supervisors need to be supported through capacity-building programs that shape their knowledge and skills and building physical and online structures that support the supervision process. It also revealed that there is a need to engage students in a comprehensive mentorship program and a constructive student-supervisor relationship. The study recommends that for the achievement of effective postgraduate supervision, there is a need for universities in Kenya to invest in developing the skills and knowledge of supervisors and improve the supervision environment by setting up the necessary support structures. Student–centered programs should also be put in place to enable students' active participation and positive social interaction between the student and the supervisor.

Keywords: supervision, strengthening, postgraduate, capacity building

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1. Introduction

According to the policy framework for university education (2012), the vision for university education in Kenya is to provide globally competitive quality research and training for sustainable development. To meet this obligation, Kenyan universities must strive to be at the breast of international standards in postgraduate supervision (Mukhwana et al., 2016). However, supervision of postgraduate students in Kenya presents a great concern (Ndiege, 2019).

According to Kaluyu (2016), Kenyan universities have poor supervision mechanisms, and even the mechanisms that are in place are not fully enforced. In a study by Mbogo et al. (2020) postgraduate students and supervisors admit that there is quite a great deal of supervision shortfalls in universities in Kenya. Syomwene (2021) also found that graduate students in Kenyan universities face a lot of supervision challenges that hinder their progress and timely completion. It is therefore clear that there is a problem of inadequate supervision in Kenyan universities; this denies the country the benefits of an effective research supervision process, which is, to contribute significantly to the country's national and economic development. The aim of this study therefore was to explore the perspectives of postgraduate students and supervisors on how postgraduate supervision can be strengthened in universities in Kenya.

1.1 Research Objective
The objective of this study was to explore the perspectives of students and supervisors on how postgraduate supervision can be strengthened for the achievement of higher education objectives in universities in Kenya.

2. Literature Review

Postgraduate students and supervisors have different experiences and perceptions of how supervision could improve in universities. This section focuses on existing literature on perceptions of postgraduate students and supervisors on how postgraduate supervision could be enhanced in higher education

According to Frick et al., (2014) supervision could be enhanced by creating a courteous and frequent communication between the student and the supervisor. Poor communication and lack of interaction are known contributing factors to the breakdown of supervision relationships (Frick et al., 2014). A complaint that is common to most postgraduate students is erratic and infrequent communication with the supervisor (Phillips & Johnson, 2022). Supervision is a two-way interactional process (Alam, et al., 2013) and it therefore requires both the supervisor and the student to willfully and consistently engage each other in an open-minded and professional way throughout the study period (Phillips & Johnson, 2022). Frequent communication opens a space for dialogue and discussion between the student and the supervisor; this leads to a mutual agreement on issues being discussed like deadlines for submitting work by the student and when to expect feedback from the supervisor (Frick et al., 2014). Open

communication enables the student and the supervisor to understand each other and address any difficulties that may occur during the research study (Hardy, 2014).

Enhancing the knowledge and skills of supervisors is also key in supervision. According to Blose et al. (2021) Shaping the knowledge and skills of supervisors is inherently important in enhancing supervision in higher education (Blose et al., 2014). As already steady in the earlier sections, thesis supervision is dynamic and it undergoes continuous transformation. Supervisors, both new and experienced in the field, should continuously enrich and polish their supervision knowledge and skills (Al Kiyumi & Hammad, 2020). There should also be support from universities; every university should strive to invest in supportive strategies within departments and faculties to ensure that supervisors' knowledge and skills are enhanced to be at par with the current supervision practices and standards globally (Blose et al., 2021). In the absence of such support structures, the supervision process and the quality of research and output could be compromised.

The support structures that are essential in enhancing the knowledge and skills of supervisors could include training in supervision (Guerin et al., 2017). The aim of the training is to enhance the professional development of supervisors in supervision practices. There is also a need for regular engagement to keep abreast with new developments in research (Ismail, et al., 2011). As already discussed in the previous section, supervision workshops, and skill development programs for supervisors have proved to be beneficial in enhancing supervision and improving the quality of research (Abdullah & Evans, 2012). Similarly, the more experienced supervisors in an institution are important resources that need to be tapped to mentor novice supervisors (Amundsen & McAlpine 2009). Supervisors and students can also form research support teams to build research communities of practice to enhance the sharing of knowledge and skills (Al Kiyumi & Hammad, 2020).

