

**INSTITUTIONAL MANAGEMENT PRACTICES, PERSONAL MOTIVATION AND
LEARNER PARTICIPATION IN DISTANCE LEARNING PROGRAMMES: THE
CASE OF SELECTED DISTANCE LEARNING CENTERS OF THE UNIVERSITY
OF RWANDA**

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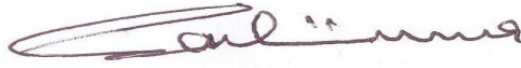
Thesis Report submitted in fulfillment of the Requirements for the Award of the Degree of
Doctor of Philosophy in Distance Education of the University of Nairobi.

2023

DECLARATION

This Thesis report is my original work and has not been presented for award in any other University.

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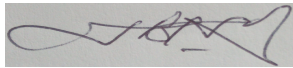


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DEDICATION

I dedicate this work to my late parents Pascal Gahima and Pacasia Gahima, late brother Anthony Mugisha for educating me and to my wife Immaculate Ingabire and children: Daisy, Collin and Ada for understanding the situation while I was away from home and their cherished inspiration, encouragement and unwavering support throughout this academic assignment.

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LIST OF ABBREVIATIONS AND ACRONYMS

9YBE	: Nine Year Basic Education
AMA	: American Association of Marketing
ANOVA	: Analysis of variances
ARPA	: Advanced Research projects Agency
CAI	: Computer Aided Instruction
CBI	: Computer based instruction
CMC	: Computer- mediated communication
CODL	: Centre for Open and Distance Learning of the University of Rwanda
DE	: Distance Education
DL	: Distance Learning
DTP	: Distance Training Programme
FGD	: Focus Group discussions
ICT	: Information and Communication Technology
KIE	: Kigali Institute of Education
KII	: Key informant interview
NISR	: National Institute of Statistics of Rwanda
OUM	: Open University of Malaysia
PR	: Public Relations
RRT	: Regional Resident Tutor
SD	: Standard deviation
SODe-L	: School of Open and Distance e-Learning
SWOT	: Strength, Weaknesses, Opportunities and threats
UK	: United Kingdom
UON	: University of Nairobi
UR	: University of Rwanda

ABSTRACT

There is an urgent need to address issues of distance learning at universities in Rwanda. The reason for this is that there are few places available for high school graduates to join universities for face-to-face learning. The purpose of the study was therefore to establish the influence of institutional management practices on participation of learners in distance learning in the College of Education, University of Rwanda. The research objectives were to examine how provision of administrative support services influences a learner to participate in distance learning, to assess how provision of tutorial support services influences a learner to participate in distance learning, to determine the influence of provision of ICT infrastructure and services on learner participation in distance learning, to analyze the influence of combined management practices on learner participation in distance learning and to assess how personal motivation to learn, as a moderating variable, influences the association between management practices and learner participation in distance learning. The study used cross-sectional survey design and data was collected from six selected distance learning centers in the College of Education. Primary information was collected from 322 in-service teachers undertaking diploma course in education. Quantitative data was collected using a questionnaire while qualitative data was obtained using interview guide and focus group discussions from key informants consisting of administrators, lecturers, course coordinators, regional coordinators and tutors. Simple random sampling, stratified random sampling and purposive sampling were used to select the sample members. The quantitative data was analyzed by summary statistics, correlation and regression techniques to generate the means and standard deviations. Correlation and regression analyses were also performed while qualitative data was analyzed thematically. The findings showed that administrative support services did not have significant influence on learner participation in distance learning ($\beta=0.071$, $t=1.2$, $p=0.231>0.05$). Thus, the null hypothesis that provision of administrative support services had no significant influence on learner participation in distance learning was accepted. Findings on tutorial support services revealed that provision of learner support positively and significantly influenced learner participation in the distance learning programme with a regression coefficient of $\beta=270.222$, $t=6389$, $p=0.000<0.05$. Therefore, the null hypothesis on this variable was rejected and the alternative accepted. Findings on ICT infrastructure and services showed that the variable positively and significantly influenced learner participation in distance learning, with $\beta=374.272$, $t=7.261$, $p=0.000<0.05$. The alternative hypothesis that provision of ICT infrastructure and services has a significant influence was accepted. Concerning the relationship between management practices and learner participation, the findings were that provision of tutorial support services and ICT infrastructure and services have a significant influence on learner participation, with $p=0.000<p=0.05$ for each variable while provision of administrative support services did not, with $p=0.141>p=0.05$. Thus, the null hypothesis was rejected and the alternative accepted that institutional management practices have significant influence on learner participation, with the exception of administrative support services. For personal motivation to learn, the findings were that the variable positively and significantly influenced learner participation in distance learning programme as reflected in a regression coefficient of $\beta=65609$, $t=0.225$, $p=0.001<0.05$. The p-value ($p=0.001$) was less than the significance level ($p=0.05$) and so the null hypothesis was rejected and the alternative accepted that the moderating variable of personal motivation to learn has a significant influence on learner participation. The findings of this study will be useful to scholars for assessment of distance learning systems, to policy makers for directing sustainable delivery of distance learning programmes and to the University of Rwanda for practical strategies of providing necessary support services for learners.

CHAPTER ONE

INTRODUCTION

1.1 Background and context of the Study

This section presents concepts, theories and contextual framework of institutional management practices, which includes provision of administrative support services, provision of tutorial support services and provision of ICT infrastructure and services. Personal motivation to learn is the moderating variable while learner participation is considered as the dependent variable. Theoretical dimension sub-section presents a brief discussion of the theories that govern learner participation in distance learning and how it relates to institutional practices and personal motivation to learn through distance mode of learning. The contextual dimension highlights the current status of Distance Learning in Rwanda with a focus on institutional practices, personal motivation to learn and learner participation in distance learning.

1.1.1. Conceptual Dimension

The research sought to establish the influence of provision of administrative, tutorial support services, ICT infrastructure and services and personal motivation to learn on participation of learners in Distance and e-learning programmes. Learner participation for this study is the dependent variable while the independent variables were institutional management practices represented by administrative and tutorial support services as well as ICT infrastructure and services and personal motivation to learn that were contended to have an influence on learner participation in distance learning programmes.

The term learner participation refers to the act of learning and engagement of learners in order for them to develop communication networks, express feelings, opinions and viewpoints during discussions and interactions in their studies. Therefore, understanding learner participation is vital to any learning environment including those that use learning management systems (Hrastinski, 2009; Sama, Haniya & Pacquette, 2020).

Davies (2005) and Nurbiha et. al., (2015) measured the degree of learner participation employing digital tools in communication among learners while in different study locations. The study findings revealed that students who failed some particular units did so because of their passive participation in interactive discussions while others who often met via communication networks performed well in examinations. Another study carried out by Cregan (2005) revealed that learners who met frequently to discuss, using online student

portals passed all registered modules. This was further emphasized by Helena et. al (2011) who noted that voluntary participation in group discussions significantly contributed to the learner's success rate. In addition, learner participation is viewed by Sheilla et. al (2014) as a learning process which makes the learner realize his potential by using different learning strategies.

Furthermore, Jeongju et.al. (2019) allude that learner participation in distance and e-learning leads to positive learning outcomes, such as a high level of learning achievement and higher-order thinking abilities, as it permits learners to vigorously engage in learning anywhere any time. The above interactive approach enhances competencies among learners and the capacity to use four communication skills of writing, reading, listening and speaking. It is well understood that language proficiency helps learners to express themselves while discussing with tutors.

The reasons for learner participation in distance learning programmes are many but the topmost benefit of distance learning is its flexibility. Learners can choose when, where, and how they learn by selecting the place, time and medium for their education (Education.com, 2020). For employees who want to upgrade their qualifications while on the job, distance learning creates a relaxed schedule that works for them well. Many people participate in distance and e- learning programmes because of the envisaged backing from their employers who pay school fees for them. Thus, employers' support contributes to the transfer of knowledge acquisition from classroom to work place. Similarly, when they obtain diploma certificates in education, in-service teachers enjoy pay increases and promotions in their places of work.

Following this argument, it is evident that learners are motivated to participate in distance learning due to its flexibility, timeliness, dependability and affordability for students in the programme. In agreement with this argument, Vicki et. al., (2018) noted that learners become responsible for their learning because distance learning provides them with the occasion to decide what, how and when to learn.

According to Seaman, Allen, & Seaman, (2018), learner participation in distance learning programmes has increased, specifically, in higher education. Researchers such as Levy, (2007); Stoessel, Ihme, Barbarino, Fisseler & Stürmer (2015) have continually redefined learners' participation in the light of ability of individuals to interact extensively with learning content, instructors, peers, and the learning environment. At the same time, they

acknowledge major challenges, such as low levels of learner performance, passive participation, and higher attrition rates.

However, few researchers have addressed the issue of low participation in distance learning programmes as highlighted in the study conducted by the World Bank (2017) exemplifying the fact that low participation in distance and e-learning programmes are the basis of little progress in access to tertiary education. Although a vast amount of related literature exists in distance education area, not much research has been done to analyze how combined management practices influence learner participation in distance learning programmes in the growing population of Rwanda. Therefore, understanding learner participation is vital to any learning environment to boost teaching and learning using learning management systems, given the fact that learning and participation are interrelated alluding to satisfactory experiences and learning outcomes (Hrastinski, 2009; Sama Haniya, Lic Pacquette, 2020).

Further research has shown that distance learning can be as effective as face-to-face learning, but only if learners are provided with well-designed interaction activities (Hawkins, Graham, Sudweeks & Barbour, 2013; Joksimović, Gašević, Kovanović, Riecke & Hatala, 2015; Picciano, 2002). Croxton (2014) found that well designed and engaging interaction tasks played a significant role in learner persistence in distance courses. Therefore, it is imperative that distance education institutions design learning environments that foster meaningful interactions for learners

School attendance is mandatory for distance learning students at different study centers of the College of Education. During the weekend tutorials, tutors read students' names within the attendance sheet or passes the attendance sheet to students and asks them to sign beside their names. When there are internet connection points, an automated attendance system helps tutors to monitor students' attendance. This methodological approach enhances competencies among learners with the capacity to use four communication skills of writing, reading, listening and speaking. |

Library services are viewed as a precursor for performance through research and development. Proudfoot and Kebritchi (2017) and Sharifsbadi (2006) reiterated that the dire role of the library is to improve and increase e-learning education and to offer information resources for users, while librarians play an important role as information keepers. Huwiler & Anja (2016) conducted a study on library support services. The findings showed that libraries

need to ensure easy access to services for distance learners and raise awareness of their existence by using different marketing strategies.

In the context of Rwanda, mobile library services are provided by the College of Education to fulfill learner support strategies which include lending services for learners, postage of books to learners and reference materials for students and tutors in different study centers. Instructors or tutors conduct weekend tutorial sessions using teaching and learning strategies to ensure that the content, assignments given for assessment, references for different sources of information are covered as they have experience in dealing with solving learner's problems.

Regarding administrative support services, Azadeh, et. al., (2017) considered those that motivate learners to participate in distance learning programmes. He stated that administrative support services should include admission criteria for candidates, standards for quality and rules and regulations for guidance and orientation of the learners. Kam et. al., (2019) alluded to the above set standards stating that administrative support services are those made available for enabling the learning environment for students to continue in the programme. Yim, et al. (2018) also stated that administrative support service is a genuine one which is more than just paying lip service and which could assist in integrating the culture of technology use amongst the learners and instructors. That is why administrators should be committed to providing any support because administrative handling of issues is a significant cause of student anxiety and failure (Asli et al. 2012).

Concerning tutorial support services in the College of Education, tutorial sessions are organized in a way that students often meet with tutors who respond to learner's questions, offer detailed explanations to key concepts and theories and guide learners on personal development plans for academic performance (COL, 2003). However, Panagiotis (2010) argued that notwithstanding the institution's independence, self-motivation and interaction with peers and learning resources, distance learners have limited application of the knowledge acquired. In this perspective, instructors are expected to create a cordial relationship with learners in order to help them overcome learning challenges.

Concerning face-to-face sessions, Thorpe (2008) noted that physical contact is the supreme approach of offering support services which are made available to distance learners particularly in emerging institutions. The tutorial sessions provided are moderated by an

assigned instructor who goes beyond the instructional design to explain about relevant course materials that are aligned with the enquiries from learners. In agreement, Vera, et.al. (2021) emphasized that without tutorial support sessions, students would resolve to keep on exploring more and more in search of plausible answers.

With reference to provision of ICT infrastructure and services in Rwanda, the policy of ICT in Education was established in 2016 with the aim of improving preparation of the current generation of students for a workplace where ICT tools such as computers, internet and other related technologies have been adopted in the teaching and learning process. According to UNESCO Education sector (2019), provision of ICT devices such as desktop computers, laptops, projectors, local wireless and school servers covered 66 per cent of both secondary and higher education institutions. This means that the practice of providing ICT infrastructure and services would lead to effective service as learners are engaged in their studies. Thus, provision of digital technologies (ICT facilities) enable learners to establish platforms for exchanging ideas through interaction and discussions. Ultimately, this has made it necessary for learners to undertake courses while in their homes and places of work. Conventionally, through ICT infrastructure and services, learning occurs anytime anywhere because on-line resources can be accessible twenty-four hours a day. Using teleconferencing lecture halls also allows both learner and the instructor to interact simultaneously with ease and convenience. As a result of emerging technologies in education delivery, learning and teaching no longer depend exclusively on printed materials. Multiple resources are abundant on the internet, and knowledge can be acquired through video clips, audio sounds, visual presentation and many other approaches (Jo Shan Fu, 2013). A case in point is the 2020 academic interruptions due to the COVID-19 pandemic when distance learning relied on resources of the digital fields as well as the management of ICT and the development of digital skills among learners and instructors. These prompted teachers and students to relearn new ways of accessing, transmitting knowledge and interacting in cyberspace (De Vincenzi, 2020).

Fuinhas et al., (2019) highlighted three assumptions of communication technology services, pointing out that communication can assist educators to plan, design, select and develop quality distance education programmes. In addition, the use of multimedia technologies has inspired instructors in the application of quality instructional materials in teaching and learning processes. It is also stipulated that transmission of the instructional materials is based on the assumptions that the roles of media are in tandem with communication characteristics such as storage, transmission and delivery using text based content and one or two-way

communication. In the views of O’Laurence (2007) and Datha et al. (2010)) learner support services have been embraced by the use of ICT infrastructure and services to serve the learner better.

In consideration of personal motivation, which is a moderating variable in the current study, researchers and educators have long been interested in this factor since it is closely connected to achievement and desired outcomes. Lumsden (1994) defines motivation as learners’ willingness to take part in the learning process. Dörnyei (2015) views it as an indispensable part of the challenging task of learning. The absence of motivation would fail individuals even if they are equipped with the most outstanding abilities. Motivation is the first condition to take on a learning task and it is the engine that powers the process. Dörnyei (2020) suggests that the concept of motivation is closely associated with engagement, thus, motivation must be ensured in order to achieve student engagement. He noted that any instructional design should aim to keep students engaged regardless of the learning context, whether traditional or e-learning, which is a tough job considering the myriad of distractions in the new century. In the classroom environment, learner motivation, acquired through classroom experiences, or resident in the learner, plays a vital role (Hedge, 2001).

Higgins et. al (2007), in their survey, asked students to identify likely reasons for choosing to go to university. The study findings showed that 92 per cent of students enrolled for university studies to gain a qualification. In another study by Rhodes and Nevill (2004) on the reasons for aspirants to join university studies, the results showed that self-motivation in terms of knowledge acquisition, career opportunities and empowerment in the job market were some of the reasons for their participation in distance learning programmes.

1.1.2. Theoretical Dimension

This study was grounded on constructivism and systems theories. According to constructivism theory, learners construct their own knowledge based on experience and interpretation. This means that as learners experience the world and reflect upon those experiences, they build their own representations and incorporate new information into their pre-existing knowledge (Saul McLeod 2019, Schemas 2021). In relation to this, Sherry (2003) and Moodle (2015) alluded that social constructivism plays a critical role in increasing knowledge through social interaction and information exchange. In all ways, social constructivism is a learning theory that views learning as a social process where students collaborate by engaging in group activities for meaningful learning to take place. Teachers employ instructional guidance by using teaching methods that allow knowledge discovery

and construction by students as they interact and work together in the learning process. Therefore, social constructivism shifts the responsibility of knowledge acquisition from the teacher to the student and also transforms the student from a passive listener to an active participant and a co-constructor of knowledge among co-learners.

Systems theory on the other hand is an interdisciplinary study of systems as they relate to one another within a larger, more complex system. In distance learning system, interaction of learners with learning materials is one type of interactivity in relation to instructor-learner, and learner-learner relationships through provision of administrative, tutorial support and ICT infrastructure and services as well as motivation to learn. This means that anything affecting one of these interrelated variables affects the entire system.

In today's work and labour market that require skills and knowledge to perform the tasks, education has become crucial to individuals, institutions and governments (Hugh Lauder and Ken Mayhew, 2020). Since education contributes to the nation's development, it is its social responsibility to address the needs of the society and ensure that those needs are met for the betterment of the society in general. Michael (2013) contextually explains that distance and e-learning is understood today as an acceptable and viable approach to education delivery in which both developing and developed countries see themselves as contributors in the provision of quality education. In view of this, remote learning has gained support and recognition as one of the success stories in extending distance and e-learning in terms of richness, acceptance and productivity.

In terms of richness, Michael (2015) stated that distance and e-learning digital tools are used to address the needs of the society especially for people living in remote areas. For acceptance in distance and e-learning, Aliet et al (2012) noted that distance education mode of delivery is an appropriate approach that can supplement traditional system of education. In regard to productivity, Tahir et al (2011) posits that distance and e-learning has contributed significantly to the provision of quality Education, Research and Development.

In support, Gary et. al. (2016) agreed that tertiary institutions decided to adopt distance learning in order to increase the number of people who want to join tertiary institutions. While organizations devoted to Distance Learning with the purpose of improving employees through capacity development, individuals join Distance studies to enhance their career prospects without having to attend physical lectures.

1.1.3. Contextual Dimension

Low enrollment in higher education calls for alternative education delivery to increase learner participation. For example, in the academic year 2014/2015 in Uganda, out of five hundred and eighteen thousand nine hundred and thirty-one (518,931) secondary school graduates who had applied to join public Universities, only eighty-six thousand (86,000) applicants representing only 54 per cent, were admitted to universities. Similarly, World Education News and Reviews (2013) reports that in Nigeria out of one million six hundred and seventy thousand eight hundred and thirty-three (1,670,833) candidates who had applied for admission to the universities in 2013/2014, only five hundred and twenty thousand (520,000) candidates were admitted, representing only 31.1 per cent of the total enrollment in tertiary institutions.

This implies that with few places available, most university applicants who qualify to join higher learning institutions are unable to gain entry. For example, University of Swaziland started offering Distance learning programme in 1995 with 100 students and by 1999, only five hundred students had been enrolled in the programme, representing 13 per cent of total university enrollment.

In Kenya, the Education Sector Plan (2015) reported that there were four hundred and eighty-three thousand, six hundred and thirty (483,630) students who had enrolled for high school examinations during the academic year 2015. However, out of eighty thousand (80,000)

candidates who had been slated for admission to higher education, only sixty-seven thousand, seven hundred and ninety (67,790) students were admitted in 31 public institutions.

In Rwanda, learner participation in distance learning programmes is of paramount importance because traditional conventional education has been unable to cater for all higher education needs. An indication of low participation in distance learning programmes in Rwanda is that since 2001 when distance learning was established at the Kigali Institute of Education, only 5,919 students have graduated in the programme (MINEDUC, 2018). Therefore, Higher education should enhance distance learning programmes so as to meet the needs of many people countrywide.

According to the NISR Report (2015) there were over forty-five thousand (45,000) students who qualified to join the only public university in Rwanda in 2014, but due to shortage of infrastructure and resources to cater for regular or traditional classes, only ten thousand (10,000) students are admitted to higher education every year. This situation emphasizes the need for Distance Learning programme to supplement education delivery across all private universities and Colleges or campuses that form University of Rwanda which is the only public institution of higher learning.

The current study was conducted in Rwanda which has experienced ethnic strife in the recent past. The strife resulted in ethnic genocide which impacted the education sector in ways that made distance learning a crucial part of education delivery in the country. As a repercussion of the 1994 genocide perpetrated against the Tutsi ethnic group, secondary education was adversely affected. This was because most of the qualified teachers sought refuge in the countries neighboring Rwanda and beyond.

When the conflict ended some returnees found themselves in teaching appointments without necessary qualifications. According to Rubagiza et.al (2012), 65 per cent of the teachers in Rwandan secondary schools were under qualified in 1995. Muvunyi (2013) also observed that the teaching gap in Rwanda was exacerbated by the introduction of the free Nine Years Basic Education enrollments. In 2008, Kirehe and Nyaruguru districts had more than 80 per cent of secondary school teachers with only Advanced Certificate of Education (A Level). This was happening during the period when diploma was the ideal teacher qualification for lower secondary schools while a Bachelor's degree certificate was ideal for upper secondary education. Due to a shift from Nine-year basic education (9YBE) to Twelve-Years Basic Education (12YBE), the proportion of qualified teachers nationwide declined to 48 per cent (Republic of Rwanda, 2015). Similarly, Leach (2014) indicated that at secondary education level, only sixty-seven percent (67 %) of the teachers were qualified.

When the government of Rwanda realized that a large proportion of secondary school teachers were teaching without the right qualification, Education Institute was commissioned to help in-service teachers by introducing Distance learning programme as a substitute to conventional classroom learning. Thus, Distance Training programme was introduced for unqualified secondary school teachers in order to meet teaching prerequisites. The Department of Education Report (2015) showed that from 2008 to 2013, only thirty-seven thousand six hundred and thirty-two (37,632) students had joined public higher learning institutions out of more than forty-five thousand (45,000) students who complete secondary education every year. This is a very huge gap for a country that is trying to fight poverty in order to achieve socio-economic development for its growing population.

