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Challenges Facing ODL Students when Conducting Research in Tanzania: A Case of Institute of Adult Education Regional Centres

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Abstract

This study examined challenges that Open and Distance Learning (ODL) students face when conducting research in the Institute of Adult Education Regional Centres, Tanzania. A quantitative research approach with descriptive cross-sectional survey design were used in this study. The sample of this study involved ODL diploma students who were in their final stage of the research project in 2018. Simple random sampling technique was employed to select a sample of 80 students. Data were collected through questionnaires. A validated instrument with a test–retest reliability coefficient of 0.84 was used to elicit responses from respondents. The instrument was validated to ensure its accuracy, relevance, and effectiveness in measuring what it intended to measure. Data were analysed using descriptive statistics using SPSS version 20.0software. The study found out that challenges faced by students when conducting research were of three categories: student-related challenges, supervisor-related challenges and institutional-related challenges. This study recommends that there is a need for regular workshops for research supervision to supervisors, motivating supervisors to attend and present papers at local and international conferences. Students should start planning in early enough on how to carry out the research studies. Meanwhile, adopting a COSTA model of supervision should be made as it provides a structured framework for effective supervision, facilitation, clearer communication, goal alignment and strategic planning.

Keywords: *Challenges, students, ODL, research, Tanzania*

Introduction

Studying through open and distance learning ODL mode remains one of the most convenient modes of study in Tanzania. The mode focuses on opening access to education and training provision, freeing students from the constraints of time and place and availing them an opportunity to access a form of education that is flexible for individual beneficiaries (Isik et al, 2010). The research conducted by Valdes, Comendador, Sanz, and Catan (2018) highlights the significance of ODL in the context of the fourth industrial revolution, which is characterized by the digitalization of fusion technology. Essentially, the findings suggest that ODL can play a crucial role in equipping future generations with the necessary skills and knowledge required in this rapidly evolving technological landscape by leveraging technological advancements. Such technologies include digitalization of ODL platforms that have the potential to offer flexible and accessible education opportunities that cater for the demands of the fourth industrial revolution. This implies that such educational approaches can effectively address the changing needs of learners and the workforce, ensuring that individuals are adequately prepared for the challenges and opportunities presented by the digitalization of fusion technology. The influence of digitalization on the world of work is considered to have drastic social and economic consequences (Brennan & Kreis, 2014). ODL has the potential to provide future generations with the appropriate skills and knowledge through technological advancement (Valdes, Comendador, Sanz, and Catan, 2018). Conventional education did not lead to sustainable education for all, and ODL is seen as the most cost-effective, cost-efficient way of solving many of the endemic problems in education and training, especially in Tanzania. The research by Özgür and Koçak (2016) emphasizes the importance of aligning ODL initiatives with the socioeconomic and cultural backgrounds of students for their success. They argue that for ODL to be effective, it must be tailored to accommodate the diverse needs and contexts of learners. This involves fostering active and participatory learning experiences that engage students and promote their involvement in the educational process. Trines (2018) also emphasizes that although ODL is a cost-effective way of mass education, limited availability and access to modern technology can be a serious obstacle in developing countries.

Despite the expanding growth of ODL and its benefits, students who enrol with ODL have been seen to face many challenges related to individual, institutional and instructional (Cosmas & Mbwette, 2009; Mbukusa, 2009). Generally, students who are enrolled in ODL programmes encounter numerous challenges. These

challenges, as identified by Cross (1981), fall into three main categories: situational, institutional and dispositional. According to Cross, situational challenges include job and home responsibilities that reduce time for study. Institutional related challenges include poor logistics system or a lack of appropriate advising (Kruger & Casey, 2000). Furthermore, challenges experienced by students studying through ODL when conducting research sometimes leads to the student's research study being delayed and in worst scenario leading them into not graduating on time (Gunawardana & Mclsaac, 2004). In order to attract ODL students, higher learning institutions must grasp the challenges these students encounter during their research endeavours and provide the right support. While a considerable body of research exists globally on the challenges of ODL, a notable gap exists regarding the specific challenges faced by ODL students conducting research in Tanzania. In an attempt to fill this gap, the purpose of this study was to explore challenges facing students when conducting research in ODL in Morogoro, Dar es Salaam, Lindi and Iringa regional centres, and to propose a possible solution that can be implemented within ODL environment to support students continuously. The study was guided by the following objectives: to find out the challenges that ODL students face when conducting research; to examine the effect of research challenges on student's completion rates and to find out possible solutions to address the challenges confronting ODL students when conducting research.