Power dynamics between the student and the supervisor should also be checked in the supervision process (Ahmadi et al., 2020). Unequal power relationships in the supervision process make students feel uncomfortable (Elliot & Kobayashi, 2019) and affect the student-supervisor relationship (Houston, 2015). The student should not be rendered powerless by the supervisor. Instead, a spirit of adventurism in the student should be cultivated by being inspired through the research process and maintaining the joy of research within a culture that supports intellectual freedom (Petrie, et al. 2015). Genuine care must be shown toward the students by the supervisor for a positive and productive relationship (Hodza 2007). Supervisors should not be domineering but instead allow their students the opportunity to express their views without reservation or fear; by doing so, the students are empowered and their voices are also considered in the supervision process (Grossman & Crowther, 2015)

Managing conflict between the student and the supervisor is another critical factor in enabling effective supervision in higher education (Elliot & Kobayashi, 2019). Incompatibility of the student-supervisor match often occurs in supervision causing conflict (Orellana et al., 2016). The student and the supervisor have different personalities, opinions, ideologies, and beliefs and it is therefore expected that differences

can arise during the study period (Orellana et al., 2016). Such differences affect the nature of the supervisory relationship negatively. It is therefore necessary to have a way of managing the differences between the student and the supervisor (Elliot & Kobayashi, 2019). The usual expectation is that the student and the supervisor should have a harmonious working relationship for successful supervision (Phillips & Johnson, 2022). However, in case of feelings of dissatisfaction that can cause conflict, both the student and the supervisor should be willing and ready to negotiate to reach a consensus (Askew, et al. 2016). It is therefore necessary to have a properly managed engagement between the student and the supervisor (Grossman & Crowther, 2015).

Creating efficient administrative support for supervisors plays a big role in improving supervision in universities (Naidoo & Mthembu, 2015). Supervision is a demanding task that necessitates extra effort from the supervisor and the student. Supervisors are usually overburdened by heavy tasks that include teaching, research, and administrative duties (Askew, et al. 2016) These tasks reduce the supervisors' concentration from the students' work to other responsibilities; it also limits the time spent by the student and the supervisor (Ismail, et al. 2011). Often in many universities, especially in Kenya, there is little support given to the supervisor to ensure effective supervision (Askew, et al. 2016). In most cases, there is also no specific time allocated for the supervisor to meet with students. It is therefore necessary for university management to create well-organized administrative support for supervisors. Universities should have well-documented and clear guidelines that provide support mechanisms for supervisors to ensure effective supervision (Shafig et al., 2020). It is also important that the support mechanisms should be informed by the experiences of supervisors and postgraduate students (Shafig et al., 2020). This ensures that the specific needs of supervisors and students are captured in the support process. Administrative support should also include quality control processes as well as ways of fast-tracking student-supervisor engagement and progress Firth and Martens (2008).

3. Materials and Methods

This study employed a qualitative approach located within a social constructivist paradigm and a phenomenological research design. Purposive and convenient sampling was used to select the participants who were academic supervisors and postgraduate students for Masters and Doctorate studies in public universities in Kenya. Individual interviews were used to generate the data on the perceptions of supervisors. An interview is a flexible tool that provides in-depth information about a phenomenon (Sharma, 2010). The participants give their interpretation of the phenomenon under study and how they regard situations from their own perspectives (Yin, 2015). There were a total of twelve (12) interviews; four supervisors were interviewed individually in each of the three selected public universities. The interview was one-on-one between the researcher and the supervisor. Some interviews were done face to face while others were done through mobile calls with the participants who were willing to participate but were not available for face-to-face meetings.