1.2 Problem Statement

A major drawback for African countries is low participation in distance learning programmes, compared to other developing regions such as the United Arab Emirates (UAE) with an enrollment rate of 14 per cent, Asia with 10.4 per cent and Latin America with 18, 4 per cent (OECD,2013). The contemporary gross tertiary education enrollment ratio in Sub-Saharan Africa (SSA) is 9.4 per cent, which is way below the global average of 38 per cent and yet Africa is viewed as a potential market for expansion of tertiary institutions and one of the largest regions in the world with above one billion people (UNESCO Institute of Statistics Data, 2020). Thus, in order to support distance learning, African countries need to work together to lay down strategic financing mechanisms and provision of administrative support services such as tutorials, ICT infrastructure and services to motivate learner participation while addressing the demand for high school graduates who want to enroll for higher education.

Article 13 of the United Nations (1966) stipulates that “higher education shall be made equally accessible to all on the basis of capacity by every appropriate means, in particular by the progressive introduction of free education, However, developing countries, such as Rwanda are still struggling to provide higher education to deserving students. A group of researchers have all independently observed that inequalities of access to higher education still exist around the world (Badat, 2004; Bekhradnia, 2004; Brennan, 2004; Smith & Casserly, 2006). In Africa, the Southern Africa Regional Universities Association (2011) reports that access to higher education is low and disturbing. Yilmaz (2016) and Rapanta et al., (2020) have also stated that distance learning in developing economies is confronted with infrastructure-related challenges such as availability and functionality of online tools, irregular electricity and internet facilities, and requisite skills to participate in online learning platforms. Thus, the need for distance education institutions to provide support services to students (Dube, 2020; Elumalai et al., 2020). These learner support services could improve learner participation in distance learning programmes.

The Ministry of Education in Rwanda introduced free primary Education in 2003. As a result of this strategy, enrollment rate increased from 23,227 to 86,478 in 2012 for primary education (NISR, 2015). In 2008, 12YBE was introduced and the outcome of this initiative was that a number of high school graduates who qualify to join higher learning institutions rose from 9,000 to 12,000 students. Even though efforts were made to increase enrollment in

higher learning institutions, only 25 per cent of the candidates are admitted to colleges and universities every year. According to the NISR Report (2015) there were over forty-five thousand (45,000) students who qualified to join the only public university in Rwanda in 2014, but due to shortage of infrastructure and resources to cater for regular or traditional classes, only ten thousand (10,000) students are admitted to higher education every year. This situation emphasizes the need for Distance Learning programme to supplement education delivery across all private universities and Colleges or campuses that form University of Rwanda which is the only public institution of higher learning.

Similarly, 47.4 per cent of the teaching force were employed in the primary sector but without necessary qualifications while in secondary education, 45 per cent of the teaching force were also untrained. Thus, there was need for in-service teachers to upgrade and attain necessary requirements for teaching services and bridge the human resource gap in the education sector (Government of Rwanda, 2015).

At the beginning of the distance learning programme, five hundred (500) in-service teachers were admitted in the first cohort to the Kigali Institute of Education at Diploma level. After 18 years of existence, only five thousand, one hundred and ninety-five (5,195) students have graduated from the distance learning programme. A serious drawback is that although there are many high school graduates and employees in various organizations who want to register for the distance courses in various disciplines, only a few have been admitted. A critical challenge facing distance education in Rwanda is limited learner support services ranging from infrastructural, administrative, financial constraints and e-library services. For example, the challenge of poor internet connectivity is a big burden on serving teachers living and working in rural remote villages compared to their urban or semi-urban counterparts. However, improved learner support in distance education can be pivotal in meeting the needs of the learners.

In 2001, Kigali Institute of Education established ten distance training centres and provided equipment/ facilities such as video conference rooms, computers, internet connection points and e-library corners in order for distance learners to have access to and communicate with instructors and among themselves. These infrastructural services were fully functional for a period of five years. When external funding stopped in 2006, the Ministry of Education continued the financial support for a while, but later on, started experiencing budget constraints. Consequently, challenges related to internet connection, lack of maintenance of the equipment and access to e-library resources became critical until today.

Additionally, administrative support services related to organizing workshops and induction week for new students also stopped. These constraints affected operations of the distance training centres and regional coordinators in ways that call for an investigation. In view of this, the current study sought to examine how institutional management practices and personal motivation to learn influence learner participation in distance learning programme in the College of Education, University of Rwanda.

1.3 Purpose of the Study

The purpose of the study was to establish the influence of institutional management practices on participation of learners in the distance learning programme in the College of Education, University of Rwanda. The study also sought to establish how personal motivation to learn influences the association between management practices and learner participation in the distance learning programme. The combined management practices which are considered as management practices include: Administrative support services, Tutorial support services and ICT infrastructure and services.

1.4. Objectives of the Study

This study sought to achieve the five objectives on learner participation in distance learning at the College of Education in the University of Rwanda. The objectives were:

1. To examine the influence of provision of administrative support services on learner participation in the distance learning programme
2. To assess the influence of provision of tutorial support services on learner participation in the distance learning programme.
3. To determine the influence of provision of information and communication technology infrastructure and services on learner participation in the distance learning programme.
4. To analyze the combined influence of all aspects of management practices on learner participation in the distance learning programme.
5. To assess the moderating influence of personal motivation to learn on the relationship between institutional management practices and learner participation in the distance learning programme.

1.5. Research Questions

The study sought to answer the following research questions on learner participation in distance learning at the College of Education in the University of Rwanda

1. How does provision of administrative support services influence learner participation in the distance learning programmes?
2. In which way does provision of tutorial support services influence learner participation in the distance learning programmes?
3. How does provision of information and communication technology infrastructure and services influence learner participation in the distance learning programme?
4. What is the combined influence of institutional management practices on learner participation in the distance learning programmes?
5. What is the moderating influence of personal motivation to learn on the relationship between institutional management practices and learner participation in the distance learning programmes?

1.6. Research Hypotheses

This study tested the following research hypotheses on learner participation in distance learning programmes at the College of Education, University of Rwanda

1. H₀: Provision of institutional administrative support services does not have significant influence on learner participation in the distance learning programmes
2. H₀: Provision of tutorial support services does not have significant influence on learner participation in the distance learning programmes
3. H₀: Provision of institutional information and communication technology infrastructure and services does not have significant influence on learner participation in the distance learning programmes
4. H₀: Institutional management practices do not have significant influence on learner participation in the distance learning programmes
5. H₀: Personal motivation to learn does not have significant moderating influence on the relationship between institutional management practices and learner participation in the distance learning programmes.

1.7. Significance of the Study

This study was conducted to provide an understanding of the role played by institutional administrative practices in learner participation in distance learning. The findings of the study are also expected to help policy makers and planners to make informed decisions for the distance learning mode of learning.

In addition, the findings of the study shall be utilized by the University of Rwanda to evaluate their institutional activities in terms of learner support services and lay down strategies for practical solutions to problems being faced by learners in order to increase enrollment and service provision in distance learning as envisaged by the country's Vision 2024. The study also will add to the body of knowledge in open and distance e-learning.

1.8 Justification for the study

The main reason for choosing to undertake the current study in the College of Education at the University of Rwanda is that it was the only public institution with various colleges and campuses in the country. In particular, the College of Education was the only college that offered distance learning programmes.

Secondly, the Ministry of Education was planning to introduce dual mode of learning in all colleges and campuses and to expand distance learning centres countrywide to cater for those who qualified from high school but could not join face-to-face studies at the University of Rwanda due to inadequate facilities. It was therefore necessary to carry out a study that would establish the key factors influencing learner participation in distance learning. This would enable the Ministry of Education and the University of Rwanda to roll out the programmes of distance learning based on research evidence about the mode of learning at the University.

1.9. Study limitations

A limitation according to Nkamani (2015) is what a research tool is not able to achieve because of the rules, regulations and logistical problems. This study was limited to the University of Rwanda's experience and so its findings may not be applicable in all other situations outside the country. Secondly, some informants may not have given their honest opinions in spite of all the precautions taken. Triangulation, using more than one data source was used to reduce such errors, namely, questionnaire, informant interviews and focus group discussions. Another limitation was lack of motivation on the part of respondents for answering all questions. Thirty questionnaires were nullified on account of this as only the first page of the questionnaire had been filled.

1.10. Delimitations

The study was conducted in the six out of ten distance training centers in Rwanda. Selection of the six centers was aimed at getting a representative sample of respondents who would

give their perspectives on the support services given to them in their educational journey. The centers consisted of the College of Education in the City of Kigali; St Alloys Senior Secondary School Rwamagana (Eastern Province), Musanze Secondary School (Northern Province), Butare Secondary School (Southern Province), Gihundwe Secondary School and Nyundo Secondary School (Western Province).

The Centers had a total of one thousand, six hundred and forty-six (1,646) students who were pursuing a Diploma course in Human and Natural Sciences in Education. The study focused on analysis of institutional management practices relating to provision of support services to learners and utilization of the services by learners in the learning process at the College of Education.

1.11 Research Assumptions

Some research assumptions were made to facilitate the study. One of the assumptions was that the targeted respondents would be knowledgeable enough about the services made available for students to facilitate learning. Furthermore, it was assumed that respondents would be frank and provide truthful information that would be useful in assessment of the management practices and personal motivations to learn through distance and e-learning programmes.

Nevertheless, care was taken to clarify to the respondents that the information they provide would be treated as confidential and would only be used for the purpose of the research. It was also assumed that provision of administrative, tutorial and ICT support and infrastructure services would have some influence on learner participation in the distance and e-learning programme.

1.12. Operational Definition of Key Terms

The key terms used in this study are defined here below:

Information and Communication Technology infrastructure and services- the networks such as application of computers and telephone using one link of a system to assist organizations run efficiently. The measurable indicators for this variable were internet connectivity points, provision of video conferencing facilities, provision of computer for learning, electronic mail accounts for students as well as the provision of digital video, CD-ROMs to students for learning.

Institutional management practices - is used to combine provision of administrative support services, provision of tutorial support services, and provision of ICT infrastructure and services.

Learner participation –This is an act of taking part or engagement of learners through sharing ideas, opinions and view points in the process of learning. Participation provides opportunities for learners to determine what to read, how to find a book in the library and appropriate time to learn. Therefore, the more the use of available support services such as administrative and tutorial support services as well as ICT infrastructure and services, the more the participation of learners in the distance learning programme. The measurable indicators consist of registration for course, attendance of orientation session attendance of tutorial sessions, taking assignments, engagement in home study, engagement in learner-learner interaction, use of library, study of e-learning resources and payment of requisite fees.

Personal motivation to learn- This is the energy responsible for the intensity, direction and persistence of the efforts of a person to achieve a certain goal. The measurable forms of personal motivation to learn which is considered as a moderating variable in the study comprise commitment to the institution, salary increment and promotion upon completion, tuition fees waiver and personal development.

Programme – A coordinated and established set of vigorous and focused results-oriented learning actions aimed at achieving measurable objectives.

Distance Education -Describes any teaching and learning that happens without the students being physically present in the lessons.

Provision of Administrative Support services- all administrative support services made available by the institution such as planning and quality of the curriculum, orientation and induction for students, scheduling workshops and seminars for students, distribution of study materials, registration and admission as well as record keeping for future reference.

Provision of tutorial support services- the services made available by an institution mainly through an instructor who helps learners to understand concepts, theories and practical solutions to problems faced by students. Measurable indicators for this variable comprise provision of face-to- face weekend tutorials, learner- tutor interactions and discussions during residential schools, peer discussion and interactions as well as career guidance and counselling services.

1.13. Organization of the Study

This study consists of five chapters. Chapter one presents background and context of the study, problem statement, purpose of the study, research objectives, research questions, hypotheses, significance and limitations of the study. It also presents operational definitions of key terms and organization of the study.

The next chapter discusses related literature on the dependent variable referred to as learner participation in distance and e- learning programme and independent variables consisting of provision of administrative support services, provision of tutorial support services, provision of ICT infrastructure and services and personal motivation to learn.

Chapter three discusses methodological approaches used such as study design, target population, sample size, sampling procedure, data collection, data analysis and ethical considerations. The fourth chapter covers the analysis of data, its presentation and interpretation of the results obtained through questionnaires, key informant interviews and focus group discussions. The five groups of respondents are distance learners, tutors, provincial coordinators, director of School of Open and Distance e- Learning (SODe-L) and course instructors (lecturers). Finally, chapter five presents the summary of the Findings, Conclusions and Recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction

The literature reviewed is from various studies that have been conducted in the framework of learner participation in Distance learning. The aim was to analyze how institutional management services such as provision of administrative support, tutorial support and ICT infrastructure made available relate to participation of learners in the distance learning programme. The chapter also attempts to analyze the moderating influence of personal motivation to learn in the programme.

Studies reviewed in this chapter consist of participation of learners in distance learning and how this relates to management practices, provision of administrative and tutorial support services, provision of ICT infrastructure and services as well as motivation to learn. This chapter also deals with the theoretical framework on which this study is anchored. The chapter further presents the conceptual framework of the relationships between the variables in the study as well as a summary. The objective of the literature review was to establish the current status of research in this area of study and to identify knowledge gaps therein which the current study intended to fill.

2.2. Learner Participation in Distance Learning Programmes

The term learner participation refers to the act of learning and engagement of learners in order for students to develop communication networks, express feelings, opinions and viewpoints during discussions and interactions in their studies. Therefore, understanding learner participation is vital to any learning environment including those that use learning management systems (Hrastinski, 2009; Sama, Haniya & Pacquette, 2020). Hrastinski (2009)

further noted that learning and participation are interrelated, implying that learning outcomes and experiences are satisfactory.

Davies (2005) and Nurbiha et. al., (2015) measured the degree of learner participation employing digital tools in communication among learners while in different study locations. The study findings revealed that students who failed some particular units did so because of their passive participation in interactive discussions while others who often met via communication networks performed well in examinations.

Another study carried out by Cregan (2005) revealed that learners who met frequently to discuss, using online student portals passed all registered modules. This was further emphasized by Helena et. al (2011) who noted that voluntary participation in group discussions significantly contributed to the learner's success rate. In addition, learner participation is viewed by Sheilla et. al (2014) as a learning process which makes the learner realize his potential by using different learning strategies. Furthermore, Jeongju et.al. (2019) allude that learner participation in distance and e-learning leads to positive learning outcomes, such as a high level of learning achievement and higher-order thinking abilities, as it permits learners to vigorously engage in learning anywhere any time.

The above interactive approach enhances competencies among learners and the capacity to use four communication skills of writing, reading, listening and speaking. It is well understood that language proficiency helps learners to express themselves while discussing with tutors.

The reasons for learner participation in distance learning programmes are many but the topmost benefit of distance learning is its flexibility. Learners can choose when, where, and how they learn by selecting the place, time and medium for their education (Education.com, 2020). For employees who want to upgrade their qualifications while on the job, distance learning creates a relaxed schedule that works for them better. Many people participate in distance and e- learning programmes because of the envisaged backing from their employers who pay school fees for them. Thus, employers' support contributes to the transfer of knowledge acquisition from classroom to work place. Similarly, when they obtain diploma certificates in education, in-service teachers enjoy pay increases and promotions in their places of work.

Following this argument, it is evident that learners are motivated to participate in distance learning due to its flexibility, timeliness, dependability and affordability for students in the programme. In agreement with this argument, Vicki et. al., (2018) noted that learners become responsible for their learning because distance learning provides them with the occasion to decide what, how and when to learn.

According to Schneider (2013), most prospective students join distance learning programmes because of their strong desire to advance their knowledge and skills. Similarly, students who have enrolled are motivated to learn because of the perception that their success will assist them to achieve academic recognition and work place promotion.

Nicholas et. al., (2015) noted that distance learning discourses give priority to needs of the learners throughout their learning process. Referring to a study conducted by Dumazedire (1967) in France on reasons that motivate students to learn through distance mode, Ngoma (2009) and Wenting (2017) agreed that people take in distance learning activities because they want to improve their performance and be recognized for their valuable contributions toward the success of the companies they work for. According to Jingjing et. al., (2017), many individuals undergoing the effects of rapid changes in their occupational lives would benefit from distance learning and realize their potentials and dreams for learning while working. Curiosity was also considered to be another motivating factor that compel learners to participate in distance education programmes.

Di Xu et. al., (2013) argued that individuals participate in the learning process, on the one hand, because it helps them to satisfy their curiosity to join higher education. On the other hand, individuals are interested in exploring new fields in consideration of their career growth and prospects. The study by Di Xu et. al (2013) revolved around individual participation and did not explicitly and quantitatively demonstrate how lack of infrastructure may hinder learner participation in distance learning programmes.

Like students on campus, faculty members and librarians should make available library resources and encourage distance learners to develop the culture of reading for knowledge acquisition. While doing assignments, librarians can offer learners specific research

assistance by availing reference books, e- books, journals and other technological devices. Moreover, library services are viewed as a precursor for performance through research and development. In regard to access to library services, Proudfoot and Kebritchi (2017) reiterated that the dire role of the library is to improve and increase e-learning education and to offer information resources for users, and librarians play an important role as information keepers.

In addition, Sharifsbadi (2006) noted that librarians play a significant role of providing information to library users. Block (2008) noted that the significance of library services to learning cannot be underrated and learners should continually be encouraged to seek library support. Huwiler (2016) also conducted a study on library support services. The findings showed that libraries need to ensure easy access to services by distance learners and raise awareness of their existence by using different marketing strategies.

In the context of Rwanda, mobile library services are provided by the College of Education to fulfill learner support strategies, which include lending services for learners, postage of books to learners and reference materials for students and tutors in different study centers (Ndagijimana JB, 2016). Regarding the success of the distance learning programme, Ndagijimana (2016) noted that some learners find it helpful to learn as a group which strengthens them to enjoy companionship and friendship. He further explained that students create a strong relationship and become closer to each other due to continuous working in groups. In addition, quite a number of distance learners are attracted to the social interaction while learning as this helps them to avoid boredom.

Kang (2013) also explained that physical interactions between instructors and learners play an important role in increasing enrollment into universities. Similarly, Awla (2014) noted that an instructor should adjust to the prospectus in order to satisfy learning styles and preferences of the learners. Physical interactions also enable learners to decide on the ways of learning, and brighter students are able to help their colleagues with learning difficulties.

Awla (2014), Shiundu and Omulando (1992) observe that discussion and interaction among learner's increase completion rates. On his part, Mcleod (2019) explained that constructivism theory makes provision for a learner to construct his or her own knowledge, based on experience and interpretation. In relation to this, Sherry (2003) and Moodle (2015) alluded

that social constructivism plays a critical role in increasing knowledge through social interaction and information exchange. In all ways, social interaction in learning processes facilitates exposure, curiosity and evidence-based knowledge.

Whereas Gbolagade (1999) emphasized that simulation of textual interactions using many illustrations assists in the process of understanding the core materials developed, Lawless (2019) highlighted the six levels of blooms taxonomy in cognitive learning. According to lawless cognitive learning is a skill that critically analyzes deeper level of understanding of the concept and theories that result into good presentations, summaries and paraphrasing complex texts. In this way, learners can be able to organize, compare, and to deconstruct relationships between different aspects of the material and generate new ideas.

In the context of the current study, weekend tutorials in teaching and learning strategies should ensure that the content, assignments given for assessment, references for different sources of information and other related forms are accomplished. Thus, tutors should be accountable to learners because they have experience in dealing and solving learner's problems. Learner participation as the dependent variable in the current study is presumed to be influenced by these institutional management practices. The practices comprise administrative and tutorial support services as well as ICT infrastructure and services.

2.3. Institutional Management Practices

The institutional management practices are combined to include provision of administrative support services, provision of tutorial support services, and provision of ICT infrastructure and services and they are considered as independent variables. The measurable forms for provision of administrative support services are institutional planning (issuance of timetables), curriculum quality (detailed course outline), induction and orientation, handling of faculty issues, distribution of study materials and admission and registration process.

Regarding provision of tutorial support services, measurable indicators are scheduling of tutorial meetings for face-to-face classes, provision of career guidance and counselling services, scheduling of workshops and seminars, scheduling of peers meeting for discussion and interaction, and library services. Concerning provision of ICT infrastructure and services, measurable indicators comprise provision of video conferencing facilities, provision of

internet connections points, electronic mail accounts, provision of computer for learning and provision of digital video and CD –ROMS and access to e-libraries

2.3.1. Provision of Administrative Support Services and Learner Participation in Distance Learning Programmes

Cognizant of the fact that administrative matters are important in either determining success when well-coordinated or failure when neglected, institutions must pay attention to support programmes and other related issues that may become stumbling blocks in pursuit of quality experiences. Azadeh, et. al., (2017) discussed administrative support services which are made available for the learners and which motivate learners to participate in distance learning programmes. He noted that administrative support services should include admission criteria for candidates, standards for quality and rules and regulations for guidance and orientation of the learners. Kam et. al., (2019) alluded to the above set standards stating that administrative support services are those made available for enabling the learning environment for students' continuity in the programme.

Similarly, James (2010) and Serena, et. al., (2016) reiterated that distance learning institutions need to focus on support services which enable students to achieve learning outcomes and success in learning processes. They further asserted that a successful distance education institution needs a support a team of experts geared toward promoting the quality of education. Administrative support services are considered key to students' satisfaction and appreciation of distance learning programmes.

In explaining the role of communication and enrollment in the DE programmes, Emanoil (2013) states that sharing and exchange of information, opinions and ideas by writing or visual means through forums, meetings and workshops motivates and attracts the attention of people. Therefore, information sharing and feedback mechanisms that takes place contributes to the success of distance learning institutions in respect of coordination, team spirit and creation of positive attitudes towards the institution's enrollment strategies.

However, Tariq, et. al., (2020) reiterated that distance learning institutions should ensure that they make known the principles, strategies and policies that guide them in teaching and learning processes. They argued that management teams under patronage of the head of institution should perform functions of planning, organizing, staffing, controlling, directing and communicating for effective and efficient service delivery. William (2014) expounds on

the five requirements of leadership as coming up with clear and effective strategies that support plans for achieving institutional mission and objectives, developing corporate beliefs, values and personal involvement. This is considered as a good model of corporate culture for ensuring quality and delivery of services.

According to Badu-Nyarko (2010), distance learning students become comfortable when academic and administrative staff members have positive attitudes towards student's needs, alluding that creation of study groups empowers students to interconnect well and share ideas which would ultimately bring forth academic success and satisfaction among learners. In regard to distribution of study materials, Katarzyna (2019) stresses that print materials remains one of the media of instruction for delivering distance learning programmes. In particular, in the College of Education, vehicles are used in the distribution of study materials to various study centers throughout the country.