Prior research sheds light on the challenges faced by undergraduate students in conducting research, spanning various geographical locations such as Saudi Arabia, Zimbabwe, New York, Kenya, and the United Kingdom. For instance, Alshehry (2014) highlighted time constraints, scarce resources, and lack of research skills among female undergraduate students at Najran University in Saudi Arabia. Similarly, Mapolisa and Mafa (2016) identified challenges stemming from students, supervisors, and institutions at Zimbabwe Open University, including time management, limited access to resources, and emotional stress. These findings are consistent with studies by Pearce (2005), Nzama (2013), Nyawaranda (2005), Manchishi et al (2018), Alsied and Ibrahim (2017), and Thondhlana et al. (2011), which underscore challenges such as lack of research materials, delays from supervisors, and institutional-related issues affecting ODL students' research work across different contexts.

While the literature review has provided valuable insights into the challenges faced by undergraduate students in conducting research across diverse geographical

locations such as Saudi Arabia, Zimbabwe, New York, Kenya, and the United Kingdom, a deeper synthesis of these findings is necessary to discern common themes or differences. By connecting the different studies, we can gain a more comprehensive understanding of the challenges encountered by students in various educational contexts and draw implications for the field of research education. For instance, despite the cultural and institutional differences across these locations, there may be recurring challenges such as limited access to resources, inadequate research skills training, and difficulties in balancing academic and personal commitments. However, it is also crucial to acknowledge potential variations in the nature and extent of these challenges based on factors such as socioeconomic status, institutional support systems and educational policies. By examining both commonalities and differences, researchers can identify effective strategies and interventions to support diploma students in their research endeavours, regardless of their geographical location. Furthermore, a comparative analysis of the challenges and support mechanisms across different countries and educational systems can contribute to the development of global best practices in research education.

Theoretical Framework

In order to delve deeper into the challenges faced by ODL students in conducting research within the Tanzanian context, this study was guided by Transactional Distance Theory, as proposed by Moore (1991). The theory offers a comprehensive lens through which to view and understand the interplay between learner autonomy, interaction and structure in the context of distance education. By adopting this theoretical framework, this study aims to elucidate the specific challenges encountered by ODL students in Tanzania and explore how these challenges intersect with the broader theoretical constructs of transactional distance.

The theory posits that distance is not simply a geographical separation of learners and teachers, but most importantly is a pedagogical concept. It is a concept describing the universe of the teacher-learner relationship that exists when learners and instructors are separated by space and time. With this separation, there is a psychological and communication space to be crossed to facilitate teaching and learning. The supervision of students in ODL environment is by its nature psychological and communication related. Student transactional distance connotes interplay among the environment, the individual, and the patterns of behaviours in a situation (Moore, 1997). According to Moore (1997) transactional distance is pedagogical, not geographic, and necessitates “special organizations and teaching

procedures" (p. 22). The nature of the transaction developed between students and teachers in a distance education environment is governed by three factors: dialogue, structure and learner autonomy.

Dialogue refers to positive interactions. It is "purposeful, constructive and valued by each party," involving "active listeners" as well as "contributors" in the interaction (Moore, 1993, p. 24). Structure refers to "the extent to which an education programme can accommodate or be responsive to each learner's individual needs" (p. 26). Learner autonomy or self-direction is the extent that the learner and not the teachers determine the goals, learning experiences and evaluation decisions. The specific determinants of dialogue and structure include educational philosophy and characteristics of teachers or designers; the personalities of teachers and learners; the subject matter; the interactive nature of the communications media and the constraints imposed by educational institutions.