Focus group discussion was used with postgraduate students to generate the data on the perceptions of students. Focus group discussion allows the researcher to get access to the substantive content of verbally expressed views, opinions, experiences, and attitudes of participants (Creswell, 2014). Additionally, the meanings and answers arising during focus group interviews are socially constructed rather than individually created (Creswell, 2014). Six postgraduate students participated in the focus group, two from each of the three universities. The participants consisted of three doctoral and three Masters Students who had completed their classwork and were working on their thesis. The researcher took the role of a moderator to guide and direct the discussion.

The generated data was organised and analysed thematically. The researcher utilised the six steps of thematic analysis proposed by Braun and Clarke (2006) and Creswell (2014) to analyse the data, this involved immersion in the data by reading the transcripts several times, generating codes, searching for categories and themes, reviewing themes, defining and naming themes and presenting themes.

4. Findings and Discussion

This study is set to find out the perspectives of students and supervisors on how postgraduate supervision can be strengthened for the achievement of higher education objectives in universities in Kenya. The findings are discussed in this section.

4.1 Perspectives of Students and Supervisors on How Postgraduate Supervision Could Be Strengthened

Students and supervisors from the selected universities gave their views on how postgraduate supervision could be strengthened. The findings are discussed under four themes generated from the data; these include;
1) supervisor support mechanisms,
2) empowering the student,
3) constructive student-supervisor relationship, and
4) supervision support structures.

4.1.1 Theme 1: Supervisor Support Mechanisms

This refers to the efforts by universities to reinforce the work of supervisors with the aim of improving supervision. The participants highlighted several views on how supervision can be enhanced in universities by supporting the supervisor. This includes:
a. Frequent in-service training,
b. Supervisor motivation, and
c. Reasonable workload (see Table 1).

Table 1: Theme 1 and its categories

Theme 1	Categories
Supervisor support mechanism	a. Frequent in-service training
	b. Supervisor motivation
	c. Reasonable workload

4.1.1.1 Frequent in-service training

In-service training in this context refers to supervisor development efforts to enhance their knowledge and skills. Participants in this study had the perception that supervision could be improved by investing in supervisor development through frequent in-service training. This is evident from the following quotations:

> *"Universities should invest in their supervisors; capacity building of supervisors should be a continuous thing, this will do a lot in improving supervision."*

> *"Our supervisors are too superficial you don't feel that real guidance you expected from your professor, I think they need some refresher courses to make them do better."*

> *"In-service training for staff on current research methods is key to every supervisor if supervision process is to be improved… as a supervisor you need to be conversant with new research methods…"*

> *"For us to succeed in supervision we should encourage supervisors to attend as many workshops and conferences as possible. This is where they will expand their knowledge and skills and you can be sure that students will be mentored well."*

From the quotations above, it becomes clear that the participants believe in frequent training of supervisors as a way of enhancing supervision. According to Uellendahl and Tenenbaum (2015), supervision today has become a complex activity, and supervisor training cannot be avoided. For a supervisor to supervise well there is a need for regular training and refresher courses on research and supervision (Guerin et al., 2017). An effective supervisor must be well-equipped with research skills and a wide knowledge of the field of research conducted by the student (Guerin et al., 2017). It is clear from the responses above that even students expect their supervisors to sharpen their skills in order to provide in-depth guidance and not be superficial. There should be consistent and ongoing capacity-building workshops and seminars in universities to strengthen the supervision skills of supervisors (Uellendahl & Tenenbaum, 2015). Frequent in-service training nurtures the supervisors' expertise in supervision (Uellendahl & Tenenbaum, 2015).