However, students at the College of Education often receive modules quite late which results in delayed assignments, examinations and feedback. These challenges affect student's performance and participation in distance learning programme. The experience thus shows that it is a slow process and it is only technology that can simplify the work in terms of delivery of the study materials in time and without using too many resources which result in high cost of delivery.

Snippet (2008) points out that record keeping is important as it is a point of reference for retrieval and future use, which is an appreciation of service delivery. Student records, tutor or lecturer records of the results and other teaching materials are provided by the department of Educational Studies. Vrocharidou (2012) and Khosrowpour (2002) explained that the role of the office of academic registrar in the management of DE Programmes is to keep and maintain student's records, examination results and fees payment. This means that students' records are retrieved manually and sometimes electronically. Each student has a file containing his or her background information, student progress including passed and failed courses, and information about attendance as obtained from residential schools. However, Luyombya and Ndagire (2020) concluded that the effectiveness of delivery of services in universities lies in their ability to develop and adopt records management procedures to assist staff in managing records.

In particular, administrative support systems lays down admission procedures, registration process, access to information from records, distribution of course materials, submission of assignments for marking, and arrangement of face-to-face/ weekend tutorials. According to Douglas et al, (2004) the adoption of Distance learning programme is a strategic decision of

an institution and is influenced by varying needs, objectives, the process employed and structure of the institution. This therefore requires the institution's top brass management to provide a life line strategy and action in their organization.

Overall, extensive literature exists to support the imperativeness of top management to succeed in strategic plans. With the innovative and realistic approaches, institutional managers need to come up with sound quality policy which stipulates to institution's corporate mission and vision on the quality of their product and services.

Similarly, Datnow (2020) explains that administrative support is considered as professional actions executed by the principal's agent to support career guidance and counseling programs, but could also facilitate adoption and renovation of technology. This view is based on the fact that administration of distance learning programmes revolves around aspects of on-line education, including registration, security of data, saving and updating learner progression data, institutional training and technical support (Hope, 2015).

Yim, et al. (2018) exemplified the matter stating that provision administrative support services are genuine and significant more than just paying lip service. The technical support services assist in integrating the culture of technology use amongst the learners and instructors. In addition, Yim, et.al (2018) further reiterated that administrative support services together with the use of technology infrastructure and services are very crucial in the sense that in the distance-learning context, administrative support is essential for the satisfaction of students. That is why administrators should be committed to providing any support because administrative handling of issues is a significant cause of student anxiety and failure (Asli et al. 2012).

Concerning University support, Sarkhelet al., (2014) explained that in distance learning programmes, learning devices, learning systems, facilities and personnel play a critical role in teaching and learning processes. Other researchers such as Simpson (2013) claimed that the support services offered by the university could be measurable indicators for retention of students in the programme.

Technical support services could also influence the students' way of thinking, with problem solving ability, varying methods and interest to achieve learning outcomes. Therefore, there is no doubt that distance education institutions have a prominent position in embracing digital technologies in education delivery. In this aspect, Nicolas, et al (2012) revealed a number of studies in organizational sciences, organizational communications which affirmed strongly

that support from universities are an essential factor which influences greatly diverse aspects of cognition and emotional outcomes in Education.

Although Badu-Nyarko (2010) noted that students require more assistance from faculty in order to carry on learning activities effectively, Ingirige and Goulding (2009) show that digital technologies used in distance education institutions vary from one institution to another, but they should all endeavor to work towards helping learners to learn better. In agreement, Raturi et al., (2011) alluded that students' desire for a strong briefing is key to the training on the use of communication tools including Skype and MSN Messenger.

In regard to provision of academic support services, the institution's management practices play a greater role in providing technology enabled services to distance students. This implies that support services rendered contribute to the retention policy of the institution in one way or another. For instance, financial support to distance learning institutions is a cornerstone for retention of the learners. However, with minimal student's loans, it is very difficult for students to obtain financial assistance.

The institution should, therefore, find ways and means of providing student loans to be able to attract even those who are reluctant to join higher education institutions. In the distance learning centers, learners who are experiencing academic challenges should seek tutorial support from tutors designated in distance training centers while the centers should have adequate facilities for employees at the work place.

The College of Education, University of Rwanda, takes into consideration the support services in regard to its strategic planning, goals, policies, procedures, faculty recognition, and provision of infrastructure and services. The recent one is a new University of Rwanda's Open and Distance e-Learning policy (2019) that has strategic goals of establishing an ODeL system that underpins the provision of relevant, equitable, flexible and affordable high quality education.

As explained by Were (2008), strategic planning is a long and short-term. He however noted that programme quality is not achieved overnight, but rather, gradually follows the road map which tries to guide institutions on the cost effective use of resources available and maximization of gains. Indeed, many governments have supported distance education institutions in order to maintain status quo of their mission and vision. To do that effectively, it requires faculty members to fully participate in Distance learning programmes because they provide numerous support services to learners (Yim et. al 2014). Furthermore, were (2008) states that strategic planning is an effort that brings together strategic action

plans that enable organizations to determine what needs to be done and when to implement the policy which should be aligned with the mission statements. Horst et.al (2019) and Altonenet et. al (2020) agreed that strategic action plans act as a means to deliver what the institution wants to be done, what it will be in future, and when to start implementations as guided by strategic plans. However, when making a strategic plan, Puni et al. (2014) pointed out that managers need to know the market gaps between the desired future, current reality, perception and experiences of the institutions.

In this respect, the need to undertake a SWOT analysis is of paramount importance because it helps in focusing on key issues that affect management practices in making available services to learners. However, previous researchers indicated that some faculty members were not convinced that distance education programmes were the same as those of traditional courses. They believed that institutions involved in education philosophies are substandard, thereby rendering them low level of cognition. Notwithstanding this, SWOT identifies many factors that formulate a company's strategy on the basis of strengths, weaknesses, opportunities and threats to observe both internal and external environments (Jones et al., 2002; Kotler and Armstrong, 2012).

Conversely, McLean (2006) observes that there has been no study carried out related to institutional participation in distance education delivery with particular reference to distance learning educators. He also emphasized that there is little or no research carried out in view of individual level experiences within the faculty, especially in the distribution of learning packages.

In agreement with the views expressed above, Spruijt et al., (2015) regard teacher's perceived use of interactive technology with students who are directly involved in distance learning as minimal. In view of this, limited literature in this area will be supplemented by the current study on institutional management practices that sought to establish how provision of various support services to learners can influence learner participation in distance learning programmes.

It is also noted that there is a planning gap between the desired future and the current reality at the College of Education. This implies that the vision and mission of the College of Education are not perfect but serve as a source of motivation and inspiration. They are cherished in the institution's service charter that specifies courses on offer and which meet labour market needs. Therefore, to bridge the gap, a strategic policy reflected as a product should be marketed to the stake holders to realize its full potential.

In consideration of institution's prospects, Gakuu (2009) explained that distance education institutions need to start courses that spur customer's careers and create meaningful enrollment strategies for one to continue with his/her current job while studying, fulfilling life styles and learning approaches. In regard to quality of the programmes, quality assurance is key in terms of appreciating the status of the University in its ranking from a global perspective. The Education Sector Report (2018) observes that distance learning programme at the College of Education has maintained its strategic actions to make distance learning in Rwanda more effective through good management practices and delivery of services.

In addition, the same report (Education Sector Report 2018, highlighted that the School of Open and Distance e- Learning is faced with numerous setbacks such as poor library services, inadequate ICT services and unskilled administrative personnel. While there is enough literature on institutional management practices in distance learning elsewhere, there is little evidence in Rwanda on what actually motivates people to participate in distance learning programmes, given that private students are not yet eligible to apply for admission as the government has not yet embraced it. Provision of tutorial support services are more likely to influence learner participation in distance learning programmes.

The induction week is explained by Mullendore and Banahan (2005) as an educational institution function which introduces new students in their new academic institution by faculty members. It is believed that during physical contacts with academic departments while orienting new students, they pick up certain traits and characters which would later make them adjust to the new environment and impact on their academic performance.

Under normal circumstances, students' placement enables them to adapt better to a new environment. In case of campus-based students, it is believed that they are socially and mentally lost due to lack of psychological support from their former teachers, friends and parents. However, utmost benefits of orientation are that learners are given opportunity to talk to the institution's personnel about issues related to the rules and regulations of the university, faculty staff members, suitable tutorial schedule, financial aid and their future academic plans.

During the induction week and orientation, learners are introduced to a variety of learner support services and other support systems. According to Nsiah (2011) distance learning students become knowledgeable and confident with teaching and learning delivery systems through training when new digital technologies are introduced.

In contemplation of the continued provision of facilities, Welch and Reed (2005) further accentuated that distance education institutions ought to offer adequate facilities and learning resources to learners. The administrative and academic support services include all information on admission, registration, examination and timetables. It also includes the availability of academic progress report to students upon request (COL, 2003). In effect, any assistance provided by administrative staff to students and teachers contribute to the overall well-being of the institution.

For example, in the College of Education, University of Rwanda the service charter of the university specifies that prospective students have the right to information about the admission requirements, rules and regulations in regard to the does and don'ts and other expectations such as prerequisites for examinations, lecture attendance, pass mark as well as interaction with the student's representatives. In addition, administrative manual stipulates obligatory provision of tutors to visit the learning centers mainly to interact and discuss with student's specific subjects or chapters for questions and feedback.

In distance learning institutions, the issues that upset learners are inadequate infrastructure services and this is well documented in different studies. For example, OECD report (2017) uncovered that the major restraints to giving adequate support for learners are financial resources and lack of experts in using digital technologies for teaching and learning. In addition, Tait (2003) underlined politics, policy imperatives, manpower, instructional materials, facilities, incentives, attitude, management, infrastructure and limited possibilities for income generation as disablers of learner support services.

Guan et al., (2016) argues that the major constraints for learner support, on the one hand, are technical and, on the other, administrative on the basis of institution's inability to respond to the needs of the learners as well as for staff who work in an ineffective organizational structure that fails to explain the roles and responsibilities among support units.

Basing on the above inhibiting issues, Guan et al., (2016) appeals for leadership that is capable of coordinating and providing guidance to the support units. Indeed, these authors agree that the students' retention and successful completion would only be assured if the workforce are adequately trained and well remunerated. Besides that, the same authors underscore the need for learners to be well motivated so as to fulfill the requirements in their learning pathways. Although the above mentioned authors stressed hindering aspects of the learner support services, there is limited evidence on how these factors impact learners in terms of support services. This justifies inclusion of the current moderating variable, namely motivation to learn in the distance learning programmes.

2.3.2. Provision of Tutorial Support Services and Learner Participation in Distance Learning Programmes.

Distance learning institutions are increasingly gaining popularity nowadays. They seem to exhibit flexibility in accepting larger numbers of learners. In essence, learner's flexibility virtually removes all physical barriers to education. However, other researchers such as Falowo (2007) have noted barriers to learner participation in distance learning programmes such as residential costs, transport costs to attend weekend tutorials and student isolation. A similar view is held by Kotler et al, (2012) who stressed that without student support services, learners are likely to drop out of the programme due to difficulties such as expenses of study, disruption of family life, perceived triviality of their studies and lack of support from employers for those who have jobs. Therefore, the necessary support services can be equated with customer satisfaction in the business world and with it the reputation of the distance learning institutions could be maintained and sustained.

In attempt to offer services such as to learners seeking information from members of the faculty, access to library facilities and collaborative communication through television, radio and other channels of communication, distance learning institutions need to develop unique structures to compete in offering world class education to distance learners across the board.

In the context of Rwanda, there are four (4) regional study centers comprising Rwamagana, Nyundo, Huye, Kabgayi and Kigali. These regional coordination centers are managed by regional coordinators who are staff of the University of Rwanda. In addition, there are six (6) provincial centers which are managed by heads of centers and part-time tutors. The heads of centers are under the supervision of regional coordinators. These provincial centers consist of Kigali, Byumba, Musanze, Huye, Gihundwe and Nyundo.

In regard to tutorial sessions in distance education, institutions are organized in such a way that students often meet with tutors who respond to learner's questions, offer detailed explanations to key concepts and theories and guide learners on personal development plans for academic performance (COL, 2003). However, Panagiotis (2010) argued that, notwithstanding their independence, self-motivation and interaction with peers and learning resources, distance learners have limited application of the knowledge acquired. For this reason, instructors are expected to create a cordial relationship with learners in order to help them overcome learning challenges. In addition, COL (2003), alludes that to ensure a good learning experience, the teacher, among others things, should provide information about the

objectives of the study programme, assess students' progress on a regular basis, provide opportunity for students to ask questions and control the learning experiences.

Concerning face-to-face sessions, Thorpe (2008) noted that physical contact is the supreme approach of offering support services which are made available to distance learners particularly in emerging institutions. The tutorial sessions provided are moderated by an assigned tutor who documents all enquiries from learners. Aggor and Asomaning (2007) also agree that face-to-face tutorial sessions are key to academic success, stating that without tutorial support sessions, students would resolve to keep on exploring more in search of plausible answers.

An important aspect of the tutorial sessions remains that physically, learners and tutors discuss and interact thus, improving teaching and learning processes. However, the size of the class becomes an important concern that should be dealt with. Apparently, the class size issue does not permit interaction and participation between the tutor and the students and is also a challenge for interaction and discussions amongst learners themselves. In contrast, Barwick (2007) noted that there is limited research that has been done to prove that small class sizes are better than large class sizes in distance learning because there are other aspects that need to be put into consideration.

The tutor's role according to Jeff' et al. (2009) is to mark assignments with care so as to provide significant feedback and to provide appropriate support. Additional emphasis by Donkor (2011) recognizes the primary role of tutors during face-to-face sessions. They make learning materials more understandable thereby motivating learners to succeed in distance learning programmes. Tutor's motivational techniques such as using assignments to reinforce tutoring, devising ways of making interaction possible among students and providing career guidance and counselling services contribute to learner's success.

In recognition of the important contribution of tutors in academic achievements, Stoten (2016) asserts that tutors should be well looked after by DE institutions because they are faced with unprecedented challenges related to learner's attitudes towards academic work, personal, family and financial circumstances. Competent and experienced tutors should also be employed by institutions because they make students feel happy and comfortable. For instance, the College of Education, University of Rwanda has tutors who facilitate the face-to-face tutorial sessions for the students at each regional center. The university is also tries to provide students with access to e-tutorials via internet links such as video conferencing, e-mail, skype and online student portal.

In regard to conducting effective and efficient face-to-face tutorial sessions, Sukati (2007) gave guidelines stating that each module should have fifteen (15) lecture hours and ten (10) tutorial hours during the academic year. The lecture hours include time for tests and other assessment work as well as guidance and counselling services. Concerning on-line tutoring, Tella et al. (2001), as cited in Kanninen (2008), underlined that tutor's work in on-line learning is to design the learning process in a way that motivates the students to learn and to enhance the communication network between students and faculty. Kanninen (2008) further highlighted the role of the tutor as to organize the learning process that aid learners to appreciate what they learn and to encourage learners to routinely use social networks in sharing resources for improving learning outcomes.

Concerning on-line learning environs, Nsiah (2011) explained that instructors function is to guide students, assisting them to track the learning pace and to fully utilize on-line means in the absence of face-to-face meetings. He further noted that class size varied from one institution to another stating that the right class size is mainly based on the nature of the class or programme. Nsiah (2011) drew conclusions on the study he conducted in the three institutions, guided by the findings which showed that the class size was between 15-30, 18-30 and 12-15 in the first, second and third institution, respectively.

This is also linked to what Fang Lai, et al. (2013) explained that tutorial support services offered to students in distance education mode of learning are principally geared toward bridging the gap between the learner and the tutor. In agreement, Gbolagade (1999) noted that the tutor's role is like that of a midwife or a go-between, with the course writer on one side and the didactic materials used by learners on the other side. This forms a basis for tutorial support services such as counseling and library support, which are offered in a bid to satisfy distance students in their educational journey. He further expressed that the best way to give tutorial support services is to use the small group method as a technique which enables the tutor to interact with the learner for better understanding of the course content and other aspects that could put students in a better position to succeed in assessments. Therefore, a tutor ensures that presentations are done by students under his supervision so that everyone can understand.

Anderson et al. (2012) also emphasized that the tutors' role is to take part in the teaching process as it is part and parcel of their duties and responsibilities. Tutors use a wider range of teaching techniques which encourages students to interact, thereby promoting dialogue that enables learners to respond to questions raised. This adds value in learners' performance and

strengthens the relationships among them. However, it should be made clear that a tutor does not create new concepts but rather works as an intermediary and provider of hope for an improved understanding of the text and learner's ability to synthesize the work and effectively apply the knowledge acquired. In addition, the primary purpose of tutoring in higher learning institutions is to create and build a strong social relationship with learners which results into effective learning strategies (Hye-Jung Lee, et al.; 2016).

According to Pérez-Jorge et.al, (2020), tutoring ought to accompany learners in the development of learning charms and strategies, personal development plans to study different subjects must conform to individual characteristics and formative contexts. On the basis of contemporary learning contexts and the reality left by COVID-19, there will be need to embrace changes in the interaction between instructors and learners using digital technologies in education delivery.

For effective provision of tutorial services, Kishore (1998) highlighted a 3-tier system consisting of planning, executing and monitoring student's progress as well as providing appropriate physical, financial and human resources for success of an institution. However, Kishore (1998) emphasized that capacity development through training the support staff in various study centers is mandatory for quality work towards achieving institution's objectives. This calls for the application of new assistive devices in the delivery systems through coordination of activities.

In the context of this study, regional centers are given tasks of coordination and monitoring of activities of study centers of the University of Rwanda. Thus, the centers act as nodal agency between the College of Education and distance training centers and ensure that admission and orientation of new students are conducted well for a good understanding of the new academic environment.

Mentorship and career guidance also seem crucial in learner support services for distance students. A study by Kennelly & Monrad (2007) confirmed that mentoring relationships have positive effects on peer groups in a variety of personal, academic and professional situations. In addition, mentorship connects learners to personal growth and development as well as economic opportunities and handles issues that affect aspects of the learners in impacting change. Guidance and counseling services for Distance education learners touch on their lived experiences that include aspects of academic, social, personal, occupational, health, family and spiritual dimensions (Risk, 2013).

Given the independent learning concept of Distance Education, library services should play a critical role in the learning process which is an essential part of support services (Kamau and Selepeng-Tau, 1998). In addition, library services provide learners with the opportunity to select, acquire and refer to books and other printed materials. Some libraries tend to serve the general student body with a variety of books covering many disciplines and a few books for reference within the library.

According to Aden, Sybouts and Wess, (1998); Pérez-Jorge et.al, (2020), education institutions should ensure that libraries are well equipped and that library services are the same as for students residing within the university. It is therefore vital to innovate ways of reaching out to Distance education learners with the relevant collection of books, especially learners living in remote rural areas.

Through guidance and counseling services, learning experiences are shared, which assist learners to succeed in social and academic performance. The guidance services comprise sequences of activities leading to achievement of goals. Kankam and Oniuehu (2000) define counseling as ‘a procedure which takes place in a one-to-one liaison with learners affected by problems which they cannot solve alone’. This is always done by an expert counsellor whose training and experience enables him to help others find solutions to various types of personal difficulties.

Thus, counselors assist students in creating plans and choices that meet the latter’s personal development plans. Counseling services in education setting identify barriers to learning and how to overcome them, help learners to transfer from education to work and in career growth and opportunities. In this respect, guidance and counseling interventions target all aspects of student’s life. Lasode et al., (2017) notes that guidance and counseling interventions have three components; techniques and learning difficulties, strategies on a variety of learning strategies and how to use learning time judiciously.

In regard to the likely interventions for an individual who feels isolated trying to interact with another learner remotely compared to other students within the campus, remote learning continues to encounter challenges in accessing facilities such as libraries, laboratories and limited counselors who may assist in overcoming difficulties. This might impact negatively on a student’s academic life.

2.3.3 Provision of ICT Infrastructure and Services and Learner Participation in Distance Learning Programmes

A growing body of literature has examined attributes of technical support services for distance learners. Among these are Albert, et. al., (2016) who described technical support as an operation towards helping and assisting students regarding computers and communication technology and Barbera, et.al. (2013) who viewed technical support services as the assistive technologies that enable learners to learn effectively and efficiently. Similarly, Baleghi-Zadeh, et al. (2017) have attributed technical support services as key in the delivery of services and satisfaction of students in the distance learning programme. They further stated that in order for technical support to be successful, there should be analytical outcomes on the beliefs of the users in their acceptance or rejection of information system. This implies that in consideration of the situation where users are faced with challenging issues related to lack of assistance in sight, learners would regard their participation in distance learning as a waste of time and resources which would compel them to quit the programme. That is why Poon, et. al., (2013) asserted that technical support services are merely considered as a means to facilitate student learning and which must be fulfilled whatsoever if distance-education programme must succeed. This resonates with Alshammari, et.al (2016) who noted that technical support services such as making available assistive technologies in teaching and learning enable learners to have positive attitude and acceptance towards harnessing digital technologies in education delivery.

In summary, provision of appropriate technologies and equipment to instructor and learners contribute immensely to the smooth running of distance learning programmes. Distance learning institutions that provide all relevant assistive technologies in education delivery, make distance learners appreciate and become motivated to learn more than their on-campus counterparts. This also attracts attention of the teaching staff and encourages them to put more effort and feel more motivated and enthusiastic to continue their teaching services. Moreover, the institution's success depends on various parameters related to conducive learning environment, course content, student –teacher interaction and technology enabled students.

This is supported by Harris et al., (2008) who observed that the institution's success in distance education delivery is largely accredited to the effective provision of ICT infrastructure and services which, in turn, enables them to make effective use of instructional methods and communication networks that support flexibility in learning processes.

According to Shivangi (2020), rapid developments in harnessing digital education in education delivery using different terminologies such as on-line and virtual learning, web-based, computer-mediated and blended learning empowers learners to use computers with internet connectivity. This creates an enabling environment for learning from anywhere any time.