The theory is the most appropriate because research supervision in an ODL environment is affected by dialogue, structure and learner autonomy that normally affect teaching and learning transactions at a distance in line with the aforementioned three factors. Research supervision requires student and supervisor dialogue as they go through the research process. This includes even at a time, learners engaging in some collaborative dialogue with their supervisors. There is also a need for establishing a properly structured supervision process to enable smooth interaction between students and supervisors. The issue of learner autonomy is also very important in research supervision because distance learners need to have a certain level of self-motivation and self-drive to be successful in their studies, including carrying out research. Students can not only wholly depend on their supervisors to take all the responsibility of ensuring that they work on their research projects.

Methodology

The study adopted a descriptive cross-sectional survey design, and a quantitative research approach was used in this study. The target population was ODL diploma students who were in their final stage of the research project in 2018. ODL students at the Institute of Adult Education (IAE) are spread throughout the country, which is composed of 26 regions, therefore only four regional centres (Iringa, Lindi, Dar es Salaam and Morogoro) were randomly selected.

In this study, a simple random sampling technique was employed to select participants from each of the four regional centres. To ensure representativeness, a

systematic approach was followed. Firstly, a list of all finalist diploma students enrolled at each regional centre was obtained from the IAE records. Subsequently, a random number generator was used to assign a unique identification number to each student on the list. Then, the required sample size of 80 students from the four regional centres was selected by randomly choosing identification numbers from the generated list. This process was conducted independently for each regional centre to avoid bias and ensure that each student had an equal chance of being included. By employing this systematic approach, the study aimed to obtain a sample that accurately reflected the diversity and characteristics of the diploma student population at the IAE.

A self-administered structured questionnaire was used to collect the data from the students. The questionnaire had 15 items measured on a 5-point Likert-type scale. The scale had three dimensions, namely, student-related with 7-items, supervisor-related with 3-items and institution-related dimension with 5-items. The self-administered structured questionnaire consisting of 15 items was developed through a rigorous process to ensure content validity and reliability. Initially, a comprehensive review of existing literature on the challenges faced by diploma students in conducting research was conducted to identify key themes and areas of inquiry.

Following the initial development phase, a pilot test of the questionnaire was conducted with a small sample of diploma students at the IAE in Dar es Salaam region to assess clarity, comprehensibility and relevance of the items. Feedback from the pilot test was used to further refine the wording and structure of the questionnaire items. In terms of validation, the questionnaire underwent content validation by a panel of experts in the field of research education and questionnaire development. This involved evaluating the relevance, clarity, and appropriateness of each item to ensure that the questionnaire effectively measured the intended constructs. The descriptive statistics using SPSS Version 20.0 was used to analyse the collected quantitative data.

Results

Challenges facing ODL Students in Conducting Research

The first objective sought to identify the challenges experienced by ODL students in conducting research. The identified challenges were categorized into three groups; student-related, supervisor-related and institutional-related challenges as presented hereunder:

Student-related challenges

Students indicated that inadequacy of library resources (47.5%), lack of scientific academic writing skills (43.8%), lack of adequate skills in review of literature, data analysis and interpretation of findings (45%), poor writing skills (42.5%), family, job and other social responsibilities (40%), computer illiteracy (40%), difficulties in referencing (38.8%) and lack of income (35%) as challenges of great concern that they faced in conducting their research (Table 1).

Table 1

Learner-related challenges facing ODL learners when conducting research

Challenges	Responses (N=80)									
	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Inadequacy of library resources in the region and study centres	6	7.5	4	5	2	2.5	30	37.5	38	47.5
2. Lack of academic writing skills	3	3.8	8	10	5	6.2	29	36.2	35	43.8
3. Lack of skills in review of literature, data analysis and interpretation of findings	3	3.8	5	6.2	10	12.5	26	32.5	36	45
4. Family, job and other social responsibilities	5	6.2	8	10	7	8.8	28	35	32	40
5. Computer illiteracy	4	5	9	11.2	6	7.5	29	36.2	32	40
6.Difficulties in referencing	5	6.2	8	10	9	11.2	27	33.8	31	38.8
7. Lack of income	4	5.0	16	20.0	12	15.0	20	25.0	28	35.0

Note: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, n=number of respondents and %= percentage

Source: Survey data (2018).