4.1.1.2 Supervisor Motivation

Supervisor motivation refers to any endeavors in universities that are centered on inspiring the supervisors to work in a better and more favorable way. The views of the

participants suggest that effective supervision could be achieved by motivating the supervisor. A motivated supervisor could do well in providing quality supervision. They pointed out that supervisors could be motivated by rewarding outstanding supervisors, improving remuneration, and sponsoring them at conferences. This can be seen from the following responses:

> *"There should be incentives to reward outstanding supervisors, I am talking of those who supervise students to completion every year and at the same time make publications in prestigious journals"*

> *"For me, to improve supervision, first, the supervisor should be well remunerated, this a motivation, the package they are giving supervisors now is peanuts"*

> *"Supervision should be taken seriously, universities should sponsor supervisors to conferences and other forums, this is good for them and it is a motivation…"*

> *"A demotivated supervisor will not have the morale to read the students' work and give feedback on time; even if he does it might not be anything beneficial to the student"*

The view of the participants from the responses above is that supervision can be improved by motivating the supervisor. Sriekaningsih and Setyadi (2015) argue that motivation has a significant effect on the performance of lecturers in universities. Motivation creates a positive work environment and improves the efficiency of academics. It fosters creative and critical thinking in the research process (Sriekaningsih & Setyadi, 2015). Supervisors who are motivated are more engaged in the research process and are likely to meet individual goals and that of the institution (Meilani et al., 2021). Like the responses of the participants above, Meilani et al., (2021) contend that universities should use motivation to inspire faculty members to work well with their students.

Ekundayo and Ayodele (2019) argue that supervisors could be motivated by increasing their pay package; promoting them when due; rewarding those with exemplary performance and providing a conducive working environment. A constructive working relationship with students can be developed with a motivated supervisor; this is vital for successful supervision and the production of quality research work (Mulder et al., 2015). As one participant said above, it is difficult for a demotivated supervisor to make a meaningful and fruitful relationship with students.

4.1.1.3 Reasonable Workload

As stated earlier in this chapter, supervisors raised their views of heavy workloads which include teaching assigned courses, supervising, and administrative work. The participants, however, had the perception that supervisors can work better when assigned a reasonable workload. It should be noted that both supervisors and students

who participated in this study where of the view that supervision can be enhanced when supervisors have a reasonable workload. This is evident from the following quotation:

"We are overloaded and the university should employ more lecturers to teach and supervise, maybe this way we can improve supervision because you have time to concentrate on your students."

"If you want to improve supervision, you must first deal with the problem of workload; a supervisor can only be resourceful if he is not overworked."

"… I think they supervise many students; you have to chase them up and down before you get a minute with them. If we have enough lecturers' at least a supervisor will focus on you."

From the responses above participants maintain that supervision can be enhanced when supervisors are not overworked. Successful supervision requires that supervisors have time to provide technical advice and mentorship to their students (Barasa & Omulando, 2018). However, as noted from the responses above, supervisors confess to being overworked and have no time to concentrate on their students. It is interesting to note from the responses above that students also complain that they cannot get hold of their supervisors because of the heavy load that makes them busy. This mirrors a study by Ronguno et al. (2016) which observed that although students attempt to meet their supervisors regularly, their efforts in most cases end up in vain. It is also emphasised by Kimani (2014) who found that supervisors who are overworked have no time for their students. This indicates a disengaged supervision that can rarely bear any fruits. According to Masek and Alias (2020), supervision becomes a rewarding experience when supervisors have a reasonable workload and time to guide their students.

4.1.2 Theme 2: Empowering the Student
In the context of research supervision, empowering the student refers to giving students the ability to contribute significantly to the research process. Participants had the view that research supervision can be improved by empowering the student. Their views suggested that students can be empowered in some ways, which include:
   a. Developing student agency, and
   b. Comprehensive research program (see Table 2).

Table 2: Theme 2 and its categories

Theme 2	Categories
Empowering the student	a. Developing student agency
	b. Comprehensive research program

4.1.2.1 Developing Student-agency

This refers to a practice in supervision where students are empowered to actively participate in the research process in shaping their work. The participants noted that supervision becomes more engaging and meaningful when students are empowered to participate actively and make decisions concerning their work. This can be seen from the following responses:

"I would like the kind of supervision where my hands are not tied, and not where the supervisor decides everything, this is my work and I should have a say."

"The student should have the opportunity to control the research, not me as a supervisor, mine is to guide, if we empower the student this way we will do better in supervision."

"We have sidelined the student and micro-managed the process, we should come out of this and train a hands-on student who carries the work and decides the best way to do it."