Lukas et. al. (2020) also notes that the support given to distance learners is geared towards creating a balance between studies and work as well as harnessing digital technologies in education delivery. On his part, Tikkanen (2019) alludes to the importance of the distance education institutions in their strategic directions and reforms in education. In view of the foregoing discussion, it seems that provision of assistive devices in distance learning institutions depends upon the enthusiasm with which the institutions embrace ICT infrastructure and services in distance learning to address challenges in teaching and learning and as a change agent in economic competitiveness. Mahlangu (2020) views ICT as a change agent because ICT use catalyzes various other changes in the content, methods, and general quality of teaching and learning, thus ensuring constructivist inquiry orientation for students. ICT is also considered as a central force in economic competitiveness as it deals with economic and social shifts that have technology skills critical to future employment of today's distance students.

The provision of ICT infrastructure and services by Distance Education institutions has facilitated learners to undertake courses while in their homes and places of work. Rajesh (2003) noted that in the past few decades, the economy of the developed nations had grown immensely because of technological innovations, and that information communication technology (ICT) is an enabling influence in shaping the new global economy and creating rapid changes in the society.

Some studies in the past decades have found that the use of ICT in education delivery has basically changed the way people communicate and organize business. Wambugu (2008) noted that in today's world of work, economies and experts need computer skills just like reading, writing and arithmetic skill because they are fundamental in people's lives. In support of these views, Ngare (2014) observed that Kenya has tried to catch up with other countries that use digital technology in education delivery. Different authors such as Karan and Essel et al (2019) have also noted that industrialized countries have embraced ICT use in education delivery. Therefore, assistive technologies in the contemporary world has played a key part in increasing distance learning opportunities.

Fuinhas et al., (2019) highlighted three assumptions of communication technology services, pointing out that communication can assist educators to plan, design, select and develop quality distance education programmes. In addition, the use of multimedia technologies has inspired instructors in the application of quality instructional materials in teaching and learning processes. Fuinhas et al., (2019) also stipulated that transmission of the instructional materials is based on the assumptions that the roles of media are in tandem with communication characteristics such as storage, transmission and delivery using text based content and one or two-way communication. According to O’Lauarence (2007), and Dathaet al. (2010)) learner support services have been embraced by the use of ICT infrastructure and services to serve the learner better.

ICT seems to have emerged as an overriding mechanism of system support. According to Saba (2011), the advantages of ICT use lies in two areas; first, the ICT in teaching and learning is recognized for its potency to meet learner’s needs and for its effectiveness in service delivery (Thompson, 2005). The services provided include but not limited to on-line registration, publication of examination results, automation in finance and handling of learners’ complaints (Floyd & Powell, 2004). Secondly, ICT enhances collaboration via telephone, internet and video conferencing (Makhanya, 2016). This enables distance education institutions to reach their third generation system that uses e-learning as a mode of delivery (Sumner, 2000; Gil, 2014).

Mahajan, et al., (2019) explained the role of internet in learning and teaching processes. They noted that Massive Open and Online Courses (MOOCs) enhance collaborative learning which fosters students’ satisfaction. Enforcement of the use of emerging ICT services in teaching in educational systems can help learners to become familiar with ICT, thus producing people who can use these ICTs in workplaces for effectiveness and productivity (Ashfaq et. al. 2016).

It is in this perspective that Ashfaq et.al. (2016) emphasized the enhancement of ICT infrastructure and services to support teaching-learning paradigms, thus contributing to student’s enjoyment, creativity and motivation for professional development.

The benefits of providing ICT infrastructure and services are that learners get timely and satisfactory assistance for engagement with fellow learners during interaction and discussion. In addition, ICTs use has enabled distance learning institutions to become innovative and raise their profile in service delivery to learners (Sumner, 2000, Saba, 2011, Ndayambaje & Ngendahayo, 2014). The purpose of the current study resonates with the strategic directions other distance education institutions have taken by seeking to establish how provision of

information and communication technology infrastructure and services influence learner participation. On their part, Kathrine and Liz (2016) explain that communication networks enhance dialogue and structure in teaching and learning. Thus, ICT infrastructure and services should be employed during the learning phase, and thereby increase focus on student's intellectual, physical and emotional needs. In this respect, course content should be flexible enough as dialogue between learners and tutors and reflect the course objectives, content and teaching strategies.

In the same way, Dillon and Blanchard (1990) emphasized that using one-way audio communication, information in terms of course content should be in the form of the spoken exchange between the instructor and the learner. They noted that audio-conferences link learners in remote rural areas in different locations using ordinary telephone lines. This kind of link enables learners to interact and enjoy the benefits of electronic voice communication with their colleagues in separate locations. It is also believed that audio communication medium simplifies interaction between learners and instructors using several media such as commercial telephone calls, speaker phones and tele-conferences.

As put forward by Sedgwick et al., (2009), the most prevalent medium used by distance learning institutions is video conferencing because students receive immediate feedback. By using online platform, the course content can be planned, facilitated and managed by both the instructors and learners.

In regard to emails, White (2003) explained that use of emails improves writing skills while video conferencing improves listening and speaking skills. Rahman (2014) observed that electronic correspondences are some of the most recent practical development in the field of distance and e-learning using computer mediated communication. Therefore, ICT creates an enabling environment in which students and instructors use their personal computers and modems to connect to a central host computer that runs conferencing software programme. The proliferation of internet has further facilitated social interactions between peers, collaborative group work, instructor-learner interaction and discussion as well as access to on-line resources and feedback.

As explained by Howell et al. (2008), the use of internet in today's world of work has contributed immensely to learner-learner and learner-tutor interactions. It can be proved that internet is being used in Distance Education more than any other interactive correspondences, and student portal discussions. According to Thomas (2007), internet is being used more than interactive television (ITV) in education, postal correspondences and campus based

learning. The benefit of the growth of internet is that digital media are transferable, storable, and widely accessible, utilizing wide and local-area networks.

As explained by Demetrio's et.al (2017), video conferencing is also considered to be the best interactive method that simplifies the work of professionals when interacting with learners. Video portals also reduce communication costs on the part of the institution and allows people in remote areas to succeed. However, Demetrio's et.al (2017) were quick to mention that there are still some challenges to technology mediated distribution and infrastructure, especially in remote rural areas.

In the past decade, some studies have investigated the implementation of electronic technologies at institutional and national levels (Abel, 2005; Arafeh, 2004; Collis & van der Wende, 2002; OECD, 2005; Trucano, 2005). The findings of these broad studies and surveys indicated that information and communication technologies are used mainly as an alternative approach for both in campus-based and distance teaching institutions. The researchers have also indicated that most institutions lack a strategic view for using advanced technologies and that national policies on the implementation of electronic technologies are almost nonexistent.

Despite hundreds of impact studies, the effect of the new technologies on student achievements remains difficult to measure and open to much reasonable debate. According to Trucano (2005) who reviewed hundreds of studies on the impacts of new technologies on student achievements, there are few conclusive statements on advantages about the use of these technologies. For every study that cites significant impact, another study finds little or no such positive impact. For instance, Hiltz et al. (2001) did a meta-analysis of 19 empirical studies comparing student learning and other subjective measures in asynchronous learning online compared to traditional face-to-face learning. They found out that additional learning needs (ALN) tends to be as effective or more effective than traditional modes of course delivery at the university level.

Russel (2001) examined at the same year more than 200 citations of empirical research on the implementation of digital technologies in elementary and secondary education, higher education, adult education and professional training. His major conclusion was that there is no significant difference between achievements of students who studied through educational approaches that have used technology and those that have not. The current study, therefore,

purposed to establish the contribution of provision of institutional ICT infrastructure on participation of learners in distance the distance learning programme at the University of Rwanda.

2.4. Personal Motivation to Learn and Participation in Distance Learning Programmes

Personal motivation to learn is considered an important driver of learner participation in Distance Education in this study. Learner motivation may be based on many different considerations. In this respect, gaining a qualification can be a major factor that drives high school graduates to pursue their studies through distance education mode of learning. It is also believed that self-directed learning contributes immensely to learner's success and confidence. Students are also motivated to participate in distance learning programmes because distance learning activities are instrumental in solving matters affecting their lives (Dumazedire, 1967).

In this study, personal motivation to learn is a moderating variable that was perceived as having an influence on learners to participate in the distance learning programmes. The measurable indicators of this study comprise of commitment to the institution, salary increment and promotion upon completion, tuition fees waiver and personal development. In order to understand what motivates one to learn in distance education programmes. It is important to explore the reasons put forward by the learners as well as their personal experiences.

It is thus, very crucial to understand what, how, why, where and when students learn based on their personal development plans. In regard to commitment to an institution, Olkinuora et. al (2010) measured student's level of commitment and success in their major subject, stating that socialization with peers at the residential schools and career prospects or opportunities are indicators of motivation. When students are motivated by the institution, their expectations are likely to be met, an assurance that learners can succeed in their course work.

Higgins et. al (2007), in their survey, asked students to identify likely reasons for choosing to go to university. The study findings showed that 92per cent of students enrolled for university studies to gain a qualification. In another study by Rhodes and Nevill (2004) on the reasons for aspirants to join university studies, the results showed that self-motivation in terms of knowledge acquisition, career opportunities and empowerment in the job market were some of the reasons for their participation.

For employees who want to upgrade their qualifications while on the job, distance learning creates a relaxed schedule that works for them well. Many people also intend to participate in distance and e- learning programmes because of the envisaged backing from their employers who will pay their school fees. Similarly, when they obtain diploma certificates in education, in-service teachers enjoy pay increases and promotions, thereby, confirming the view that employers' support contributes to the transfer of knowledge from classroom to work place. In view of the foregoing discussion, learners seem to be motivated to participate in distance learning because of its flexibility, timeliness, dependability and affordability for students. In agreement with the above observation, Vicki et. al. (2018) noted that learners become responsible for their learning because distance education provides them with the occasion to decide what, how and when to learn.

According to Schneider (2013), most students in distance learning programmes participate in distance learning programmes because of their strong desire to advance their knowledge and skills. They are also motivated to learn because of the perception that their success will assist them to achieve recognition in academic excellence and work place promotion. Nicholas et. al. (2015) noted that distance learning discusses the priority needs of the learners throughout their learning process. Referring to a study conducted by Dumazedire (1967) in France on reasons that motivate learners to learn through Distance Education, Ngoma (2009) and Wenting (2017) agreed that people take up distance learning activities because they want to improve their performance and be recognized for their valuable contributions toward the success of the companies for which they work

According to Jingjing et.al. (2017), many individuals are going through the effects of rapid changes in their occupational lives. Therefore, distance learning would benefit persons in realizing their potentials and dreams for learning while working. Curiosity was also considered to be another motivating factor that compels learners to participate in distance education programmes.

In agreement, Di Xu et. al. (2013) reiterated that individuals participate in the learning process partly because it helps them to satisfy their curiosity to join higher education. On the other hand, individuals are interested in exploring the new field in consideration of their career growth and prospects. Nonetheless, these studies revolved around individual participation but did not explicitly and quantitatively demonstrate how personal motivation to learn can moderate the influence of institutional management practices on learner

participation in distance learning programmes. It is the purpose of the current study to fill the gap concerning the variable.

2.5. Theoretical Framework

The theories which were relied upon to provide explanations for the relationships between variables in the study are presented in this section. The study is grounded on constructivism and systems theories. Constructivism theory according to Brumble and Calister (2000) re-organizes the content and plans delivery methods that ultimately puts the learner in control. In this regard Distance Education institutions promote socialization and increases the degree of interaction between learners, instructors and the institution.

In addition, Berge (2000) explained that constructivism theory uses the learning model based on the nature of knowledge and interaction via learners' explanations, collaborations, critical evaluation, comments and information sharing. In this way knowledge is constructed through critical, analytical and rational decisions and improvement in selecting course enrolment and training programs. The reason for using constructivism theory is that it empowers researchers on how to make an enquiry in which data collected is analyzed and interpreted. This enables the researcher to understand, describe, predict and control physical phenomenon.

Social constructivism is a collaborative form of learning based on interaction, discussion and knowledge sharing among learners (Vera Idaresit Akpan et.al., 2020). The instructor's role is to employ teaching methods that are learner centered and collaborative in nature. The underlying issue is that learners work together in groups, share ideas, find answers to problems or create something new out of discussions to add to existing knowledge. This learning theory deemphasizes teacher-monotony in the classroom, and encourages active interaction among learners, the teacher and other components of the teaching learning process. It also concretizes learning and knowledge by making students retain the facts that they discover and construct by themselves than those they are told by the teacher, among other benefits.

Thus, group interactions constitute theories that dwell on the socio-emotional and cognitive benefits of working in a group. The interaction and exchange of information, ideas, attitudes and perception on different viewpoints raised in group work builds learner's self-esteem. This helps learners to know how to accommodate one another's viewpoints and enhances their capacities in listening and communication skills that enable them to solve problems which are designed to promote learning.

As defined by Woudstra (2009), a system is a set of mutually dependent parts that work together as a whole towards achieving certain goals in which performance is better than those individual parts of the system on their own. Tracing this to the classical times of Aristotle and Hegel, they noted that the system behaves as a whole and any change in one part of the system, affects the entire system. According to Lai et al. (2017), a system's theory is applicable where there is need to put mechanisms in place to ensure practical changes in an organization. The organization in this context is reflected as a super system. Distance education institutions have many operational systems which include administration sub-system which are responsible for policy implementation, course development, delivery and examination. However, it can be noted that each of the sub-systems mentioned above operate separately. This is directly linked to Assey (2004) who highlighted that anything affecting one sub system, affects the entire system.

In brief, constructivism and systems theories are relevant to the current study because both theories help to explain collaborative form of learning based on interaction, discussion and knowledge sharing among peers. This kind of engagement in distance learning help students to become self- directed learners who can seek information on their own initiatives. Therefore, through interaction and collaboration, learners become responsible, problem solvers and develop critical and analytical thinking skills which make them creative and exhibit presentation skills resulting in improved knowledge acquisition and motivation to learn.

2.6. Conceptual Framework

The current study on institutional management practices and personal motivation to learn through distance learning is based on the conceptual framework comprising four independent variables, one dependent variable measured as learner participation in distance and e-learning programme and personal motivation to learn, considered as a moderating variable. The independent variables are considered to have direct relationship with learner participation because it is the social responsibility of the university managers to provide the necessary support services so that learners can participate and enjoy learning that takes place in different study centers. The dependent variable has a direct link with the pillars of institutional management practices presented as provision of administrative support services, provision of tutorial support services, provision of ICT infrastructure and services and personal motivation to learn which could lead to learner participation in the programmes.

The first variable was the provision of administrative support services and its measurable indicators of institutional planning related to the issuance of time tables, curriculum quality (detailed course outline), induction and orientation, handling of faculty issues, distribution of study materials and admission and registration processes. The second variable was the provision of tutorial support services with its measurable indicators of scheduling of tutorial meetings for face-to-face classes, career guidance and counselling services, scheduling of workshops and seminars, scheduling of peers meeting for discussion and interaction and library services. Provision of tutorial support services can help learners to overcome learning difficulties, thus, attracting many people to participate in distance learning programmes.

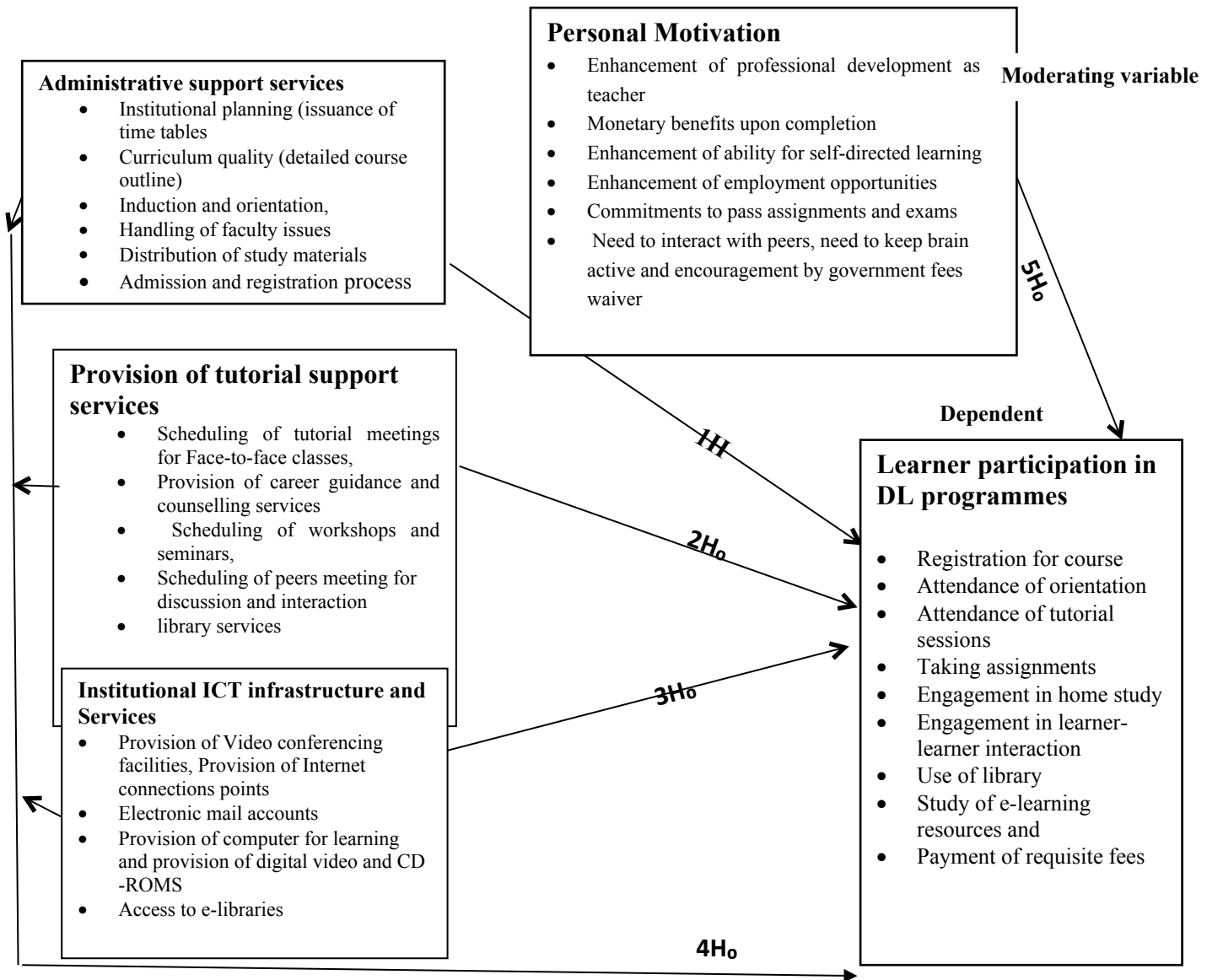
The third variable was the provision of ICT infrastructure and services, internet connection points, provision of electronic mail accounts, provision of computer for learning and provision of digital video and CD –ROM and access to e-libraries. These ICT infrastructure and services were considered to have direct relationship with learner participation in distance learning programmes because distance learning largely uses assistive technologies for learners to register for courses that fit in their schedule and learning styles. The ICT infrastructure and services is the answer to people including full time and part-time students with pressing needs to look after their families while working and studying.

The fourth variable was personal motivation to learn as a moderating variable. The measurable indicators for this variable were enhancement of professional development as a teacher, monetary benefits upon completion, enhancement of ability for self-directed learning, enhancement of employment opportunities, commitment to pass assignments and exams, the need to interact with peers and keep brain active as well as encouragement by government fees waiver.

The fifth was the dependent variable, presented as learner participation in e-learning programmes at the College of Education, University of Rwanda. Measurable indicators of this variable were identified as registration for course, attendance of orientation sessions, attendance of tutorial sessions, taking assignments, engagement in home study, engagement in learner-learner interaction, use of library, study of e-learning resources and payment of requisite fees. All the independent variables were conceived as having relationships with the dependent variable within the frameworks of constructivist and systems theories. Figure 1 shows a conceptual framework of the relationships between institutional practices and learner participation in Distance e-Learning programmes.

Figure 1: Conceptual framework of the Relationships between Institutional Practices and Learner Participation in Distance e-Learning Programmes

Independent variable



Source: Perceived by Researcher

2.7. Summary of Literature Reviewed and Knowledge Gaps

This chapter has presented a review of related literature on the research topic. Key concepts and findings of previous studies have been elicited as well as theories and conceptual framework

From the empirical studies discussed, it is clear that the issues of management practices and personal motivation to learn for in-service teachers in Rwanda had not yet been investigated. Addressing issues of administration, tutorial support services and ICT infrastructure and services are essential concerns in learner participation in Distance and e- learning programmes.

Several previous studies have addressed factors affecting enrollment in distance learning programmes and institutional management practices. However, the studies were carried out in developed and medium income countries such as Kenya and elsewhere and there is need to conduct similar studies in low income countries such as Rwanda. This is because the findings of those studies are not necessarily applicable to a low income country like Rwanda. Thus, there is a justification for this study and its relevancy in the context of Rwanda.

Theoretical gaps from past literature are based on the combined institutional management practices hereby considered as administrative and tutorial support services and the provision of ICT infrastructure and services in influencing learners to participate in distance learning programmes. Where there is inconsistency, hypothetical arguments have been identified and discussed. The theories identified for this study are constructivism and systems theory and their relevance in this study is based on past theoretical knowledge.

A conceptual gap was also identified in previous studies in relation to the use of personal motivation to learn as a moderating variable. The introduction of this moderating variable in the current study gave a better understanding of the role of institutional management practices in learner participation in distance learning programmes.

In addition, contextual gap was also identified whereby previous studies had focused on open and distance learning, course content and course delivery in teaching and learning using synchronous and asynchronous communication as well as learner interaction with tutors using ICT in institutions of higher learning, with little or no consideration for less developed economies like Rwanda. It is important to note that less developed countries have different leadership styles, limited budget for financing distance learning programmes and technical support services related to digital technologies in education delivery and should be accorded special attention which the current study undertook. A methodological gap was also identified in previous studies and this necessitated the use of mixed method approach which enabled the researcher to triangulate information from questionnaire, interview guides and focus group discussions in the study.

However, many researchers have tried to cover the critical issues that affects successful implementation of e-learning strategies in developed, developing, and undeveloped countries. A vast number of studies have also been carried out on the challenges that came as a result of the abrupt implementation of e-learning in the wake of COVID-19. While the discussion on various aspects of e- learning integration is still inconclusive, there is no research that has been conducted on the success stories in Rwanda regarding the challenges different stakeholders experience during implementation of Information and Communications Technology (ICT) notwithstanding the potential and the promise it has in the education sector.