Supervisor-related challenges

The findings presented in Table 2 indicate supervisor-related challenges being faced by ODL students in conducting their research projects. Few meetings with

the students (43.8%), delay in giving feedback to students (40%) and lack of adequate skills in research supervision (58.8%).

Table 2

Supervisor-related Challenges

Challenges	Responses (N=80)									
	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Few meetings with the students	5	6.2	11	13.8	12	15.0	17	21.2	35	43.8
2. Delay in giving feedback to students	8	10.0	4	5.0	13	16.3	23	28.8	32	40.0
3. Lack of adequate skills in research supervision	4	5.0	7	8.8	6	7.5	16	20.0	47	58.8

Note: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, n=number of respondents and %= percentage

Source: Survey data (2018)

Institutional-related Challenges

The findings indicated in Table 3 portray that 39 (48.8%,) of the ODL students perceived library resources to be inadequately available, inadequate relevant functioning ICT equipment to support research work 40 (50%), lack of research workshops to ODL students 35 (43.8%) little time allocated for doing research-based project 35 (43.8%), inadequacy of research course contents 20 (25%) and 35 (43.8%) of the students stated that the time allocated for doing research is not enough as some of the institutional-related challenges that ODL students faced in the course of writing their research works.

Table 3

Institution-related Challenges that ODL Students experience in Conducting Research (n=80)

Challenges	Responses (N=80)									
	SD		D		N		A		SA	
	n	%	n	%	n	%	n	%	n	%
1. Library resources are inadequately available	4	5	7	8.8	3	3.8	27	33.8	39	48.8
2. Inadequate relevant functioning ICT equipment to support research work	3	3.8	4	5	6	7.5	27	33.8	40	50
3. Lack of research workshops to ODL students	2	2.5	8	10	6	7.5	29	36.2	35	43.8
4. Time allocated for doing research is not enough	2	2.5	6	7.5	7	8.8	30	37.5	35	43.8
5. Inadequacy of research course contents	12	15.0	11	13.8	8	10.0	29	36.2	20	25.0

Note: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree, n=number of respondents and %= percentage

Source: Survey data (2018).

Effect of research challenges on student's completion rates

The second objective sought to examine the effect of research challenges on student's completion rates. A regression model is presented in Table 4 to show the effect of research challenges on student's completion rates.

Table 4

Regression output for the effect of research challenges variables on rate of completion

Model	Unstandardized Coefficients		Standardized Coefficients		
	βeta	**StdErr.**	**βeta**	**t-statistic**	**Sig.**
(Constant)	3.569	0.359		8.366	.000
STUDRCH	-1.024	0.214	-0.479	-4.779	.000
SUPERCH	-2.024	0.244	-0.456	-4.789	.000
INSTRCH	-0.038	0.043	-0.384	0.377	.036

a: Predictors: (Constant), Student-related challenges (STUDRCH), Supervisor-related challenges (SUPERCH) and Institution-related challenges (INSTRCH)

b: Dependent variables: Student's completion rates

Significance test at 0.05 indicated that student-related challenges (p=.000); supervisor-related challenges (p=.000) and institution-related challenges (p=.036) all are statistically significant. The βeta coefficient of student-related challenges is 0.479, that of supervisor-related challenges is 0.456 and that of institutional-related challenges is .384. The βeta coefficient tells us that one unit change in student-related challenges contributes to 4.79% change in student's completion rates, one unit change in supervisor-related challenges contributes to 4.56% change in student's completion rates and one unit change in institutional-related challenges contributes to 3.84% change in student's completion rates.