The participants' responses above suggest that supervision could be improved by developing student-agency. When student agency is established in universities, students are able to take an active role in the research process (Crowhurst & Cornish, 2020). It creates an engaging supervision process where students have the ability to contribute significantly to the development of their own work. McAlpine and Amundsen (2009) argue that students and their supervisors should always negotiate on how they will work. The negotiation process gives the student the power of a co-decision maker with his/her supervisor in the research process (McAlpine & Amundsen, 2009).

It is clear from the responses that students would like to participate actively in their work and at the same time supervisors would not like to control the process. Empowered students are eager and able to expand their knowledge and learn new skills (O'Meara, 2013). Student agency plays a key role in supervision, especially for doctoral students who are being mentored to be independent researchers (Crowhurst & Cornish, 2020). By developing student agency, supervisors also gain power by mentoring independent students (O'Meara, 2013).

4.1.2.2 Comprehensive Research Program

This refers to engaging the postgraduate student with a wide range of activities that foster their competency in research. Participants expressed their perceptions that supervision becomes successful when the student is well nurtured. This is evident from the following quotations:

"To make our supervision right, we should engage our students fully in workshops and seminars which carry various topics in thesis writing; this should be regular and compulsory for all postgraduate students."

"Supervision can have a different face if all of us are ready to employ different methods to make the student understand what research is, for me, apart from what I do, I also use my own students to mentor those who are new and it works well."

"There are so many things that are ignored in supervision; they assume you know and you don't know. There should be a serious way of making students understand research, even if it means frequent mentorship or training sessions for us to understand this thing…"

The participant responses above show the need for a comprehensive research program to improve supervision. A study by Brill et al. (2014) reveals that successful student mentoring programs should be in-depth and more engaging. The responses of the participants above suggest that it is not enough for the student to work only with this/her supervisors, but also, there is a need to engage the student with other learning opportunities like workshops, seminars, and peer mentoring. An all-inclusive program with several scholarly forums aids supervision by equipping students with research skills; thus making the work of the supervisor easier (Rigler et al., 2017). Students get up-to-date research techniques that make learning and research more interesting (Brill et al., 2014). According to Lee and Murray (2015), seminars and workshops help postgraduate students develop as independent researchers. It also addresses common problems that students face like scholarly writing and plagiarism (Lee & Murray, 2015). It is interesting to note the student response above who said *"they assume you know and you don't know"* This means that students' research needs have not been met in the supervision process. Students need to be fully oriented and developed in the field of research through intensive supervision support programs (Lee & Murray, 2015)

4.1.3 Theme 3: Constructive Student-Supervisor Relationship

This refers to a cordial relationship between the student and the supervisor which promotes the progress of the student. Participants in this study expressed their views that supervision can be enhanced by developing a constructive student-supervisor relationship. This concurs with several studies (Hamid, Abd Rahman & Hamidin, 2021; Gill & Burnard, 2008) which argue that one best recipes for successful supervision is building a constructive student-supervisor relationship. According to the participants, relationships could be developed through;

a. Negotiating the relationship,
b. Continuous communication, and
c. Amicable conflict resolution (see Table 3).

Table 3: Theme 3 and its categories

Theme 3	Categories
Constructive student-supervisor relationship	a. Negotiating the relationship
	b. Constant communication
	c. Amicable conflict resolution

4.1.3.1 Negotiating the Relationship

The participants were of the view that the quality of supervision could be made better when the student-supervisor relationship is negotiated. This means that the student and the supervisor exchange views, opinions, and ideas during the research process. The participants talked of a negotiated relationship through listening to each other, open discussion, and contribution by both the student and the supervisor. This is evident from the following quotations:

"It is important to sit with your student every other time and let them tell you all their ideas, then you can pick from there and give a direction, this is how supervision should be…"

"….research becomes interesting when you have a supervisor who listens to you and you are able to talk and agree on some things."

"There should be a discussion forum in any step of supervision, by doing this you move with your student together…not just throwing things at the student."