Table 2.1: Summary of Knowledge Gaps

Research topic	Author	Objectives	Methods	Findings	Knowledge gaps
1. Institutional factors affecting student's intention to withdraw from distance education programs	Manal Ibrahim 2011	An examination of the relationship between institutional factors and intention of undergraduate to withdraw from DE programme	Mixed paradigms were used using factor analysis – quantitative method	Distance Education in Arab countries depend critically on quality of institutions and variety of technology used	The author did not address issues related to provision of administrative support services considered as influencing factors for students intention to remain in the distance education programs
2. Factors influencing perception and attitudes of faculty members in analytical subject area.	Sumrall (2002)	To find out factor analysis that affect motivation and participation in DE and to examine current Faculty attitudes and perceptions of Distance Education	Quantitative method	Lack of fit with University mission and goals and lack of incentives and concerns about course quality were the primary obstacles	The researcher focused on factors influencing perception and attitudes of faculty members using quantitative method. The researcher omitted using mixed method that enables researchers to capture view points from different sources

<p>3. A practical analysis of Research on effectiveness of DE programme: What makes a Difference?</p>	<p>Zhao et al., (2010)</p>	<p>To assess effectiveness of DE and to examine how DE learning outcomes are related to previous studies.</p>	<p>Quantitative method</p>	<p>The available data show significant differences in outcomes between DE and face-to-face traditional Education</p>	<p>The researcher focused on effectiveness of DE and outcomes related to previous studies but failed to come up with other scales of measurements such as efficiency, sustainability and equity in terms of access to ascertain what makes a difference in general.</p>
<p>4 A practical analysis of Research on effectiveness of DE programme: What makes a Difference?</p>	<p>Krishman C, (2012)</p>	<p>To examine effectiveness of student support services extended by these institutions</p>	<p>Qualitative method</p>	<p>Integrated technology were the primary findings on solving student's problems in Distance Higher Education</p>	<p>The researcher used qualitative approach to practically analyze the effectiveness of Distance Education by looking at what makes a difference. The researcher did not</p>

					consider using both qualitative and quantitative methods which enables researchers to triangulate information from different sources
5. A study of learners' reflection on andragogic skills of DE tutors	Hussain Irshad (2013)	To evaluate attitude of learners towards academic and tutoring skills of DE	Quantitative and qualitative methods	Reflection of distance learners on andragogic skills of their tutors were positively correlated	The researcher used learners' reflection on andragogic skills of DE tutors but failed to consider pedagogy of children as the method of facilitating both adult learners and young generation in DE. This would have enabled the researcher to know what makes a difference

<p>6. Factors influencing enrollment on distance learning programmes in the UON Nkamani J. (2013) to examine the relationship between management practices and enrollment in distance education. _Qualitative and quantitative methods</p>	<p>Pertinent issues of management practices, marketing, Learner student support services and technology influences enrollment in Distance Learning programmes</p>	<p>The researcher focused on the factors influencing enrolment (competition, faculty and staff, quality school experience, reputation etc) on distance learning programmes but omitted to establish the relationship between management practices considered as administrative support services, tutorial support services, ICT infrastructure and services and personal motivation to learn as influencing factors to learner participation in DE programmes.</p>
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CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes the methods of data collection and analysis that were used in the study. It focuses on study design, population, research tools, data collection approaches, data analysis as well as ethical considerations. The design of the study was used to obtain information within the stated scope in order to find answers to the research questions.

3.2. Research Paradigm

The major research paradigm used in this study is pragmatism which is a combination of constructivism and positivism. Constructivism presupposes that phenomena in the real world is socially constructed and subjective and that the researcher is part of the process of creating social reality. There is no objective reality for the current study but rather it is based on perceptions of the students, instructors and the management of the College of Education. Therefore, the research paradigm explains the transactional and dynamic nature of knowledge (Dagar et al. 2016). Positivism on the other hand, presupposes that phenomena has expressed itself in the field of study objectively and the work of the researcher is to collect and analyze objective information from the field. In this regard, the researcher does not influence the expression of phenomena (Taylor et al. 2013).

In this study, constructivist paradigm dealt with information obtained by interview guide. This information was based on opinions of respondents and was regarded as subjective. On the other hand, positivist paradigm dealt with the quantitative information obtained by questionnaires. The information was regarded as reflecting objective reality.

In brief, pragmatism paradigm was used in the study to guide the shared generalizations, beliefs, and values of information obtained for analysis. It should be noted that pragmatism (mixed mode) presupposes that some phenomena are objective while others are subjective and that both aspects need to be given appropriate recognition (Vibha, 2019).

3.3. Research Design

The fieldwork information and other materials were obtained through a cross-sectional survey research design. The selected cross-sectional survey design approach was used to collect data from a large pool of in-service teachers at one point in time. This research design was appropriate because it enabled the researcher to collect large amount of data within a short time so that analysis could be done and the study concluded within the time limits allowed by the university. Furthermore, the information required, being based on perceptions and opinions about management practices, personal motivation and learner participation required to be obtained in a short period of time to make them comparable among respondents.

The purpose of the study was to establish the influence of institutional management practices and personal motivation to learn on participation of learners in distance learning in the College of Education, University of Rwanda. The underlying issue was that distance learning programme in Rwanda had been operational for over twenty years but the completion rate was low, yet there were many high school graduates, employees who wanted to improve their career prospects and many others who were waiting to join university through distance mode of learning but without success.

The survey objectives were translated into research questions or hypotheses to guide data collection and analysis. The hypotheses formulated reflected the type and level of analysis which were to be performed. Additionally, the survey instruments were validated to ensure that they would measure what they were intended to measure. The survey instruments such as questionnaires, interview guide for key informants and focus group discussion were also tested for reliability to ensure that the data generated would be consistent and accurate.

Lastly, sampling was done to ensure a representative sample that would produce reliable results through qualitative and quantitative data analysis. The sample, therefore, accurately reflected the characteristics of the target population in relation to provision of administrative support services, provision of tutorial support services, provision of ICT infrastructure and services as well as personal motivation to learn and learner participation in distance learning programmes in the College of Education at the University of Rwanda.

Chilisa, (2019) and Cabe (1989) described the term design as encompassing all strategies that describe how, when and where data should be collected and analyzed. They also explain that research design is the actual arrangement of any scientific study from the first to the last step. Similarly, Creswell (2013) emphasized that mixed-methods approach or pragmatism involves gathering information using both numeric and text information tools which represent both qualitative and quantitative features, thus capturing triangulated information from different sources.

3.4. Target Population

Target population is defined by Mc Millan and Weyers (2007) as a whole group of items that might be part of the study. The target population for this study, therefore, were all the distance learning students undertaking a diploma course in education from six selected distance training centers in the College of Education at the University of Rwanda. According to records from the School of Open Distance and e-Learning, there were 1,646 students, 140 tutors, 4 regional coordinators, 6 course coordinators, 20 College of Education course instructors and 2 SODEL managers, adding up to one thousand, eight hundred and eighteen (1,818) (SODEL, 2018). In support of the identified study population, Mugenda (2003) confirms that target population is part of the population which is accessible or reachable for purposes of a study and from where a sample can be drawn.

3.5 Sample Size and Sampling Procedure

This section describes how the sample size was determined as well as the selection of the sample members.

3.5.1. Sample Size

The determination of the sample size for the students was done using the Slovene's formula, $n=N/(1+ Ne^2)$ as presented by Amin (2005) and Cooper (2003). This formula was chosen because it offers a definite size for a study sample. In this formula, 'n' stands for the sample, 'N' represents the target population and 'e' represents the adopted confidence level. Research findings assumed that these numbers represented the whole population and their characteristics could be similar to those of the entire population (Cooper, 2017).

Hence, computation of the sample size was as follows;

Where: n = sample size, N = Total population (1684), e = Percent error (5%).

The sample size was, therefore, obtained as:

$$n=328$$

It is important to note that 328 learners were selected proportionately from their category of 1,646 students. Other categories were selected either proportionately or purposively from their categories as follows:

- a) 25 Tutors who provided weekend tutorials in distance learning centres
- b) 4 Regional Coordinators who were responsible for coordinating all activities of distance learners in the study centres
- c) 4 Course Coordinators who were responsible for implementation of teaching and learning for their specific modules
- d) 3 Course Instructors/ Lecturers who provide overall support to distance learning students once in a semester for a two weeks' period.
- e) 2 senior managers of the College of Education, University of Rwanda. Thus, the total number of participants in the study were 366.

3.5.2. Sampling Procedure

The study employed three sampling techniques which included purposive, stratified and simple random sampling techniques to select the study respondents. The in-service teachers studying through distance learning programmes of the College of Education, University of Rwanda were first stratified into six distance training centres, then proportions to be obtained from each centre were computed and finally, the proportions were selected by random sampling technique. The other categories of respondents were proportionately or purposively selected. These included 25 tutors, 4 regional coordinators, 4 course coordinators, 2 managers of the School of Open, Distance and e-learning and 3 course instructors (lecturers). Thus, the sample members consisted of 366 members who were selected to participate in the study as shown in Table 3.1. This sample was higher than the calculated size of 328 for purposes of accuracy, given that some respondents could fail to complete the questionnaires or show up for interviews and group discussions.

Table 3.1: Distribution of Students

Selected centers	Total no. of enrolled students	Per cent of total enrollment	Number selected for the sample	Staff (tutors)	Number selected for the sample	Other staff purposively selected for the sample
St. Alloys Sec. School Rwamagana	225	13.6	44	14	4	4 regional coordinators
KIE/ College of Education (Main campus)	318	19.3	62	16	5	2 Managers 3 course
Groupe Scolaire Butare	319	19.4	62	16	4	instructors/ Lecturers
Gihundwe Sec. School	275	16.7	54	14	4	
Nyundo Secondary School	229	13.9	45	12	4	2 course coordinators
Musanze Secondary School	280	17.1	55	18	4	2 eLearning officers
Total	1646	100	328	80	25	13
Total sampled population						366

3.6. Data Collection Instruments

The main instruments for data collection were questionnaire, and interview guides.

3.6.1. Questionnaire

Questionnaires were used to collect data from students. The questionnaires consisted of both closed and open-ended questions. According to Masons and Bramble (1997), closed ended questions help in coding, analysis and cross tabulation. Open ended questions were used to allow respondents to give detailed responses and express themselves better. The research questionnaire for students was divided into five sections. Section (a) focused on the socio-demographic characteristics of students.

It addressed learner's characteristics such as age, subject specialization and degree to be earned. Section (b) focused on the provision of administrative support services and their

measurable indicators. Section (c) consisted of questions and statements on provision of tutorial support services and their measurable indicators while section (d) comprised the provision of information and communication technology infrastructure and services as well as their measurable indicators. Section (e) had questions and statements addressing personal motivation to learn in distance and e- learning programmes.

Finally, there were summary questions constructed on visual analogue scale ranging from one to ten. Questions on Likert scale were formulated with responses ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided/Neutral, 4 = Agree to 5=Strongly Agree. This arrangement enabled coding and conversion of the data into numerical values for statistical analysis.

Questionnaires were used for four reasons. First, the survey design adopted for the study necessitated coming up with a representative number from different locations of the country. The quantitative data enabled the researcher to establish institutional factors that influenced learner participation in Distance and e- learning programmes. Secondly, the questionnaire could be dispatched to respondents in different locations and have them respond in a relatively short time (Tafazoli, 2019).

Another motivation was that the targeted respondents were literate and could express their views in writing without any assistance. Finally, the questionnaire was exhaustive, which enabled the researcher to collect data on a variety of measurable indicators of the variables under study (Cohen, et al., 2017).

3.6.2. Interview Guide Questions

Selected interviews for 25 tutors, 4 regional coordinators, 4 course coordinators, 3 course instructors (lecturers) and 2 members of UR-CE management. Through interviews, information which was collected, highlighted enablers and constraints to learner participation in distance learning programmes. The purpose was to bring out respondent's voices, opinions, concerns, testimonies, suggestions and recommendations that would address the issues related to learner participation in the distance learning programmes.

These interviews suited the selected participants in the study for three reasons. First, key informants occupied managerial and teaching positions and had little time to spare for the researcher due to their workload. Secondly, the interview method was the best technique to motivate experts in distance and e-learning to shed more light on the dependent and

independent variables under study, thus supporting the researcher to gather in-depth information on the distance learning programme (Scott & Usher, 2011). Another reason was that the interviews and focus group discussion enabled the researcher to get additional information, lived experiences of the instructors, course coordinators and e-learning officers which added value to conclusions and recommendations for the study (Salaria, 2012)

3.6.3. Pilot Study

The researcher conducted a preliminary test to assess the soundness of the questionnaire, approximate time required to answer the items and to identify likely problems. The pilot study was conducted at Kigali distance training center where 15 questionnaires were administered on distance learners and interview guide on 2 heads of regional coordination, 2 e-learning officers and 2 course developers, making a total of 21 participants. The researcher took necessary actions to revise the questionnaire in time before the actual data collection.

The sample size for the pilot study was supported by Johnson and Brooks (2010) who recommended that a sample of 10 to 30 participants can constitute a good sample for pilot test in educational and psychological survey approaches. The filled questionnaires were then checked for comprehensiveness and consistency. This was done purposely to check on feasibility of the study, clarity of the questions, the language used and the content validity of the instrument from the responses which were provided.

The intent of the pilot study was to verify the accuracy and precision of the questionnaire in terms of length, language, focus, defects in questions or ambiguity (Leary et al, 2006; Scott & Usher, 2011). The study was also conducted to generate data that could be used to calculate the Cronbach alpha index for instrument reliability. The feedback from pretest permitted the researcher to rework the instruments and minimize errors during the actual data collection phase (Cohen, Manion & Marrison, 2017).

3.6.4. Validity of the instrument

Apuke et al. (2017) defined validity as the extent to which an instrument measures what it is intended to measure. The investigator checked to ensure that questionnaire and interview guide questions covered all issues under investigation. This guaranteed that the research instruments did not include anything that was not of interest to the study (Cohen, Manion & Morrison, 2017). As part of assessing the validity of research instruments, the researcher also submitted the data collection instruments to the two supervisors of this study to review and make recommendations. Their feedback enabled the researcher to make necessary adjustments in the tools (Fan & lee 2011).

Questionnaire was the main instrument used for this study. It was divided into several sections to ensure that each section reflected a specific objective. The questionnaire was supplemented with observation schedule in order for the researcher to be able to enhance validity through different sources or methodological triangulation. This approach was done to avoid deficiencies that emanate from using only one method alone.

3.6.5. Reliability of the instrument

As defined by Laichena (2017) and Apuke et al., (2017), reliability is the ability of a data collection instrument to attain accuracy and precision consistently over time. Cronbach's Alpha coefficient was calculated to measure the internal consistency of the research instruments. Cronbach's Alpha Coefficient is a scale measurement which is appropriate in measuring internal consistency in descriptive surveys where there is a range of answers.

For an exploratory or pilot study, it is suggested that reliability should be equal to or above 0.60 (Straub, Boudreau & Geffen, 2004). Table 3.2 shows that the instrument was reliable for collecting data for the study since all the Cronach's alpha scores were higher than 0.60 for the study variables.

Table 3.2: Findings of the Cronbach's Alpha Test

Variable		No. items
Institutional commitment to meet learner's needs	0.79	15
Administrative support services	0.77	38
Tutorial support services	0.74	40
ICT infrastructure services	0.80	33
Personal motivation to learn	0.87	36
Clarity of findings	0.73	15

3.7. Data Collection Procedure

Data collection procedure refers to the techniques which were used in the research to collect data. In this study, a recommendation letter was obtained from the Principal of the College of Education and presented to the Directorate of Research and Innovations for a research permit. Thereafter, research permit was granted. The first step comprised collection of information by desktop review of documents on all the variables for the study. The second step was to administer the questionnaire on DTP students. The questionnaires were distributed and collected during the internship briefings for level two students who were about to start five (5) weeklong internships.

The researcher travelled to the six selected Distance Training Centers to brief students about internship activities. It was during these visits that the researcher also distributed and collected back the questionnaires from DTP students registered in the regional centres of Butare, Gihundwe, Kigali, Rwamagana, Musanze and Nyundo. The data collection was done within two weeks. While in the regional study centers, the researcher interacted with learners who were present at the study center. Questionnaires were distributed to students after explaining to them the purpose of the study and their consent to participate.

Purposive sampling was used to select regional coordinators, course instructors (lecturers), e-learning officers, tutors and the manager of the School of Open and Distance e-Learning. In order to reduce possible errors, omissions and multiple responses, sampled DTP students

were gathered in a lecture hall and briefed on how to fill the questionnaires. This strategy increased the respondents' willingness to participate and enabled the researcher to collect all the filled questionnaires immediately. For the academic and administrative staff members, the researcher conveniently met each one in their offices within the College of Education. However, before administering the interview guide to the staff of the College of Education, the researcher introduced the topic and explained the purpose of the study to every respondent.

3.8. Data Analysis Techniques

The information gathered was analyzed and presented in three steps, namely, preparation of data sets, data analysis and interpretation of the study findings. The study employed different approaches to data collection from various sources of information. Quantitative data was analyzed utilizing descriptive and inferential statistics while qualitative information was thematically analyzed. The results were also presented in Tables for all the measurable indicators of the variables under study.

Descriptive analysis was used to express variables under study. The background information about respondents was presented in the form of Tables, mean, standard deviation and frequencies. Two types of inferential statistics were also used in the study, namely, correlation and regression analysis. Correlation coefficient 'r' was used to determine the strength and direction of the relationships between independent and dependent variables while regression analysis was used to establish the influence of the independent variables on the dependent variable.

3.8.1 Correlation Analysis

Correlation coefficient 'r' takes values and signs indicating a negative or positive correlation (-1 to +1). The size of the value without the sign indicates the strength of the relationship. A perfect correlation of (1 or -1) shows that the value of one variable can be determined exactly by knowing the value of the other. In addition, a correlation of zero means that there is no relationship between the variables. This means that knowing the value of one of the variables does not help to predict the value of the second variable. The interpretation of the values between 0 and 1 vary. However, the guideline suggested by Cohen (1988) is as follows:

Table 3.3: Interpretation of the Values

r= .30 to .49 or r=-.30 to -.49	Medium
r= 0.50 to 1.0 or r= -.50 to -.10	Large

Source: Cohen (1988)

Correlation analyses were based on two-tailed test for statistical significance of the relationships between the management practices and learner participation in the distance learning programme. Significance was set at 95 confidence level ($p \leq 0.05$).

3.8.2. Regression Analysis

Regression analysis was used to establish the influence of the independent variables on the dependent variable. Prediction models in regression provided useful information for carrying out hypothesis tests in order to answer the research questions. Each research objective had a corresponding regression model for testing the hypothesis and answering its research question.

Table 3.4: Summary of Data Analysis Techniques

Objectives of the study	Research Hypotheses	Statistical test	Analytical method	Interpretation
1. Examine the influence of Institutional administrative practices on learner participation in the distance learning programmes	1H₀: Institutional Administrative practices do not have significant influence on learner participation in distance learning programme	Simple linear regression	$Y = \beta + X$ Where: Y- learner participation while, X presents administrative practices	Y=Coefficient is significant only if related $\rho \leq 0.05$. If ρ -value is associated with β_1 is ≤ 0.05 , then 1H₀ is rejected and the relationship between X ₁ and Y is considered significant at 95% confidence level
2. Assess the extent to which provision of tutorial support services offered to distance learners influence learner participation in distance learning	2H₀: Provision of tutorial support services do not have significant influence on learner participation	Simple linear regression	$Y = \beta + X$ Where: Y- learner participation and X- provision of tutorial support services	Coefficient is significant if related $\rho \leq 0.05$. If ρ -value associated with β is ≤ 0.05 , then 2H₀ is rejected and the relationship between X and Y is considered significant at 95% Confidence level
3. Determine the influence of provision of ICT infrastructure and services on learner participation in distance learning programmes.	3H₀: Provision of ICT infrastructure and services do not have significant influence on learner participation in distance and e-learning programme	Simple linear regression	$Y = \beta + X$ Where: Y- learner participation and X- provision of ICT infrastructures and services	Coefficient is significant when ρ -value ≤ 0.05 . If ρ -value is linked with β and is ≤ 0.05 , then 3H₀ is rejected. Thus, the relationship between X and Y is considered significant at 95% Confidence level
4. Analyze the combined influence of institutional management practices on learner participation in distance learning programmes	4H₀: Combined aspects of institutional management practices do not have significant influence on learner participation in distance learning programme	Multiple regression	$Y = \beta + X_1 + X_2 + X_3 +$ Where Y- learner participation in DLP and X ₁ – X ₃ represented all aspects of management practices	Coefficient is significant when $p = 0.000 < p = 0.05$ for each variable but administrative support services with $p = 0.141 > p = 0.05$ is statistically significant at 95% confidence level. The model of regression for the hypothesis is $Y = 7180.007 + 371.0156 X_1 + 0.080 X_2 + 193.521 X_3$. Thus, the null hypothesis 4H₀ was rejected for

<p>5. Assess the moderating influence of personal motivation to learn on the relationship between institutional management practices and learner participation in the distance learning programmes</p>	<p>5H₀. Personal motivation to learn does not have a significant moderating influence on the relationship between institutional management practices and learner participation in the distance learning programmes</p>		<p>$Y = \beta + X_1X_4 + X_2X_4 + X_3X_4 +$</p> <p>Where Y- learner participation in DLP and</p> <p>$X_1 - X_3$ represented all aspects of management practices and X_4 represents the moderating variable.</p>	<p>administrative support services</p> <p>Coefficients was significant when $p = 0.000 < p = 0.05$ in all cases except for provision of administrative support services.</p> <p>The null hypothesis 5H₀ was rejected and the alternative 5H accepted that personal motivation to learn is significant</p> <p>Y and X were equated by testing variance of β_1, β_2 and β_3. If β_1 or β_5 is significant $\neq 0$, then 0 indicate that there is evidence of moderation. Thus, signifying that P-value moderates joint influence of $X_1 + X_2, X_3 + X_4$ on Y, then H0 (5), could be rejected</p>
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3.9. Qualitative Analysis

Qualitative data was analyzed thematically. Interview responses were recorded, transcribed and compiled to develop a deeper understanding of the issues. Data coding was used to describe the content and themes while the prominent themes were identified and interpreted. To identify themes from the coded data, word-based technique was used to pick key words or phrases within the text. When a word was repeatedly mentioned in the text, immediate context was established. The major themes identified in the study were learner participation in distance learning programmes, administrative support services, provision of tutorial support, provision of ICT infrastructure and services and motivation to learn through distance education.