The ANOVA results indicated in Table 5 revealed that the regression model was significant at F=8.794 with p-value equal to .000 which is lower than the cut-off p-value of .005. This implies that the null hypothesis was rejected meaning that, research challenges have a significant effect on student's completion rates. The null hypothesis under the study was stated as follows:

H_0: Research challenges (student-related, supervisor-related and institution-related challenges) have no significant effect on ODL student's completion rates.

Table 5

ANOVA Table

Model	Sum of Squares	df	Mean square	F-value	Sig.
Regression	14.302	2	7.510	8. 794	
Residual	65.758	77	0.854		.000
Total	80.060	79			

a: Predictors: (Constant), student-related challenges (STUDRCH), supervisor-related challenges (SUPERCH) and institution-related challenges (INSTRCH)

b: Dependent variables: students' completion rates

Strategies to Address Challenges Facing ODL students in Conducting Research

The third objective sought to determine strategies from students' perspectives that could be used to address the challenges that students encounter when conducting research. The findings in Table 6 provide ways that can be used to address the challenges that students encounter when conducting research.

Table 6

Strategies to Address the Challenges Facing ODL Students in Conducting Research (N=80)

Challenges	Suggested solution	Mean	SD
Student-related challenges	To be trained on how to balance time for family and academic issues	4.52	1.40
	To be provided with scientific academic writing skills	3.75	1.10
	To be trained on data analysis and interpretation of findings	4.32	0.82
	To be trained on computer literacy	4.11	0.31
Supervisor-related challenges	Supervisors should attend research workshop regularly	5.78	1.56
	Provide opportunities for supervisors and students to carry out collaborative research works	5.10	1.91
	Supervisors should be trained on how to supervise adult learners	3.83	1.45
Institutional-related challenges	Provision of high investment in ICT infrastructure	4.63	1.20
	Regular workshops on research supervision to supervisors	4.02	1.04
	Supervisors to attend and present papers at local and international conferences	3.54	1.21

Note: SA for (strongly agree) = 5, A (agree) = 4, U (undecided) = 3, D (disagree) = 2 and SD (strongly disagree) = 1

Source: Survey data (2018)

To be trained on how to balance time for family and academic issues (Mean =4.52; SD=1.40), to be provided with scientific academic writing skills (Mean =3.75; SD=1.1), to be trained on data analysis and interpretation of findings (Mean =4.32; SD=0.82), to be trained on computer literacy (Mean =4.11; SD=0.31). Supervisors should attend research workshop regularly (Mean =5.78; SD=1.56), provide opportunities to supervisors and students to carry out collaborative research work (Mean =5.10, SD=1.91) and supervisors should be trained on how to supervise adult learners (Mean = 3.83, SD=1.45) and provision of high investment in ICT infrastructure (Mean =4.63, SD=1.20). Additionally, the institutional-related challenges strategies were provision of high investment in ICT infrastructure (Mean

=4.63, SD=1.20), Regular workshops on research supervision to supervisors (Mean =4.02, SD=1.04) and supervisors to attend and present papers at local and international conferences (Mean =3.54, SD=1.21).

Discussions

The primary research challenges for students typically fall into three categories: student-related challenges, supervisor-related challenges and institution-related challenges.

Student-related challenges

Findings have indicated that generally, most of the students indicated that inadequacy of library resources, lack of scientific academic writing skills, lack of adequate skills in review of literature, data analysis and interpretation of findings, as challenges of great concern that the ODL students experienced in conducting their research. Access to relevant literature was another problem that students encounter while writing academic reports. On that note, they agreed with Anderson et al (2006) who pointed out that library is a very limited resource for students carrying out research. Also, he added that there is a lack of up-to-date resources in the library needed for research. So, students waste their time looking for the books and at the end they find nothing. Advocating the students' difficulties in research writing, scholars found similar difficulties faced by students (Lestari, 2020; Safitri et al., 2021). The research writing difficulties were related to the students' understanding of research skills and composition skills of the reports, such as introduction, literature review, methods, findings and discussion. It is assumed that research skills are vital to navigating the research paths and determining the research gap.