"We need our supervisors to be friendly and understanding, this gives room to discuss anything openly in a friendly way."

The responses of the participants above suggest that supervision could be enhanced by negotiating the student-supervisor relationship. According to Hardy (2014), the student and the supervisor should always negotiate their relationship. Both should be flexible in the negotiation process and a better opinion should always be considered regardless of whether the opinion came from the student or the supervisor (Hardy, 2014). Supervision becomes fruitful when the student and the supervisor have an equal opportunity to contribute to the research process (Phillips & Johnson, 2022). Even though the power of the supervisor and the student is not equally constructed, the supervisor should not dominate in the relationship (Fricket et al., 2014). A negotiated relationship prevents feelings of dissatisfaction in the relationship (Frick et al., 2014). The quotations above describe the student and supervisors' need for a negotiated relationship in the research process. Negotiation should therefore be a continuous process where the student and the supervisor negotiate and re-negotiate to agree on how to work at every stage of the research project (Hardy, 2014).

4.1.3.2 Constant Communication

Supervision is a two-way interaction process where the student and the supervisor should engage each other continually through constant communication. The views of the participants reveal that supervision could be enhanced through constant communication between the student and the supervisor. This can be seen from the following responses:

"The success of supervision is in communication, there should be a flowing and smooth communication between the student and the supervisor."

"Social media is also making supervision better now, this should always be used, it has really assisted us students, you just Whatsapp your supervisor and he can answer wherever he is and you get the guidance you need, sometimes instantly."

"For any supervision to bear fruits, the student and the supervisor should always communicate, by emails, phone calls, and face-to-face meetings or whatever way…this is very important."

"We need to improve on communication, in many cases the communication is after some months, the student is silent…the supervisor is silent."

It is clear from the participants' responses above that communication is central to enhancing the supervision process. The quality of the supervisory communication is essential for the success of the supervision process and consequently the success of the student (Brill et al., 2014). According to favorable supervision, the atmosphere is where there is continuous communication between the student and the supervisor. This improves the level of engagement and commitment to the research project (Hamid et al., 2021). The students' response above that social media is an important tool of communication signifies that communication between the student and the supervisor should not always be formal. A non-structured communication allows the student an opportunity to communicate with the supervisor at any time on issues relating to the research project (Frick et al., 2014). As can be seen also from the quotations above the supervisor and the student can communicate at any time during the research process using emails, phone calls, or face-to-face meetings. Every communication between the student and the supervisor involves some form of negotiation on the research project (Brill et al., 2014).

4.1.3.3 Amicable Conflict Resolution

Conflict resolution in the context of this study refers to resolving conflict that may arise in the supervision process between the student and the supervisor, or even between supervisors. The views of the participants implied that conflict can arise in the student-supervisor relationship, and as such, the responses suggested that there should be mechanisms to resolve conflict in an amicable way. This can be seen from the following quotations;

"The other thing about improving supervision is having clear procedures for resolving conflict, I am not saying there is always conflict, but it happens."

"What makes most of us delay is when you cannot work well with your supervisor, the university should, maybe, have better ways to solve such problems."

"…also, sometimes you disagree with your student; we should foresee this in any supervision and create ways of resolving disagreements when they arise."

"The faculty should have something like a committee where you report your problems when you have issues, this will be good for students."

It is clear from the responses that conflict can occur in the supervision process. Ahmadi et al., (2020) argue that conflict in a student-supervisor relationship is something expected because the student and the supervisor are people with different personalities and they therefore have different ideas, opinions, and beliefs. It is interesting to note from the participants' views above that there should be clear procedures for resolving conflict. Ahmadi et al., (2020) equally propose that there should be ways of managing conflict between the student and the supervisor to avoid any issues that may escalate to hindering the student's progress. There should be a negotiated way of managing any conflict that may arise in the supervision process (Hardy, 2014). Conflict leads to frustration between the student and the supervisor and negatively affects the supervision process (Brill et al., 2014). It is therefore important to develop cordial ways of resolving conflict between the student and the supervisor in order to achieve a productive relationship and a successful supervision process (Ahmadi et al., (2020).