The Tally method was also used for analysis. Orodho, et al, (2016) suggested that when one is dealing with small numbers of respondents or questions for a few people, responses are shortened and coded. Therefore, codes and narratives were shortened in order to capture institutional management practices of distance learning programmes through provision of administrative support services, provision of tutorial support services and provision of ICT infrastructure and services.

Regarding thematic analysis, Thomas & Harden (2008) noted that the researcher should identify segments and passages which are relevant to research questions. Creswell (2013) also clarified that in thematic analysis, major issues, judgements and statements with insightful quotations, words, phrases and descriptions are paraphrased or reported directly from the interviewees.

Nevertheless, to safeguard data integrity, confidentiality and anonymity of the respondents, the researcher used the common denomination 'the person' and added his/ her code towards the end of the quote. The codes were stated as P1, P2, P3, P4 up to the last person. For the purpose of data interpretation, qualitative findings were organized and presented according to the research objectives alongside their quantitative counterparts.

3.10. Ethical Considerations

The study was conducted within the confines of ethical considerations which guarantee protection of the respondents and the environment. Before posing any question, the purpose of the study was explained to the respondents in an introductory paragraph within the questionnaire. This was intended to make the purpose of the study clear and to gain the trust of respondents. For interviews and focus group discussions with staff members, participants were requested to consent verbally and in writing before being interviewed. This ensured that the respondents understood the rationale of the study as well as their role. This was also in line with the recommendation by Sammons (2005) that respondents should be asked to give written consent.

According to MacMillan and Schumacher (2001), participants should be free to terminate their participation in the research process at any time if they do not want to continue. This is further supported by Osit (2006) who stated that there should be voluntary participation in a study. Therefore, the researcher first explained to the participants the purpose of the research and why it was important for them to take part.

One of the major ethical issues apparent in this research was confidentiality. The researcher assured the informants of confidential treatment of the information they provided. It was made clear that the information would be stored safely so that it does not fall in the wrong hands. Additionally, the researcher ensured that the participants remained as anonymous as possible throughout the study. However, this was sometimes not possible during face-to-face interviews since the researcher was already seeing the participant. However, the respondents were assigned pseudonyms to make sure that only the researcher knew who participated and what their contributions were. They were also asked to refrain from using their colleagues' real names during focus group meetings.

In regard to informed consent, respondents were given full information at the beginning of the study about the research and before taking part, they were taken through the research topic and research questions to ensure that they understood what they were participating in. They were also required to fill a consent form before embarking on any other process.

The study was made free of any harm, psychological or physical. Thus, participants had the right to answer the questions partly or fully as they pleased. However, they were encouraged to answer all the questions as none of them was found to cause any emotional harm. They were also made aware that participation in the study was voluntary and that they could withdraw if they were unable to continue.

The endorsement to conduct the study at the six distance training centers was granted by the Principal, College of Education as stated in Annex VI. The researcher also got research permission from the National Council for Science and Technology (NCST) to conduct a study in Rwanda as evidenced in annex IX and subsequent approval of the research proposal by the Graduate School of the University of Nairobi.

3.11. Operationalization of the Variables

According to Omware (2012), operationalization is a representation of variables in the context of the specific process or set of validating tests determined by its occurrence and quantity. In this study, the process of making the variables operational involved assigning measurable indicators to each variable, stating the measurement scale, identifying the tools of data collection and techniques of data analysis to be used. Table 3.5 shows a summary of how the variables were operationalized.

Table3.5: Operationalization of Variables

Research objective	Independent variable	Indicators	Scale of measurement	Data Collection methods	Tool of analysis
1. To examine the influence and provision of administrative support services on learner participation in distance learning programmes	Management practices	Institutional planning- issuance of time tables, curriculum quality (detailed course outline) induction and orientation, Handling of faculty issues and distribution of study materials, Admission and registration process	Nominal, Ordinal, Interval	Questionnaire and expert interview	Measures of central tendency, correlation and regression
2.To evaluate the extent to which provision of tutorial support services influence learner participation in distance learning programmes		Scheduling meetings, Face-to-face classes Provision of career Guidance and Counselling services Scheduling of workshop	Ordinal, Nominal, Interval	Questionnaire, key informant and FGDs interviews	Measure of central tendency, Correlation and regression
3.To establish the influence of		Provision of video	Ordinal	Questionnaire,	Measures of Central

provision of ICT infrastructure and services on learner participation	conferencing facilities, Internet connection points, electronic mail accounts, Computer for teaching and learning, Video and CDs	nominal interval	Key informant and FGDs-interview guide	tendency, correlation and regression	
4. To establish factors that influence learner participation in DLP	Dependent variable Learner participation in DLP	Indicators Registration for course Attendance of orientation Attendance of tutorial sessions Taking assignments Engagement in home study Engagement in learner-learner interaction Use of library Study of e-learning resources and	Nominal, Ordinal, Interval	Questionnaire and Interview guide	Nominal, Ordinal and Interval regression

		Payment of requisite fees			
5.To identify the moderating influence of personal motivation to learn on the relationship between institutional management practices and learner participation in the distance learning programme.	Personal motivation to learn as a moderating variable	Indicators Enhancement of professional development, monetary benefits-completion, self-directed learning, Enhancement of employment opportunities, Commitments to pass assignments and exams, need to interact with peers, need to keep brain active and encouragement by government fees waiver	Ordinal Nominal interval	Questionnaire, interview guide	Measure of central tendency Correlation regression

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This section consists of presentation of data analysis and interpretation. It is organized into different sections dealing with hypothesis tests relating to the research objectives. Analysis was done by qualitative and quantitative methods. Presentation of combined quantitative and qualitative analyses was aligned with the body of related literature.

4.2. Questionnaire Response Rate

Data was collected from level two students who were taking a Diploma course in distance and e-learning programmes in the College of Education, University of Rwanda. Out of three hundred and twenty-eight (328) questionnaires that were distributed to respondents, two hundred and eighty-five (285) were returned, representing a response rate of 86.8 per cent as shown in Table 4.1. The reason for the high response rate was that the researcher distributed questionnaires and collected them in person.

Table 4.1: Questionnaire return rate

Number of participants	328
Questionnaires fully filled	285
Total	328
Response rate	87%

Data collection lasted for two weeks from the first week of September, 2018. After collecting questionnaires from respondents in the six selected distance training centers of the College of Education, it was noted that 43 respondents had filled only the first page of the questionnaire. Then, the researcher decided to discard the spoilt documents and retained two hundred and eight five (285) questionnaires which were fully filled.

4.3. Socio- Demographic Characteristics

Preliminary demographic information consisted of respondent's age group, marital status, years spent in the programme and subject combinations indicated in their fields of

specialization. In this respect, Table 4.2 shows the distribution of respondents by all demographic characteristics.

Table 4.2: Socio-demographic characteristics of learners in distance learning programme.

Demographic information	Frequency	Percent
Gender		
Female	118	41.4
Male	167	58.6
Total	285	100
Age group		
Below 25	2	0.7
25-30	79	27.7
30-40	140	49.1
40-50	58	20.4
Above 50	6	2.1
Total	285	100
Educational level		
Diploma	285	100
Marital status		
Single	194	68.1
Married	75	26.3
Divorced	4	1.4
Widowed	12	4.2
Total	285	100
Duration of stay at the University		
3-5 years	276	96.8
Over 6 years	9	3.2
Total	285	100

Results from the analysis of respondent's age indicated that forty-nine point one percent (49.1%) were aged between 30 and 40 years; followed by twenty-seven percent (27%) being between 25 and 30 years and twenty point four percent (20.4%) between 40 and 50 years. The results for marital status revealed that sixty-eight point one percent (68.1%) of respondents were single while twenty-six point three percent (26.3%) were married. Another

one point four percent (1.4%) of respondents were divorced while four point two percent (4.2%) were widowed.

In regard to the time spent studying in the Diploma course which was originally to last for two years, 276 respondents (96.8 %) indicated that they had taken over three years. Another 9 respondents (3.2%) indicated that they had spent more than 6 years in the programme. Students were registered in different schools under different subject combinations as shown in Table 4.3

Table 4.3: Subject Combination of Respondents

Subject combination	Frequency	Percent
HGE (History and Geography with Education)	55	19.3
EFE (English and French with Education)	50	17.5
KKE (Kiswahili and Kinyarwanda with Education)	31	10.9
MPE (Mathematics and Physics with Education)	21	7.4
BCE (Biology and Chemistry with Education)	35	12.3
EKE (English and Kinyarwanda with Education)	54	19
EEE (Economics and Entrepreneurship with Education)	39	13.7
Total	285	100

Concerning subject combinations, it was found out that History, Geography and Education as a subject combination registered high numbers of respondents, with a frequency of fifty-five (55, 19.3%), followed by English, French and Education, with a frequency of fifty (50, 17.5%), English, Kinyarwanda and Education, with a frequency of fifty-four (54, 19%) and Economics, Entrepreneurship and Education, with a frequency of thirty-nine (39, 13.7%). It can be noted that Science subjects had the least registered combinations as shown in Table 4.3, with a frequency of twenty-one (21, 7.4%) in Mathematics, Physics and Education. They were followed by those who study Biology, Chemistry and Education, with a frequency of thirty-five (35, 12.3%).

4.4: Description of Learner Participation in the Learning Process

Second year distance learners undertaking Diploma in Education were asked to state how the learning process takes place. The study findings are shown in Table 4.4

Table 4.4: Learner Participation and the Learning process

a) Attendance of weekend tutorial face to face sessions in a semester

Attendance	Frequency	Percent
40 hours	280	98.2
Above 40 hours	5	1.8
Total	285	100

b) Study time allocation/Average attendance on a semester basis

Average attendance	Frequency	Percent
30 hours	244	85.6
40 hours	38	13.3
Above 4 hours	3	1.1
Total	285	100

c) Course units registered

Registered course units	Frequency	Percent
3 course units	3	1.1
6 course units	282	98.9
Total	285	100

d) Assignments submitted per course unit

Course unit	Frequency	Percent
1	3	1.1
2	282	98.9
Total	285	100

e) Time taken to complete assignment

Time taken to complete assignment	Frequency	Percent
2 weeks	172	60.4
3 weeks	113	39.6
Total	285	100

f) Allocation of study time at home

Allocation of study time at home	Frequency	Percent
1 hour	11	3.9
2 hour	269	94.4
3 hour	5	1.8
Total	285	100

f) Number of times students visit the library to read in a week

	Frequency	Percent
Once a week	99	34.7
Twice a week	8	2.8
None because of limited time	178	62.5
Total	285	100

h) Number of times students read using e-learning resources in a week

Reading using e-learning resources in a week	Frequency	Percent
Once	13	4.6
Twice	1	0.4
more than twice	10	3.5
none due to lack of internet connectivity	142	49.8
None due to lack of electricity	119	41.8
Total	285	100

l) Tuition fees paid in academic year in Rwandan francs

Tuition fees paid	Frequency	Percent
60,000	285	100

As shown on Table 4.4, out of the two hundred and eighty-five (285) respondents, (58.6%) were male and forty-one point four percent (41.4%) were female. Two hundred and seven (207, 72.6%) of the learners took more than one day to register using online means and only thirty (30, 10.5%) spent one day using online means. Another (25, 8.8%) took five hours to register using online means while twenty-three (23, 8.1%) took one hour on registration. In summary, seventy-two point six percent (72.6%) of the respondents were dissatisfied with the registration process.

The study also enquired about learners' attendance of tutorials during face-to-face sessions. The majority of respondents (312, 98.2%) indicated that they had attended 40 hours of the weekend tutorials during face-to-face classes during the preceding semester and only five (5, 1.8%) respondents indicated they had attended above 40 hours of face-to-face sessions in the same semester. On the number of tutorial hours missed during face-to-face learning sessions, two hundred and forty-six (246, 86.3%) reported that they missed 10-15 hours in that semester due to lack of transport to the study centers while eleven point six percent (11.6%) did not attend because of family responsibilities. Another zero point four percent of the respondents (0.4%) reported health related problems as the cause of missing lectures during the semester.

Concerning registration for courses in the semester, two hundred and eighty-two (282, 98.9%) of the respondents had registered for six course units while only three (3, 1.1 %) had registered for three (3) course units. Students who registered for few modules had special cases related to either repeating the failed modules or inability to pay for six course units. Regarding the number of assignments submitted per course unit in the semester, two hundred and eighty-two (282, 98.2%) of the respondents reported submitting two assignments per course unit. The reason for the good response in submitting assignments is that it is a prerequisite for writing examinations at the University of Rwanda.

Another three of the respondents (3, 1.1%) reported submitting only one assignment. The reason for submitting one assignment was that the assignment they had submitted earlier had been misplaced. Regarding tuition fee payments, all respondents (285, 100%) reported paying ten thousand Rwandan francs per course unit, an equivalent of 12 United States dollars (USD). This constituted one percent of the total fee, the rest of which is subsidized by the Government of Rwanda.

Concerning time spent on home study, two hundred and sixty-nine (269, 94.4%) of the respondents reported spending two hours while eleven (11, 3.9%) devoted one hour, and only five (5, 1,8) spent three hours per day. Regarding frequency of meetings to discuss academic issues, one hundred and sixty-nine (169, 59.3%) of the respondents reported meeting with two colleagues while one hundred and twelve (112, 39.3%) indicated meeting with three colleagues per day, and only four (4, 1.4%) reported meeting with more than three colleagues in one day.

Enquiry was also made about frequency of visits by learners in the library to read in a week. One hundred and seventy-eight (178, 62.5%) of the respondents reported that they did not go to a physical library to read due to limited time available at the secondary schools where they teach. Another ninety-nine (99, 34.7%) of the respondents reported that they visited a physical library to read once a week during their pedagogical day off-duty and only eight (8, 2.8%) indicated visiting the library to read more than once in a week.

Regarding the frequency of using e-learning resources in a week, one hundred and forty-two (142, 49.8%) of the respondents indicated that they did not read e-learning resources because of lack of internet connectivity in their respective schools. Another one hundred and nineteen (119, 41.8%) reported using e-learning resources once a week to read while ten (10, 3.5%) reported using internet resources twice a week and only one (1, 0.4%) indicated using it twice a week while another one (1, 0.4%) reported using it once a week.

Students were also asked to state other sources of their learning materials. Two hundred and eighteen (218, 76.5%) of the respondents indicated that they only read modules provided by the College of Education. Another sixty-seven (67, 23.5%) of the respondents reported that they were buying internet bundles for their telephones to access e-learning materials. On the frequency of meetings by peers for interaction and discussions, two hundred and twenty-six (226, 79.3%) of the respondents indicated that they met once a week while fifty-nine (59, 20.7%) reported meeting twice a week.

4.2 Diagnostic Tests for the Regression Analysis

The current study tested two key assumptions of regression Analysis, namely, that there is no Multicollinearity and homoscedasticity. The tests helped the researcher to explain how the data used met the requirements of the regression technique.

4.2.1 Multicollinearity

The testing of Multicollinearity intended to determine whether there exists a relationship among the three independent variables (administrative support services, tutorial support services and ICT infrastructure and services) and the dependent variable (learner participation) in the distance learning programmes using the variance inflation factor (VIF). Table 4.5 indicates the tests of the VIF for the relationship between combined institutional management practices and learner participation in distance learning programme.

Table 4.5: Regression Coefficients of the Variance Inflation Factor for the combined Institutional Management Practices and Learner Participation in Distance Learning Programme

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	69712.623	621.329		112.199	.000	68489.592	70935.654		
1 combined	1.842	3.841	.029	.480	.632	5.719	9.402	1.000	1.000

a. Dependent Variable: learner participation

The result from Table 4.5 shows the VIF for combined independent variables. The results show that VIF=1.000 which is less than 11. This means that there is no Multicollinearity problem with the model and that the combined institutional management practices (independent variables) are inter correlated at a level that causes no harm to the regression analysis of the variables.

4.2.2. Homoscedasticity

In regression analysis, homoscedasticity means a situation in which the variance of the dependent variable is the same for all the data. The testing of Homoscedasticity intended to understand whether residuals are equally distributed or whether they tend to cluster together at some values and spread far at some other values. Thus, when the residuals are equally distributed that state is called homoscedasticity and when the residuals are tending to cluster together, at some values and spread far from other values, it is referred to as heteroscedasticity.

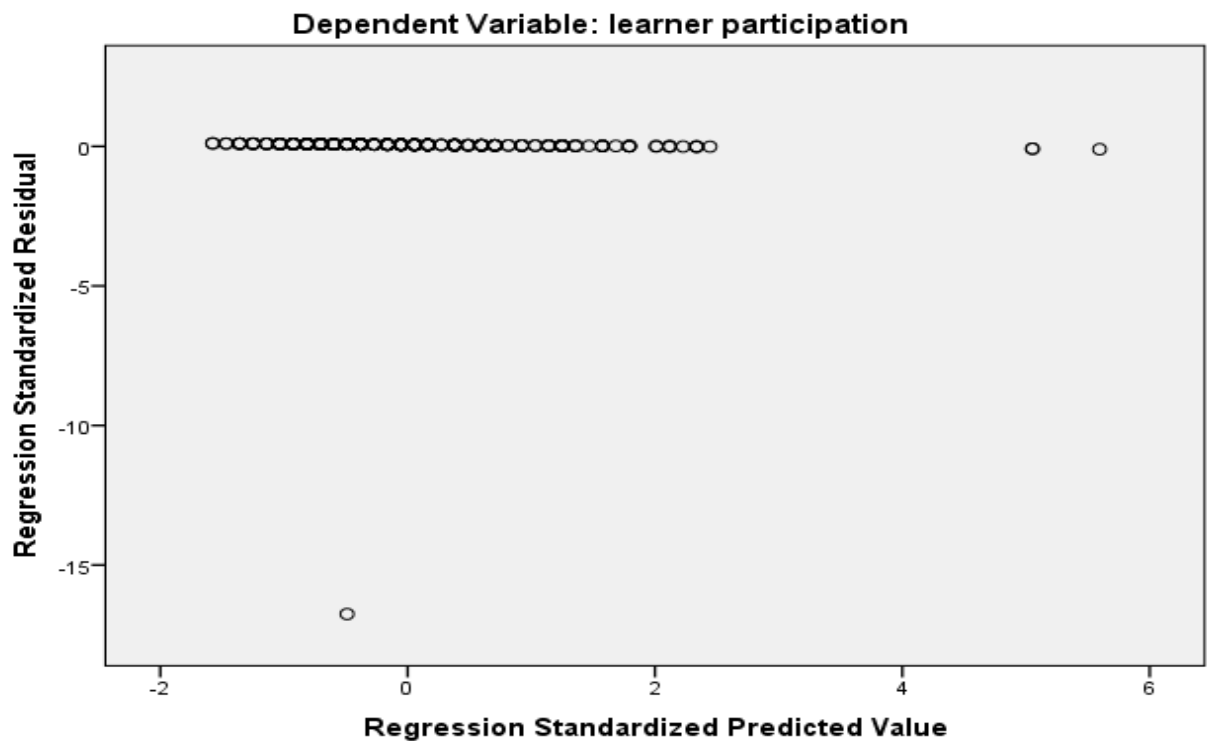
Table 4.6 show regression coefficients of the combined independent variables and learner participation in distance learning programmes.

Table 4.6: Residuals Statistics for combined management practices and learner Participation in distance learning Programmes

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	69983.3750	70104.9297	70010.0915	16.95046	285
Residual	9963.79004	64.62797	.00000	593.58747	285
Std. Predicted Value	1.576	5.595	.000	1.000	285
Std. Residual	16.756	.109	.000	.998	285

a. Dependent Variable: learner participation

Figure 2: A scatterplot chart indicating the standardized predicted values for learner



Regression Standardized Predictive Value vis-avis the combined independent variables and Learner participation in distance learning programmes. Figure 2 shows a scatterplot for the standardized predicted values for learner participation as dependent variable vis-à-vis the combined independent variables. The results show that standardized predicted values are increasing while standardized residuals are constant. This means that the requirement of homoscedasticity in regression analysis was met by the data for the variables.

4.3. Influence of Provision of Institutional Administrative Support Services on Learner Participation in Distance Learning

The first research objective examined the influence of provision of administrative support services on learner participation in distance learning programmes in the College of Education, University of Rwanda. Institutional management practices considered in this study consisted of administrative support services, namely, planning, student’s induction, orientation and handling Faculty issues related to admission and registration. The findings of the study are shown in Table 4.7

Table 4.7: Provision of Institutional Administrative Support Services from Likert Scale Data

Statements	1	2	3	4	5	Mean	SD
Instructional planning of the programme		0.7	5.3	91.	2.	3.9	0.32
Quality of the curriculum is up to standard	0.4	0.7	28.	70.	0.	3.7	1.8
Electronic enrolment is used to admit students	14.	64.	21.			2.0	0.59
Faculty issues are handled effectively by school in charge	10.	67.	21.	0.7		2.1	0.57
Induction/Orientation is conducted effectively for students	56.	38.	2.8	1.4	0.	1.5	0.658
Composite Mean and Standard Deviation						2.54	0.787

Table 4.7 shows the responses that were obtained from learners in the distance learning program concerning provision of administrative support services made available to learners. The results showed that two hundred and sixty-eight (268, 94%) of the learners agreed that instruction and planning of the programme is well envisioned (M=3.9, SD=0.32). Another 202 (70.9%) of learners agreed that quality of the curriculum in the College of Education is well envisioned (M=3.7, SD=1.8)

Enquiries were also made concerning use of electronic enrollment of students by the College. One hundred and forty- seven respondents were undecided on the statement that they had been admitted using online services (M=2.0, SD=0.59). Twenty- nine respondents reported that Faculty issues related to admission and registration are handled effectively by the School in charge (M=2.1, SD=0.57). An enquiry was also made to ascertain whether induction and orientation of students are conducted, and 161 respondents strongly disagreed that they had been oriented into the programme on their first week of reporting (M=1.5, SD= 0.658).