Furthermore, lack of funds let the students down in photocopying recent journals, studies and e-resources. Research students had to strike a balance between financing their education and sending their children to school, as well as looking after their families. These students had to buy and provide basic needs (food, shelter and clothes) for their families. These commitments competed with their need to successfully complete research-based projects. Two other students exhorted that lack of time and money was a deterrent to their ability to successfully carry out research-based projects because not everyone had access to library and internet resources in the absence of money. Time would be a very hard resource to get if one is engaged on a full-time job that has its equally competing demands. De Vos (2015) cited in Murray (2007) states that writing of scientific research is time

consuming and thus, learners are called upon to manage their time strictly. Thus, it is argued that as much as ODL students did not have ample time, distance students too have limited time, an issue which has to be adequately addressed.

ODL also presents new challenges in information dissemination, especially in developing countries. Mossberger et al. (2003) observes that technical competence needed in order to have effective access to contemporary ICT is a challenge to distance learners. Technical competence refers to the skills needed to operate the hardware and software of ICT, including the skills of using networked systems to access and share information. Lack of these skills is a critical challenge as learner may fail to use the various physical, digital and human resources involved ICT. The use of electronic media is therefore likely to exclude the majority of distance learners. This concurs with several other studies in developing countries that established that ODL students in developing countries are challenged with both lack of experience in the application of technology and absence of these technologies (Mbukusa, 2009). A study by Mnyanyi and Mbwette (2009) had similar findings, where Open University of Tanzania (OUT) learners claimed they were victims of ICT illiteracy as to some of them; even operating a computer was problematic. On the hand, the infrastructure system that facilitates the smooth operation of ICT is still poor in Tanzania.

Supervisor-related challenges

Findings have indicated that, delay in giving feedback to students was also a challenge. There are various suggestions in the literature on what good-quality feedback entails. Feedback is said to be affective, cognitive, corrective, developmental (Hattie &Temperly, 2011), informative (Hattie &Temperly, 2011), and motivational (Mensah, 2009). Furthermore, feedback delivers high-quality information to students about their learning (Nicol & Macfarlane-Dick, 2006). According to Ali et al (2016), supervisions factors that determine successful supervision included: leadership' (ability to lead the supervision process . . .), 'knowledge' (knowledge of a research topic) and 'support' (ability to support students in acquiring appropriate research skills . . .) respectively" (pp. 233-236).

Although supervisors are supposed to be key players in the supervision process, Mapasela and Wilkinson (2005) found that many of them are not equipped by their institutions to nurture this relationship. Mapasela and Wilkinson argue that some supervisors have little training on the process of supervision. Chiappetta-Swanson and Watt (2011) describes the prevalent situation as "muddling through". Unfortunately, this situation negatively affects the progress of the students.

Cardilini et al (2021) lamented that supervisors have the responsibility to give guidance and feedback on critical thinking, written communication, and relevant discipline knowledge to students. Students' expectations are that more guidance on developing their academic independence, their collaboration skills, and maintaining motivation should be provided by supervisors.

According to Lessing and Schulze (2002), a supervisor has to establish a balance among multiple factors like supporting students, having expertise in research, providing positive criticism and bringing creativity. He/she needs to work on various fronts to bring quality research work by providing guidance to the students in a way that leads to innovative ideas while keeping in mind the timelines and rules established by the institution.

It is important to define the parameters of supervision, as this aligns the research outcomes to the factors of Moore's theory of Transactional Distance (Moore, 1991), which outline the importance of the structure factor. The presence of structure will facilitate an easier dialogue, which is critical for the back-and-forth communication between the supervisor and student. The presence of these two factors helps in building up confidence in the student, which will lead to more self-direction and motivation needed by the student to take control of his/her learning. According to Delgaty (2018), the genesis of self-directed learning can be attributed to the creation of the conditions that encourage individuals to exercise initiative, reflection and choice. Students must reach this level of thinking when working on research to be able to take control of their research activities.