4.1.4 Theme 4: Supervision Support Structures

This refers to the laid down physical and non-physical infrastructure built in universities to aid the supervision process. It emerged from the participants' views that supervision could be enhanced by building the required support structures that make the supervision process convenient, efficient, and beneficial, this includes:

a. Building online infrastructure,
b. Office spaces for supervisors,
c. Improving and strengthening supervision policies, and
d. Professionalising supervision (see Table 4).

Table 4: Theme 4 and its categories

Theme 1	Categories
Supervision support structures	a. Building online infrastructure
	b. Office spaces for supervisors
	c. Improving and adhering to supervision policies
	d. Professionalising supervision

4.1.4.1 Building Online Infrastructure

Building online infrastructure in the context of this study refers to the development of facilities that enable the use of online services to support the supervision process. The views of the participants seem to advocate that technology plays a key role in enhancing supervision, and universities should invest in building online infrastructure in order to improve supervision; This is evident from the following responses:

"We need to improve access to learning resources for students and supervisors, Universities should subscribe to e-journals for accessibility of research resources."

"It is time we embrace technology; we should be up to date with the current technologies that support research work and make the work of the supervisor and the student easy."

"Things like reliable Wi-Fi in a university should be well established, this supports research work and supervision."

"Technology is key in research, at the moment the universities need to embrace technology and invest in it, we should be having frequent virtual seminars for students and supervisors."

The responses of the participants above suggest that supervision could be improved by investing in technology. According to Cekisto et al., (2019) supervising postgraduate students in African universities is a challenging process that encompasses several issues from that of individual students and supervisors to available infrastructural support. One of the most important infrastructural support structures for supervision is building online infrastructure as suggested by the participants from the responses above. With the moving nature of knowledge and research becoming vibrant, there is a need for universities to expand their resource base for research (Maor, 2015). The availability of online e-resources like e-journals and e-books has however provided equal opportunity for universities to get access to a variety of research resources (Maor & Currie, 2017). The response of the participants above connotes a need to improve access to learning resources for students and supervisors. It is therefore prudent for universities to invest in online resources, mainly subscribing to e-journals and e-books (Maor, 2015). Universities should also establish reliable internet connections that can assist in accessing the resources and holding virtual meetings and seminars for students and supervisors (Maor & Currie, 2017).

4.1.4.2 Office Spaces for Supervisors
One of the supervision support structures that came out from the participants in this study, both students and supervisors, is office spaces for supervisors. The participants underscored the need for office spaces for supervisors to enhance supervision in universities. This is evident from the following quotations:

"We need working spaces for consultation with students, furnished with computers and other assisting gadgets; this is putting value to supervision."

"There should be offices where you are sure you can get your supervisor there and you can visit anytime you need help."

"Universities should provide offices to supervisors, this thing of meeting your supervisor in hotels hapana (No)… imagine as a lady meeting your supervisor who is a man in a hotel..."

"There is a lot that needs to be improve in supervision, some of us serve our students in the corridors of the university or in our homes, there are no offices"

It is clear from the participants' responses above that supervision could be improved by providing office spaces to supervisors. The research project is a demanding task that requires regular consultation between the student and the supervisor (Ahmad et al., 2020). It is therefore necessary for every supervisor to have a working space where they can meet their students for consultation (Ekundayo & Ayodele, 2019). As stated earlier in this section, a fruitful supervision process is one where there is continuous communication between the student and the supervisor (Hamid et al., 2021). Students therefore need specific places where they can meet their supervisor anytime they need help.

It is also clear from the participants' responses above that whereas supervisors make an effort to meet their students in places like hotels; some students are uncomfortable meeting their supervisors in such places. Equally, supervisors are also uncomfortable serving their students in the corridors. A study by Ekundayo and Ayodele (2019) revealed that on creating there should be a favourable working environment for lecturers in universities. According to Altbach and Salmi (2011), academic excellence in universities encompasses several issues that include physical infrastructure. Even though the physical infrastructure is not well developed in universities in Africa (Cekisto et al., 2019), the responses of the participants'' above suggest that supervisors should be provided with suitable working spaces for serving their students.