Overall, eighty-one (81, 28.53%) of the distance learning students of the College of Education were undecided that institutional administrative support services availed to learners are adequate (M=2.54, SD= 0.787). The results imply that provision of institutional administrative support services such as instructional planning of the programme, quality of

the curriculum, electronic enrollments, organization of induction and orientation for students and handling faculty issues related to registration and admission are inadequate. Therefore, this falls short of providing effective, efficient and sustainable execution of institutional administrative support services which is the mission of the University of Rwanda.

4.7.1. Correlation Analysis for Provision of Administrative Support Services and learner Participation in Distance Learning Programmes

To establish the relationship between the two variables, correlation technique was used to analyze the direction and strength of the relationship between provision of administrative support services and participation of learners in the distance learning programme. The findings are illustrated in Table 4.8.

Table 4.8: Correlation Coefficients for Provision of Administrative Support Services and Learner Participation in Distance Learning Programmes

Variable		Provision of administrative support services	Learner participation
Provision of administrative support services	correlation	1	0.071
	Sig. (2-tailed)		0.231
	N	285	285
Learner participation	Pearson Correlation	0.071	1
	Sig. (2-tailed)	0.231	
	N	285	285

Table 4.8 shows that there is a positive relationship between provision of administrative support services and learner participation in the distance learning programme with $r = 0.071$, $p = 0.231 > 0.05$. This indicates that correlation between provision of administrative support services and learner participation in the distance learning programme is positive but not statistically significant.

4.3.2. Regression Analysis of Provision of Administrative Support Services and learner participation in the distance learning programme

Linear regression analysis was used to evaluate how provision of administrative support services influences learner participation in distance learning programme. The hypothesis stated that:

1H₀: Provision of administrative support services does not significantly influence learner participation in the distance learning programme

1H : Provision of administrative support services has significant influence on learner participation in the distance learning programme.

Summary model for the influence of provision of administrative support services on learner participation in distance learning programme is as illustrated in Table 4.9

Table 4.9: Model Summary for Provision of Administrative Support Services

M	R	R ²	Adjusted R ²	Std. Error of the Estimate	Durbin-Watson
1	0.071a	0.005	0.161	592.3296	2.037

As shown in Table 4.9, the coefficient of determination was $R^2 = 0.005$. This means that only 0.5 % of the variance in learner participation in distance learning is explained by provision of administrative support services which are made available for use by students.

Analysis of variance in the regression was also done to establish goodness of fit for the data analyzed. Table 4.10 shows variance for the influence of provision of administrative support services on learner participation in distance learning programme.

Table 4.10: ANOVA for Influence of Provision of Administrative Support Services on Learner Participation in Distance Learning Programmes

Mode	Sum of Squares	df	Mean	F	Sig.
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I		Square				
1	Regression	505031.1	1	505031.1	1.439	0.231
	n					
	Residual	99291808	283	350854.4		
	Total	99796839	284			

The F-calculated (1.439) was less than F-critical (3.89) and p-value (p=0.231) greater than the significance level of p=0.05. This meant that the model was not a good fit for the data analyzed. Thus, provision of administrative support services may not be used to predict learner participation in the distance learning programme. Further investigation was done by examining coefficients in regression as presented in Table 4.11

Table 4.11: Regression Coefficients for Provision of Administrative Support Services and Learner participation in the Distance Learning Programme

Model		Unstandardized		SD Coefficients	t	Sig.
		Coefficients				
		β	Std. Error	β		
1	(Constant)	69637	313.063		222.437	0.000
	Provision of Admin. support services	64.585	53.832	0.071	1.2	0.231

The results in Table 4.11 indicated that management practices do not have significant influence on learner participation in the distance learning programme, with $\beta=0.071$, $t=1.2$, $p=0.231>0.05$. Thus, the null hypothesis was accepted that institutional management practices have no significant influence on learner participation in the distance learning programme of the College of Education, University of Rwanda. The finding suggests that administrative support services are not adequately provided to learners in the programme. Therefore, learners are hindered in participating fully in the distance learning programme.

Previous studies suggest that student's orientations, distribution of study materials, online registration and admission processes and procedures provide students with moral support which would contribute to effective participation of learners. It should be noted that for distance education institutions to succeed, institutions must address the question of who their

learners are and what they need in their educational journey. The institution must therefore, determine how those needs can be met. This resonates with Jeremy et al., (2015) who explained that in many institutions of higher education new students are required to enroll in programmes that help them to fit into the campus life and to be able to cope with life away from home. In addition, Yim et. al (2014) alludes that government support for distance education institution is a precursor for motivation and implementation plans and sustaining the university's mission and vision.

Concerning the roles and responsibilities of regional coordinators at the learning centers, an informant in charge of a regional center (P1) explained that:

“We carry out all activities related to coordination of study centers on a daily basis and specifically, we receive different people seeking information regarding distance learning, particularly, in-service teachers who are in the teaching force without required qualifications. We also receive applications for admission, dispatch study materials and academic support such as preparation of guidelines and participating in the supervision of examinations, meet with tutors to discuss how weekend tutorials can be well arranged as well as provide library facilities through book circulation, ...I mean, lending and borrowing of textbooks”.

Another key informant (P2) revealed that provision of administrative support services offered in terms of the admission processes, registration and record keeping are not adequate. Therefore, there is need to enhance these services to encourage students to learn and develop positive attitude towards distance mode of education provision.

It was also observed by key informants that good administrative support services can influence learner participation in distance learning, arguing that failure to provide technical support services may cause learners many problems.

An example is a quotation from key informant marked as P3:

“There used to be continuous training for course coordinators, lecturers and administrators on student support services and administration, but so many challenges have been felt as a result of financial constraints in the institution. This has greatly affected administrative practices because content delivery is like an ‘African stool’ such that when you remove one sub-system such as material development, the content

delivery will collapse. Therefore, training on instructional design is of paramount importance and the concerned professionals like lecturers could benefit and produce good materials to express, not to impress...’”

Another informant (P4) demonstrated a negative perception around the quality assurance in the module production process by stating that the review of the programmes in the College of Education is not periodically carried out. Thus, the quality control is rather weak given that lecturers in various departments dedicate most of their time for pre-service student –teachers. As argued by Brindly, Walti and Zawachi-Richer (2004), quality of the modules would not only guarantee an effective learning, but also preserve internal efficiency. The assertion resonates with Park and Choi (2009) whose findings indicated that students’ drop out from studies due to lack of relevance, poor appreciation and dissatisfaction with content delivery.

An informant (P5) from non-teaching staff also stated that there is lack of appropriate policy framework and limited institutional capacity to manage the programme. For example, KIE concentrated on development of modules which have been used since 2006 when the programme was last reviewed. This could have a negative impact on the quality assurance because ideally, the programme should be reviewed every five years. The informant (P5) further noted that;

“The print has remained the only mode of delivery...DTP students rely on printed modules as a basic learning resource. In spite of this, some module writers fail to do their work professionally to the extent that they copy and paste information without acknowledging the source which is tantamount to plagiarism’....in addition, the module production is not only assiduous but also costly to the institution because it takes about three years to come up with a new version of the module... I think, this is the reason the programme takes more years to complete than expected.....By this year (2018) students who are going to be awarded a 2-year Diploma in Education have been in the programme since 2013/2014 academic year. This is not good at all in terms of time taken to complete the course and unnecessary expenditure is incurred for overstaying in the programme.

However, the views of the programme managers on the quality of the programmes are different from those of academic departments. This theme was captured by the statement from informant P6 as follows:

“Our study materials are of high quality. We review them from time to time to accommodate new experiences. Actually, they are quite relevant and our study materials are highly demanded by other institutions or universities. The materials are relevant enough as they contain the intended learning experiences in the course outlines. The content is well organized from simple to complex knowledge, with further readings at the end to enable students search for more information”

In response to strategic directions of the College of Education in terms of planning, another key informant P7 stated that:

Everything requires a strategic plan so as to have resources in place...As I speak, we have high hopes to go digital...The policy developed by the task force which was assigned by the Government of Rwanda to develop National Policy on Open and Distance Learning (ODeL) was approved, but is yet to be implemented.... the University of Rwanda was commissioned to ensure more access and cost effectiveness in terms of enrollments of 50 per cent in Open, Distance and e-Learning mode of study in the near future. That is why there are no level one students in the 2017/2018 academic year. The School of Open, Distance and e-Learning is being empowered in terms of increasing its budget and human resources...so the school will be modernized to meet the current level of development in ICT.

In regard to instructional planning, an informant (P8) explained that after the expiry of the memorandum of understanding between DFID and KIE in 2006, financial problems started and affected the standards and structure of the programme in the College of Education. In response to the question about what can be done by the management to retain current students and future applicants, an informant (P9) explained that:

“In order to motivate students and to make them participate fully in the distance education delivery, non-teachers should also be allowed to join higher learning institutions and to let them take a degree programme of their choice, without limiting them to an exit award in education. This would basically improve academic status and also improve the university recognition”.

Concerning effective and efficient management of distance learning at the College of Education, another informant (P10) stated that Distance education will operate at acceptable standards in the College of Education only when there is cooperation and support from all

staff members of the University. For instance, when writing modules, academic staff members entrusted to develop modules are expected to do it without incentives and some fail to meet submission deadlines while others simply copy paste directly from text books, google or Wikipedia without acknowledging the sources consulted. This puts the institution at a risk because quality of the materials may be compromised.

Regarding effective provision of administrative support services an informant (P11) emphasized that to be able to realize adequate services, there should be communication and coordination mechanisms in place so that concerted efforts between the management of the School of Open, Distance and e-Learning, instructors/ lecturers and course development officers could contribute to organization of course materials. This would also ensure that adequate tutors are assigned to study centers so student-teacher interaction is realized...payments should also be made to academic departments for material development and delivery. All of these could contribute significantly to the quality and reliability of distance learning systems

Enquiries were also made concerning orientation of students into the distance learning programme. The informant (P12) stated that:

“The College of Education prepares a one-week orientation to all new students. What is good on the part of the in-service teachers is that they are also invited to the College of Education at the Main Campus where orientation takes place. For one week, all new students are briefed about university life generally, academic rules and regulations, how to use library resources and many others. Directors of Schools and Deans of different Faculties as well as Heads of Departments are called upon to make presentations about how Faculty issues are handled and the admission process... For distance learners, presentation of e-learning officers in charge of distribution of study materials and coordination with provincial coordinators is done while a summary of the course outline and expected learning outcomes are explained by Heads of Departments”.

In regard to examination procedures, distribution of study materials and supervision of examinations, one informant from regional provincial study center (P13) revealed that the services provided by the College of Education are neither adequate nor effective:

“There are always delays in various academic activities such as feedback of student’s assignment, receiving important information about examination schedules, provision

of study materials, and face-to-face sessions arrangements as well as delayed internship for distance learners. These delays could adversely affect academic progress of students and even administrative functions at the provincial center since feedback is not provided at the right time”.

In response to what can be done to ensure adequate administrative support services to distance learners, one informant (P14) stated that;

“Sound communication network in the distance learning centers should be established to allow learners have access to different learning resources. The internet connection is very key. In addition, the institution should try to make sure that there is timely supply of study materials... therefore, delayed distribution of study materials to the provincial centers is the outcome of inadequate administrative support to distance learners by the College of Education, University of Rwanda”.

Another informant, (P15) added that there is inadequate communication between students and subject tutors in the distance learning centers because there is no electricity supply in some of the remote areas. While there are many learners without telephones, it was repeatedly revealed that even those with smart phones walk long distances to charge batteries”.

The findings of this study also confirm that there is discrepancy between the demand and actual production and supply of study materials by the institution. (Brindley et, al. 2004, Genoveva 2007) noted that administrative support services have an important role in pedagogical and didactical aspects related to distribution and supervision of tests and examinations. The findings also agree with Floyd & Powell (2004) who noted that administrative support amenities such as online registration, publication of examination results and handling of learners’ complaints should be the social responsibility of the institution’s managers. In summary, the results of the thematic analyses revealed common difficulties, solutions, but also particularities which can help the University of Rwanda’s current teaching and learning systems.

4.5. Influence of Provision of Tutorial Support Services on Learner Participation in Distance Learning Programmes

The second objective was formulated to evaluate how provision of tutorial services availed to students influence them to participate in the distance education and e-learning programmes in the College of Education. Provision of tutorial support services considered in this study

consisted of scheduling of tutorial meeting for face-to- face classes, career guidance and counselling services, scheduling of workshops and seminars and scheduling of peer meetings for discussion and interaction.

4.5.1. Summary of Tutorial Support Services from Visual Analogue Scale Data

Participants rated the overall adequacy of tutorial support services provided by the College of Education, University of Rwanda, using the scale of 1 to 10, where 1 denoted least adequate and 11 represented most adequate provision. The findings are shown in Table 4.12.

Table 4.12: Summary of Provision of Tutorial Support Services from Visual Analogue Scale data

Score	Frequency	Percent
10	2	0.70
8	3	1.05
6	104	36.4
5	151	52.9
4	25	8.7
Total	285	100

As shown in Table 4.12 two respondents (0.70%) gave a rating of three, three (1.05%) gave a rating a rating of 8, one hundred and four (36.4%) gave a rating of 6, one hundred and fifty-one

52.9%) gave a rating of 5, while twenty-five (8.7%) a rating of 4. Thus, the majority of respondents (89.3%) rated provision of tutorial support services as average and above.

4.4.2. Correlation Analysis for Provision of Tutorial Support Services and Learner Participation in Distance Learning programmes

Correlation analysis was used to examine the strength and direction of the linear relationship between tutorial support services and learner participation in the distance learning programme. The results are as illustrated in Table 4.13

Table 4.13: Correlation Coefficients for provision of tutorial Support Services and Learner Participation in Distance Learning Programmes

		Provision of tutorial SS	Learner participation
Tutorial SS	Pearson	1	0.355
	Correlation		
	(2-tailed)		0.000
	N	285	285
Learner participation	Pearson	0.355	1
	Correlation		
	(2-tailed)	0.000	
	N	285	285

Table 4.13 shows that there is a positive and significant relationship between provision of tutorial support services and learner participation in distance learning programme in the College of Education, with $r = 0.355$, $p = 0.000 < 0.05$. This suggested that tutorial support services could have an influence on learner participation in distance learning in the College of Education.

4.4.3 Regression Analysis of Provision of Tutorial Support Services and Learner Participation in Distance learning Programmes

Simple linear regression analysis was further used to establish how provision of tutorial support services influence learner participation in distance learning programme. The hypotheses stated that:

2H₀: Provision of tutorial support services does not have significant influence on learner participation in the distance learning programme.

2H₁: Provision of tutorial services has a significant influence on learner participation in the distance learning programme.

Summary model of the influence of provision of tutorial support services and learner participation is illustrated in Table 4.13.

Table 4.14: Summary Model for Provision of Tutorial Support Services and Learner Participation in the Distance Learning Programmes

Model	R	R ²	Adjusted R ²	Std. Error	R Square Change	F Change	Df1	Df2	Sig.	Durbin Watson
1	.376	0.141	0.403	458.069	0.141	48.903	4	280	0.000	2.236

The coefficient of determination in Table 4.14 was R²= 0.141. This means that 14.1% of the variance in learner participation in the distance learning programme is explained by provision of tutorial support services. Furthermore, analysis of variance was applied to measure the extent to which the model is a good fit for the data analyzed. The results from the ANOVA are shown in Table 4.15

Table 4.15: ANOVA for Provision of Tutorial Support Services and Learner Participation in Distance Learning Programmes

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	41045086	4	10261271	48.903	0.000
	Residual	58751753	280	209827.7		
	Total	99796839	284			

Table 4.15 shows that F- calculated (48.903) is greater than F-critical (2.41) while the p-value (p=0.000) is less than the significant level (p=0.05). This meant that the model was a good fit for the data analyzed. It also means that the model may be used to predict the influence of provision of tutorial support services on learner participation in the distance learning programme.

Further analysis of coefficients of regression for the influence of provision of tutorial support services on learner participation was done. Table 4.16 shows the coefficients of regression.

Table 4.16: Regression Coefficients for the influence of Provision of Tutorial Support Services on Learner Participation in the Distance Learning Programmes

	Unstandardized		Standard	t	Sig.
	coefficients		Coefficients		
	β	Std. Error	β		
1 (Constant)	71454.3	228.382		312.871	0.000
Tutorial support services	270.22	42.292	0.355	6.389	0.000

The model of regression was:

$Y=71454.3$ (learner participation in the distance learning programme) and

$X= 270.222$ (Provision of tutorial support services)

The results indicated that provision of tutorial support services positively and significantly influences learner participation in the distance learning programme as illustrated in regression coefficient $\beta= 270.222$, $t= 6389$, $p= 0.000 <0.05$. Therefore, hypothesis $2H$ was rejected and the alternative $2H$ accepted that learner support services have significant influence on learner participation in DL programmes.

In any given distance education institution, tutorial support services are very crucial in influencing learner participation in distance learning programmes as the services enable the learner to effectively and efficiently carry out their studies. The findings indicated that provision of tutorial services such as weekend tutorial sessions, career guidance services, workshops and seminars and provision of opportunities for peer’s meetings for discussion and interaction have positive and significant influence on learner participation in distance learning programmes.

The findings established that face-to-face sessions in the College of Education, University of Rwanda enhance learner participation in the distance learning programme. The study findings also showed that weekend tutorial sessions are important because tutorials bring learners and tutors physically together to interact and improve teaching and learning processes. These results agree with Hye-Jung Lee, et al. (2016) who noted that the primary purpose of tutoring is to create and build a strong relationship with learners which would lead to effective learning. They added that higher learning institutions use tutorial support services to enhance students' engagement and build social relationships among learners.

Face-to –face tutorial sessions in a residential school are moderated by tutors who are assigned to provide explanations on study modules based on the questions raised by learners. The findings also resonate with Stoten (2016) who acknowledged the significant role of tutors in achieving academic success. He recommended that they ought to be well looked after by distance education institutions because they are faced with unprecedented challenges related to low level of performance in examinations which requires them to double their efforts to support learners. This would lead to change in student's attitude towards academic work and solution of personal problems too.

The findings also agree with Gbolagade (1999) who highlighted levels of cognitive learning as knowledge acquisition, comprehension and understanding, application of the knowledge, synthesis of the text and evaluation which comprise the major issues. Although the above cognitive levels are normally identified within the text, residential face-to-face meeting addresses them over and over again for comprehensive understanding.

Career guidance and counselling services provided were examined to ascertain how the services were offered to achieve learning objectives. To acquire necessary information, interviews were conducted with tutors who provide tutorial support sessions on weekends. It was revealed by informant (P16) that counselling services were not adequately provided in the distance learning centers. In response to why counselling services were inadequate, respondents revealed that they are not professionals in the field of counselling and psychology and have never been trained on guidance and counselling services. However, tutors considered themselves to be mature enough to have counselling basics related to academic improvement and performance, based on their fields of specialization.

Furthermore, informant (P17) noted that there are no special rooms where guidance and counselling services can be hosted in distance training centers. It was emphasized that a counsellor should meet with students in a private room so that they can both feel comfortable and confident that the conversation would yield good expectations. He, however, noted that guidance and counselling services requires skilled people to serve the purpose of assisting students to solve not only academic, but also social issues and problems. This resonates with Thorpe (1993) who argued that since students lack daily contact with lecturers, counselors would come in to help restore students' confidence and empower them to develop independent learning.

Furthermore, informants (P17 and P18) emphasized that counseling services are important for the distance students by stating that:

“Through guidance and counselling, emotions and personal concerns of learners are addressed and this motivates learners to participate in the distance learning programme effectively...Counsellors take care of critical issues that affect aspects of learners lives and which may have impact on their status as students. Counsellors usually target the academic, social, personal, occupational, health, family and spiritual aspects of a student's life that have impact on their studies”.

However, another informant (P19) indicated that one factor that inhibits provision of guidance and counselling services is inadequate infrastructure like offices and rooms for both girls and boys who may want to seek counselling services. The informant noted that:

“The College of Education, University of Rwanda has a memorandum of understanding with the head teacher of this school (Gihundwe Secondary School). On the basis of the agreement between the two institutions, the school provides classrooms, computer rooms, laboratories and one office for the provincial coordinator. Therefore, when we come here during weekends for tutorial support services, the only place we have access to is the library...For this reason, few students are ready to seek guidance and counselling services without confidentiality and privacy”.

Therefore, provision of guidance and counseling services are important to the distance students because it is through the services that emotions and personal concerns of learners are addressed. These may then influence learners to continue and participate in the distance learning programme effectively. In addition, counsellors take caution of critical issues that affect students' lives, including academic, social, personal, family, health and spiritual aspects. This resonates with the views of Thorpe (1993) who stated that counselling services help students get committed to participate in lectures while scheduling of workshops and seminars for students gives a platform for exchanging knowledge and tackling issues that affect learners in one way or another.

It is from workshops and seminars that participants exchange information and receive feedback from the questions raised. However, distance students report that they have never been invited to attend any workshop or seminar and this explains why the overall rating for provision of tutorial support services by most respondents was only average.

Regarding scheduling of tutorial meetings for face-to-face classes, tutors and provincial coordinators of study centers were further probed. One informant (P20) revealed that weekend tutorial sessions are frequently conducted because the College of Education pays tutors on the basis of the number of hours taught in a semester.

The informant stated that:

“The provincial coordinators keep a record of all tutors who participate in the weekend tutorials and the number of hours taught. When payment is requested, the provincial coordinator attaches attendance list and payment is done promptly. This transparent approach of handling tutorial support services is highly appreciated. It also motivates teachers because they get additional income at the end of the month”.

However, other informants (P21 and P22), revealed that some students do not attend weekend tutorial face-to-face meetings due to various reasons. One main reason is that most of distance learning students come from remote areas. They have to travel ten to twenty kilometers or more from their homes while others are constrained by lack of transport to the learning centers. This affects the smooth running of the distance learning programme. In addition, some students do not have the opportunity to engage with peers for discussion and interaction. When asked about students who miss weekend tutorial sessions, tutors said they are mostly female students with family commitments.