Institutional-related challenges

Institutional barriers consist of limitations regarding methods institutions use to design, deliver and administer learning activities (MacKeracher et al., 2006). The majority of the ODL students perceived library resources are inadequately available, inadequate relevant functioning ICT equipment to support research work, lack of research workshops to students and the time allocated for doing research-based projects is not enough as some of the most pronounced institutional-related challenges that ODL students experience. The present findings are in tandem with previous research findings by Nyawaranda (2005) & Pearce (2005) who concur that students' capacities to conduct research are constrained by institution-related challenges such as: lack of exposure of supervisors to research skills, lack of internet services, lack of exposure to computers and lack of research material. They however tend to miss out the practice of imposing research topics on the students that militate against students' success in research work (Thondhlana et al, 2011).

The regional centres lack adequately equipped library and ICT facilities to effectively support research work.

Strategies to Address Challenges Facing ODL Students in Conducting Research

The solutions to address the challenges that ODL students encounter when conducting research includes supervisors should attend research workshop regularly and students should carry out collaborative research work with their supervisors or would be supervisors. Supervisors should be trained on how to supervise adult learners and provision of high investment in ICT infrastructure. Supervisors need to be assessed whether they have information and the requisite skills critically to supervise students at a distance. They ought to be trained in specific skills in distance supervision through practical demonstrations. Students also need to start planning early enough on how to carry out the research-based projects. Likewise, the use of COSTA model is emphasized in this study.

The use of COSTA Coaching Model of Supervision as a Strategy to Address Challenges Facing Students in Conducting Research

It has clearly been established that collaborative methods of supervision tend to have better results. The COSTA model promotes collaboration and collegiality through provision of real-time problem solution in a seminar/workshop-based mode where students, sometimes from different universities, come together for a common purpose of understanding research protocols and how these can be applied to their individual studies. The model proposes that students attend these sessions, where the first step is to learn about concepts and research language. This is critical as it introduces them to key terminology that will be used in their research projects. This step is not passed until students demonstrate knowledge and understanding of concepts and their context of usage including content requirements for particular studies. When this is done, then the issue of research question is raised before getting to the topic. The topic comes after carefully selecting a research question. This can't be done without understanding literature review. The advantage of this model is that while using basic principles of coaching, whereby the coachee must find results, it provides support to students in a structured and coherent manner from the coaches/supervisors and fellow students. The model is created on evidence of what the researcher empirically observed when they brought students together from different institutions of learning with a sole purpose of implementing the programme (Costa, 2018). The model focuses on spending time with students

introducing them to concepts that will be critical in their research projects. Table 5 presents a 5-step framework of the model for further perusal.

Table 5

COSTA Coaching Model of Supervision

STEP	DESCRIPTOR	APPLICATION	STAGE SIGNIFICANCE
STEP 1 C	**CONNECTION** **CONCEPTS**	Connection between the supervisor and the student is critical. The suggested method is the GROW Model to determine the preparedness and willingness of the student In-depth introduction to research language and applicable concepts. This cannot be done in one week; it should be a minimum of full three months programme.	**ESTABLISHMENT OF RESEARCH'S FOUNDATIONAL SKILLS**
STEP 2 O	**OBJECTIVES**	This deals with the objective of the project. The student should be able to articulate the following: introduction, background, study objectives, research questions assumptions/hypotheses, the study significance, study limitations and delimitations.	**RESEARCHER'S INTENTION (RESEARCH PROPOSAL)**