4.1.4.3 Improving and Adhering to Supervision Policies

The role of supervision policies is to guide the activities carried out in the supervision process; this includes how students are supervised and examined, and timelines. The view of the participants in this study is that there is a need to improve some supervision policies, but at the same time adhere to existing policies. This can be seen from the following quotations';

"Re-examining supervision procedures and the entire framework of how we supervise is another thing that needs to be done to factor in contemporary issues in supervision."

"There should be some strictness in adhering to policies; there are many good policies, but this is only on paper not in practice."

"We should relook on how to examine the students' thesis, It should be done by department; many people from different disciplines sitting in a defense may mislead the student…"

"Some practices are not right, like interfaculty supervision is counterproductive; a student should be supervised by a supervisor who understands that field well.

The responses above show that there is a need to improve and strengthen supervision policies in order to enhance supervision. In many universities in Africa governmental and institutional policies guiding postgraduate supervision are yet to be well developed (Turhan & Karadag, 2019). The responses of the participants above indicate that there are laid down policies that are not adhered to in universities. Similarly, Turhan and Karadag (2019) noted that each university has its own supervision policies in Africa, but the application of these policies to attain effective supervision is yet to be achieved. Some universities lack proper supervision policies and guidelines on thesis supervision (Ngulube, 2021). The participants' responses above also suggest that some supervision guidelines and procedures need to be improved to enhance supervision. Grant et al., (2014) argue that supervision policies change over time due to dynamics of knowledge and supervision. There is therefore a need to adopt progressive policies that meet the needs of postgraduate students at any given time (Ngulube, 2021).

4.1.4.4 Professionalising Supervision

The views of the participants suggest that there is a need to professionalise the work of supervision. This refers to developing supervision as a professional activity with specific standards and requirements that will enhance the supervision process. This can be seen from the following quotations:

"The issues of capacity building we are talking about will not be taken seriously by our universities unless we professionalise supervision so that there is thorough training of supervisors."

"The commission for university education should lead in the effort to improve supervision; they should redesign it as a professional activity."

"We need to professionalise supervision in our universities, at the moment lecturers do not see supervision as priority in their work."

The responses of the participants above show that there is a need to professionalise supervision. According to Torka (2016), the supervision of graduate students could be enhanced by professionalising supervision. Higher education has currently become competitive and postgraduate supervision is highly scrutinized for quality mentoring of young researchers (Olmos-López & Sunderland, 2017). The responses of the participants above bear a resemblance to Torka's (2016) study which argues that there is an increasing need to clearly articulate and define the work of postgraduate supervision. Professionalisation of supervision provides an opportunity for supervisors to be engaged in formal training and continuous in-service training (Torka, 2016). This is necessary in growing the professional competence of supervisors through developing their

knowledge and skills in supervision; hence improving the supervision practice. In the contemporary university, the work of supervision needs to be professionalized; there should be defined standards and requirements for the supervision practice (Halse & Malfroy, 2010).

5. Conclusion and Recommendations

This study concludes that thesis supervision in universities in Kenya needs to be strengthened. From the views of students and supervisors, this study recommends the following strategies for strengthening research supervision in universities in Kenya; First, universities need to prioritise developing the skills and knowledge of supervisors; thesis supervision has become more complex and challenging and there should formal, consistent and ongoing capacity building workshops and seminars for supervisors in universities to strengthened and modernize their supervision skills. Secondly, universities should put in place physical and online structures that support the postgraduate supervision process. The student-supervisor relationship also plays a significant role in promoting an effective thesis supervision process; faculties and departments should therefore encourage a continuous negotiation between the student and the supervisor to promote a harmonious working relationship in the supervision process. Finally, universities should develop comprehensive and student-centered research programs that involve a wide-range of activities like seminars and workshops that fosters student competency in research and enhance the supervision process

Conflict of Interest Statement
The authors declare no conflicts of interest.

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