STEP 3 **S**	**SITUATION**	Thorough assessment of literature on the subject and identification of gaps. Formulation of a Theoretical Framework and Conceptual Framework and knowledge of the difference between the two Application of Blooms' complex thinking skills (critical analysis, synthesis and evaluation)	**RESEARCHERS AWARENESS OF CURRENT DEBATE**
STEP 4 **T**	**TACT** Qualitative methods Quantitative methods	**Credibility**: Investigators attempt to demonstrate that a true picture of the phenomenon under scrutiny is being presented. **Transferability**: Investigators provide sufficient detail of the context of the fieldwork for a reader to be able to decide whether the prevailing environment is similar to another situation with which he or she is familiar and whether the findings can justifiably be applied to the other settings. **Dependability**: Researchers should at least strive to enable a future investigator to repeat the study. **Confirmability**: Researchers must take steps to demonstrate that findings emerge from the data and not their own predispositions. Validity and Reliability.	**RESEARCH METHODOLOGY AND TRUSTWORTHINESS**

STEP 5 A	**ASSESSMENT**	Ability to make judgment on the strength and weakness of the study. Provision of a cogent argument in support of study objectives and its benefits to targeted audience. Implications and recommendations.	**RESEARCHER'S INTELECTUAL JUDGEMENT OF RESEARCH OUTPUT**

Source: Costa (2018).

Conclusion and Recommendations

It can be concluded that, ODL students need to work with helpful support supervisors who commit themselves to the progress and success of their students. Supervisors ought to be students' models in conducting their research projects. Evidence in the supervision literature suggests that supervisors become supervisors without any formal training. Therefore, they tend to draw many forms of their own supervisory experiences as graduate students (Halse, 2011), hence the need for structured supervision training. Furthermore, there is a need to note and acknowledge that supervision is about a continual exchange of ideas and supervisors should refrain from looking down upon students, but rather treat them like junior colleagues eager to learn research (Grant, Hackney & Edgar, 2014). This is also in line with the concept of dialogue espoused in Moore's theory of Transactional Distance. Once there is dialogue and structure, it will then be easy for the promotion of student autonomy to be realized for students to eventually be motivated and ready to self-direct in their research initiatives with the need for less driving by the supervisors. This will result in a healthier relationship between the supervisor and the student. This view is supported by Grant, Hackney & Edgar (2014), who argue that the core of research support lies in the relationship between the student and the supervisor. This is the key that facilitates effective supervision and helps to promote a good learning experience for the student.

Inadequate of library resources was viewed as one of the greatest let downs to effective research supervision and writing. Supervisors could be more resourceful by accessing and providing students with relevant reading materials. Also, students need to be coached how to balance their time to enable them to carry out their research projects well. In order to perfect the art of research, supervisors and

students need regular research workshops because not all supervisors in ODL institutions get the opportunity to present conference papers, attend research workshops and get involved in conducting baseline studies. Workshops are avenues to drive candidates towards the main route to successful research work. Commonwealth of Learning (2001) speaks highly on research-related workshops such as e-learning which has the capacity to enhance students' abilities to scale up to dizzy heights. In student–supervisor interaction, whether it is face-to-face or via electronic media, the key to success is the commitment to support students (Holmberg, 2008).

Based on the findings and conclusion of the study, the following recommendations are made:

i) For effective supervision, the IAE must establish a clear communication channel between students and supervisors, ensuring regular meetings and timely responses to queries. Also, supervisors must be encouraged to be accessible and approachable in providing students with guidance and feedback when needed. Similarly, the IAE must develop guidelines or protocols for supervisory interactions to ensure consistency and effectiveness throughout the supervision process.

ii) The IAE should set criteria or standards for selecting supervisors based on their experience, expertise and availability. It should also offer professional development opportunities for supervisors to enhance their mentoring and supervisory skills, such as workshops on effective communication and Institute support strategies.

iii) At the start of research projects, students should be given orientations regarding research methodologies, data analysis techniques and related data analysis software.

iv) The IAE should adopt collaborative models of supervision such as the COSTA model for research students

v) Supervisor's supervision activities must be characterized by flexibility, integration, continuous feedback and constructive criticism, in the sense that the supervisor trains the student with investigative competences, in this teaching-learning process, although with specific characteristics.

vi) Students need to be coached on how to balance their time to enable them to carry out their research well.

vii) Students also need to start planning early enough on how to carry out the research project process.

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