4.6 Influence of Provision of Information and Communication Technology Infrastructure and Services on Learner Participation in Distance Learning

The third objective of the study was formulated to assess the influence of provision of information and communication technology infrastructure and services (ICT) on learner participation. Provision of institutional ICT infrastructure facilities in this study comprised video conferencing facilities, computers for learning at study centers, email accounts to students for interaction; internet connection points; access to e- libraries; digital video, DVD CD Rom and printed materials. Respondents were asked to give their opinions about provision of institutional ICT infrastructure and services on Likert scale. Table 4.17 shows a summary of the responses.

Table 4.17: Provision of ICT Infrastructure and Services from Likert Scale Data

Statements	1	2	3	4	5	Mean	SD
Provision of Video conferencing facilities	89.8	10.2				1.1	0.30
Provision of computers for teaching and learning	18.6	61.8	19.6			2.0	0.61
Provision of electronic mail accounts for students	30.9	50.9	18.2			1.8	0.69
Availability of Internet connection points in DL centers	87.4	11.6		0.7	0.4	1.1	0.46
Provision of Digital video- DVD -ROM	93.3	6.0	0.4	0.4		1.0	0.31
Provision of print materials	0.4	0.4		0.4	98.9	4.9	0.30
Composite mean and SD						1.68	0.43

Table 4.17 shows that 98.9 per cent of the respondents strongly agreed that they are provided with printed course materials (M= 4.9, SD= 0.30) while 50.9 per cent disagreed that email accounts are provided to students for communication purposes (M=1.8, SD= 0.69). In regard to video conference meetings, 89.9 per cent strongly disagreed that video conference

meetings are organized for students (M= 1.1, SD= 0.30). On provision of computers for teaching and learning, 61.8 per cent of the respondents disagreed that computers for teaching and learning are provided at their learning centers (M= 2.0, SD= 0.61)

Concerning availability of internet connection points in distance learning centers, 87.4 per cent of the respondents strongly disagreed that internet connection points are provided at their study centers. (M =1.1, S D= 0.46). Regarding provision of Digital-CD Rom facilities, 93.3 per cent strongly disagreed that the College of Education provides digital video-CD Rom (M= 1.0, SD= 0.31).

Overall, distance learners disagreed that information and communication technology infrastructure and services were adequately provided at the College of Education (M= 3.82, SD =0.63). The responses for this variable indicate that ICT infrastructure and services such as video-conferencing and discussions portals among peers, provision of computers for teaching and learning, provision of e-mail accounts for communication between learners and instructors, availability of internet connections in all the study centers, provision of audio cassette, DVDs -CD- ROM, distribution of study materials (modules), are not adequately provided to learners in the programme. This may hinder full participation of learners in the programme since learners usually depend on ICT infrastructure and services for their studies.

4.5.1 Correlation Analysis of Provision of ICT Infrastructure and Services and Learner Participation in Distance Learning Programmes

Correlation Analysis was performed to determine the relationship between provision of ICT infrastructure and services and learner participation in distance learning programme. The findings are illustrated in Table 4.18

Table 4.18: Correlation Coefficients for Provision of ICT Infrastructure and Services and Learner Participation in Distance Learning Programmes

		Learner participation	Provision of ICT infrastructure and services
Learner Participation	Pearson Correlation	1	0.396
	Sig. (2-tailed)		0.000
	N	285	285
Provision of ICT infrastructure and services	Pearson Correlation	0.396	1
	Sig. (2-tailed)	0.000	
	N	285	285

Table 4.18 shows that there is positive and significant association between provision of ICT infrastructure and services and learner participation in distance learning programmes in the College of Education, with $r= 0.396$, $p=0.000 <0.05$. This suggests that provision of information and communication technology and services for teaching and learning by the College of Education could have an influence on learner participation in the distance learning programme.

4.5.2 Regression Analysis of the Influence of Provision of ICT Infrastructure and Services and Learner Participation

Simple linear regression analysis was used to determine how provision of ICT infrastructure and services influences learner participation in the distance learning programme. The hypotheses tested stated that:

3H₀: Provision of information and communication technology infrastructure and services do not have significant influence on learner participation in the distance learning programme

3H Provision of information and communication technology infrastructure and services have significant influence on learner participation in the distance learning programme.

Summary model for the influence of provision of ICT infrastructure and services on learner participation in the distance learning programme is illustrated in Table 4.19.

Table 4.19: Model Summary for Regression of Provision of ICT Infrastructure and Services on Learner Participation in Distance Learning Programmes

Model	R	R ²	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.240a	0.058	0.044	579.5248	2.109

The coefficient of determination for the model was $R^2=0.058$. This means that 5.8 per cent of the variance in learner participation in distance learning programme is explained by provision of ICT infrastructure and services to learners. Analysis of variance was further pursued to assess the goodness of fit for the regression model. The findings are shown in Table 4.20

Table 4.20: Analysis of Variance (ANOVA) for the regression of ICT Infrastructure and Services on Learner Participation in Distance Learning Programmes

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	15671214.552	1	15671214.552	44.66	.000
Residual	84125624.164	283	297263.690		
Total	99796838.716	284			

The Results in Table 4.20 show that the F-calculated ($F=44.66$) is greater than F-critical (4.02), with $p=0.00 < 0.05$. Thus, the model is a good fit for the data analyzed and may be used in predicting the learner participation in programmes by e-learning. Further analysis of the coefficients of regression for the influence of provision of ICT infrastructure and services on learner participation was done. Table 4.21 shows the results.

Table 4.21: Coefficients of regression of provision of ICT Infrastructure and Services on Learner Participation in Distance Learning Programmes

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	71440.35	199.596		357.925	0.000
	Provision of ICT Infrastructure and services	374.272	51.547	0.396	7.261	0.000

The results indicated that provision of ICT infrastructure and services has a significant and positive influence on learner participation in the distance learning programme in the College of Education with $\beta=374.272$, $t=7.261$, $p=0.000<0.05$. Thus, the null hypothesis H_0 was rejected and the alternative accepted that provision of ICT infrastructure and services has a significant influence on learner participation in the distance learning programme.

In distance education, provision of ICT infrastructure and services is very important in influencing learner participation as it gives learners material support in the learning process. However, in this study, 63.9 per cent of the students reported having no personal computers while 87.4 per cent experienced inadequate provision of internet connection in regional study centers. These findings agree with Guan et al (2016) who noted that the ultimate challenges of learner support technically and administratively in distance education stem from the institutional inability to respond to learners needs. That is to say that there is lack of coordinated support units in executing roles and responsibilities.

Furthermore, 92.3 per cent of the respondents reported inadequate provision of electronic books in the libraries, unavailability of digital video disks, DVD and CD ROMs in the study centers. These findings resonate with O' Laurence (2007) and Datha et al (2010) who asserted that system support services should enhance the information and communication technology infrastructure to serve learners in their educational journey.

In addition, Saba (2011) and Thompson (2005) expressed concern that learner support services through ICT infrastructure should be embraced by distance education institutions because they are recognized for their potency in accomplishing and increasing quality and effectiveness in service delivery. Similarly, Makhanya (2016) and Gil (2014) emphasized that provision of ICT infrastructure enhances collaboration between e-learning officers, instructors and students through telephone, internet and video conferencing, noting that leveraging ICT infrastructure services would enable distance education institutions to reach the third generation that use e-learning as a mode of delivery.

The study findings also showed that internet services are crucial in the day-to day activities and this is in agreement with Mahajan et al. (2019) who encouraged distance education institutions to use massive, open and online courses (MOOCs) which enhances collaborative learning. Enhancement by integrating information and communication technologies in education is also a requirement for instructors, students and administrators for capacity development in order to produce students and educators who can use the technology with ease. The use of ICT is increasingly becoming a requirement for workers to perform better and increase productivity (Aslant et al. 2016).

It is in this respect that Ashfaq et al (2016) recommended the enhancement of ICT to support teaching and learning paradigms in order to sharpen student's enjoyment, creativity and professional development. The findings also resonate with those of Kibuuka (2010), Wills (1993) and Krishnan (2012) who indicated that shortage of learning resources constituted an enormous hindrance in the learning process. The third aspect that emerged during interviews was lack of supplementary resources for teaching such as computers for use in the study centers. This revelation is similar to that observed by Guloba, Wokadala & Bategeka (2010) who noted that inadequacy of learning resources such as library, computers for teaching and learning, availability of internet connections in study centers and other learning spaces,

affected the quality of educational provisions. This is also linked to Donkor (2010) who noted that inadequate learning resources impedes practical oriented subjects and entire fulfillment of the learner's needs.

In response to what motivates them in pursuit of rendering services to learners in their educational journey, one informant (P1) made a point which captured the theme of responses that:

“Information and Communication Technology infrastructure and services ought to facilitate an effective interaction/communication between students and lecturers at their convenient time and place. This makes me feel good because distance learning communication tools provide opportunities for learners to express themselves without any negative feelings such as shyness, fear and discrimination because of their gender, race or nationality”.

Another participant (P2) in the FGDs alluded to the dialogue that takes place between tutors and learners using technology by stating that:

“The dialogue that takes place during discussions is more democratic because every learner participates freely and his or her opinion is considered without prejudice, and the idea remains open for discussions for mutual understanding among learners”.

It was also noted that libraries in the distance training study centers are not connected to the internet to enable access to on-line resources. In spite of these challenges, each regional distance training centre has a small library with some text books and printed modules. This theme was captured by participant (P3) who stated that:

“It is only Kigali Regional Centre which had a standard library equipped with computer facilities. Butare, Rwamagana and Nyundo Regional centers have a television (TV) set each, but without digital decoders even though the country moved from the use of analogue to digital transmission which requires the University of Rwanda's management to update the devices so that learners can have access to the resources’.

It was also reported that the College of Education lacks a proper framework to solve the problems faced by students, especially in the use of information and communication technology yet this should be part of the technical support services rendered to learners. This theme was captured by statements from two participants (P4 and P5) that:

“In the wake of industrial revolution and technologies, there should be collaborative efforts between learners, University managers and instructors on the use of ICT infrastructure because technologies enable different teaching methodologies. The use of ICT infrastructure also allows instructors to teach a large number of learners located in different places at the same time...but the main challenge is the lack of learning resources and functionality of the existing tools that seriously disadvantages the programme”.

The same theme was reinforced by another participant (P6 and 7) who posed that:

“Suppose a mathematics instructor is talking to students and at the same time video recording the whole session, he or she then uploads it to the web and adds daily supplementary videos, notes, comments and feedback from students over a period of time, that would be an insightful and comprehensive process”..... We had two training sessions in 2018 on massive open online courses (MOOCs) whereby instructors would record their lectures and upload on the platform for learners at any time, but the challenge was that the College lacks high speed internet connectivity for the delivery platforms or a relevant learning management system”.

This finding is also in agreement with Saba (2011); Ndayambaje & Ngendahayo (2014) who noted that provision of ICT infrastructure and services enables learners to get timely and satisfactory assistance, thus facilitating engagement. Moreover, information and communication technology infrastructure and services empower institutions to operate remotely, an aspect that distinctively brings radical difference in distance learning institutions depending on their capacity to adopt technological innovations.

4.7. Influence of Combined Management Practices on Learner Participation in Distance Learning Programmes

The fourth objective was to assess how combined management practices influences learner participation in distance learning programmes in the College of Education. Variables considered here were provision of administrative support services, provision of tutorial support services and provision of information and communication technology infrastructure and services.

4.6.1. Regression of Combined Institutional Management Practices on Learner Participation in Distance Learning Programmes

Regression analysis was used to determine the relationship between the combined aspects of institutional management practices and learner participation in distance learning programme. It was used to establish how combined management practices influence learner participation in the distance learning programmes. The hypotheses tested were:

4H₀: Institutional management practices do not have significant influence on learner participation in the distance learning programmes.

4H : Institutional management practices have significant influence on learner participation in the distance learning programmes.

The findings of the test are as shown in Table 4.22.

Table 4.22: Summary Regression model for combined institutional management practices and learner participation in Distance Learning Programmes

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.473a	0.223	0.215	525.21167

The coefficient of determination in Table 4.22 for the associations between learner participation in distance learning programmes and management practices was $R^2 = 0.223$. Thus, 22.3 per cent of the variance in learner participation could be explained by the combined variables of institutional management practices.

Analysis of variance in regression was further performed to assess the goodness of fit of the model for the data analyzed. Table 4.23 indicates the ANOVA for the influence of institutional management practices in the distance and e- learning programmes.

Table 4.23: ANOVA for Institutional Management Practices and Learner Participation in Distance Learning Programmes

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26642141	5	5328428	20.322	.000
	Residual	73154697	279	262203.2		

The ANOVA results show that the F-calculated (F=20.322) was greater than F-critical (2.26), with $P = 0.00 < 0.05$. This shows that the model is a good fit for the data analyzed. Therefore, the model may be used to predict learner participation in programmes by distance and e-learning mode. Further analysis of coefficients of regression for the influence institutional management practices on learner participation was done. Table 4.24 shows the coefficients of regression.

Table 4.24: Coefficients of Regression for Combined Influence of Institutional Management Practices and Learner Participation in Distance Learning Programmes

Mode		Unstandardize		Standardize	t	Sig.
1		d Coefficients		d		
				Coefficients		
		β	Std. Error	β		
1	(Constant)	7180.007	371.015	0.080	193.521	0.000
	Provision of administrative support services	72.347	49.066	0.80	1.474	0.141
	Provision of tutorial support services	209.085	42.926	275	4.871	0.000
	Provision of ICT infrastructure and services	286.189	53.375	52.958	303	0.000

The findings in Table 4.24 show that Institutional Management Practices have a significant influence on learner participation with $p=0.000 < p=0.05$ for each variable except provision of administrative support services which had $p=0.141 > p=0.05$. Thus, the null hypothesis H_0 is

rejected and the alternative $4H_1$ accepted that Institutional Management practices have a significant influence on learner participation, with the exception of administrative support services.

The model of regression for the hypothesis is $Y=7180.007+0.080X_2+193.521X_3$. Where Y represents learner participation in distance learning programme, X_2 represents provision of tutorial support services and X_3 represents provision of ICT infrastructure and services

4.8. Moderating influence of Personal Motivation to Learn on the relationship between Institutional Management Practices and Learner Participation in Distance Learning Programmes

The fifth study objective was to examine the moderating influence of personal motivation to learn in distance learning programme in the College of Education, University of Rwanda. Personal motivation to learn is a variable which was perceived to moderate the relationship between management practices and learner participation. Personal factors considered in this study include; enhancement of teachers’ professional development, monetary benefits upon completion, enhancement of ability to benefit from self-directed learning, balance of family issues and work responsibilities, widening employment opportunities, need to interact with peers, need to keep brain active and encouragement through tuition fee waiver by the government. The findings are shown in Table 4.25

Table 4.25: Summary of Personal Motivation to Learn from Likert Scale Data

Statements	1	2	3	4	5	M	SD
Enhancing professional development as a teacher		1.1		4.6	94.4	4.9	0.37
Monetary benefits					100	5.0	0.0
Enhancement of ability to benefit from self-directed learning				82.8	17.2	4.1	0.38
Balance of family and work responsibilities			1.1	78.9	20.0	4.1	0.42
Widening employment		14.7	69.5	14.0	1.8	3.0	0.60

opportunities						
Commitment to pass assignments and exams		14.4	81.1	4.6	3.9	0.42
Need to interact with peers		0.4	2.8	96.7	5.3	4.19
Need to keep brain active	20.4	57.9	20.4	1.4	3.0	0.68
Encouragement through government tuition fee waiver	0.4	0.4	98.9	4.9	0.27	
Composite mean and Standard Deviation					4.24	0.81

The study findings in Table 4.25 show that 94.4 per cent of the respondents strongly agreed that distance learning enhances professional development for learners in the College of Education, University of Rwanda (M= 4.9, SD= 0.37). In regard to monetary benefits expected upon completion, 100 per cent of the respondents strongly agreed that one of the reasons for their participation in distance learning was to realize enhanced salary increase when they complete the programme (M= 5.0, SD= 0.0). Eighty-two per cent (82.8 %) of the respondents agreed that distance learning programme enhances their ability to benefit from self-directed learning (M= 4.1, SD = 0.38) and this constituted another reason for their participation in distance learning programmes.

Widening employment opportunities after graduating was another motivating factor for their participation in the programmes although 69.5 per cent of the respondents were either neutral or undecided (M= 3.0, SD= 0.42). Similarly, 81.1 per cent of the respondents agreed that they were committed to passing their assignments and exams (M= 3.9, SD= 0.42). Furthermore, 96.6 per cent of learners agreed that they had been motivated to be in the distance learning programmes because it enabled them to interact with other peers in the discussion forums (M= 5.3, SD= 4.19). Another important motivating factor for learners to participate in distance learning programme was the government tuition fees waiver to which 98.9 per cent of the respondents strongly agreed (M= 4.9, SD= 0.27). Only 21.8 per cent of

the students strongly agreed that their participation in distance learning programmes was to keep their brains active (M=3.0, SD= 0.68).

Overall, distance learners agreed that their participation was influenced by perceived benefits upon completion of the course (M= 4.24, SD = 0.81. These benefits include the desire for professional development, expected monetary benefits and promotion upon completion, enhancement of ability for self-directed learning, creating balance between family and work responsibilities, commitment to passing assignments and examinations, benefit of interaction among peers, need to keep brain active and government tuition fees waiver.

4.7.1. Regression Analysis of the Association between Institutional Management Practices and Personal Motivation to learn on Learner Participation in Distance Learning Programmes.

The association between institutional management practices and learner participation in the distance learning programme at the College of Education, University of Rwanda was examined by regression analysis to check whether the additional contribution of personal motivation to learn improved their relationship in the distance learning programmes in the College of Education. The hypotheses tested were:

5H₀: Personal motivation to learn does not have significant moderating influence on the relationship between institutional management practices and learner participation in the distance learning programmes.

5H : Personal motivation to learn has a significant moderating influence on the relationship between institutional management practices and learner participation in the distance learning programmes. Regression analysis was performed to determine additional contribution of personal motivation to learn on the association between institutional management practices and learner participation in Distance learning programmes. Table 4.26 shows a summary of the results

Table 4.26: Summary of Regression Models of the Relationship between Institutional Management Practices and Personal Motivation in Distance Learning Programmes

Model	R	R ²	Adjusted R ²	Std. Error of the
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				Estimate
1	0.517a	0.267	0.254	512.0578

The findings in Table 4.26 shows the coefficient of determination when personal motivation to learn was added to the regression model $R^2=0.267$ as compared to $R^2 =0.223$ for institutional management practices alone. This meant that 26.7 per cent of the variance in learner participation in distance learning is explained when personal motivation to learn is added. Thus, the moderating influence of personal motivation to learn added 4.4 per cent of explanatory capacity to the model. It was noted that personal motivation is an important moderating variable in driving learners to participate in learning programmes in the College of Education, University of Rwanda.

Table 4.27: Regression Coefficients of combined Institutional Management Practices and Personal Motivation on Learner Participation in Distance Learning Programmes.

Mode		Unstandardized		Standardize	t	Sig.
1		Coefficients		d		
		β	Std. Error	β		
1	(Constant)	70106.62	555.907		126.112	0.000
	Provision of administrative support services	18.787	49.618	0.021	0.379	0.705
	Provision of tutorial support services	193.261	44.288	0.254	4.364	0.000
	Provision of ICT infrastructure	231.222	53.375	0.245	4.332	0.000

s and services

Personal	190.956	47.729	0.225	4.001	0.000
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motivation

The findings show that $p=0.000 < p=0.05$ in all cases except for provision of administrative support services. Therefore, the null hypothesis H_0 was rejected and the alternative H_1 accepted that personal motivation to learn has a significant influence on the relationship between institutional management practices and learner participation in distance learning programmes at the College of Education, University of Rwanda, with the exception of provision of administrative support services.

In summary, the findings of this study showed that provision of both tutorial support services and ICT infrastructure and services play a key role in enhancing learner participation in the distance learning programmes. Learners' personal motivation based on perceived benefits of the programme also plays an important role as a moderating variable which enhances learner participation in the distance learning programme. Conversely, provision of administrative support services does not currently play a significant role in enhancing learner participation in distance learning programmes mainly because the services are inadequate.

These findings agree with Sampson (2000) who stressed that tutorial support services in Distance education institutions are key in ensuring that digital technologies in education delivery go beyond the delivery of course materials to learners. The findings also agree with Tong (1994) who acknowledged that tutorial support services help students to overcome difficulties, thereby increasing quality of their academic work and progress. Therefore, inadequate learner support services may jeopardize distance education institution's strategic directions.

In the survey of student's perceptions on quality of education, Hill (2005) noted that quality of lecturers and the support systems are among influential factors which contribute to the realization of the quality of education. In addition, Lea and Farbus (2000) posit that support services for distance learners are an educational necessity for learners to be in contact with the institution and instructors, emphasizing that such experiences would contribute to the learner's growth and satisfaction. This view is supported by Bowa (2008) who also stressed that support services provided by institutions have a significant influence on learner

participation in distance learning programmes. Ndayambaje (2016) also noted that students learning at a distance have to be highly motivated so as to develop the capacity to persist in their studies.

These findings also resonate with Gary et. al., (2016) who noted that higher learning institutions today have decided to use Distance Education in an attempt to increase admission for high school graduates who qualify to join universities. Parastatal organizations embrace Distance Learning to horizontally promote employees through staff development policies, while individuals are motivated to learn through Distance Learning programmes to enhance professional skills and career prospects without moving away from their places of work.

The study findings from focus group discussions showed that the social role of the lecturers, tutors and provincial coordinators entails amicable relationship with learners to improve their satisfaction. It was established that technology empowers various teaching methodologies and enables teaching of large numbers of learners across the country. This theme was captured by a statement from a participant (P1) who stated that:

“In Rwanda, we do not have enough teachers or easy access to good institutions, we should therefore, adopt a focused, systematic programme by using the power of technology to enable learning to take place... teachers need to make students think, rather than note takers as someone stands in a classroom and gives a lecture... Today, many people have been motivated to learn through distance education due to the power of technology. They are admitted to very good universities with exit award of Diplomas, Degrees, Masters and Doctorate certificates without necessarily going there physically”.

Concerning challenges being faced by students in distance learning programmes at the College of Education, another participant (P3) captured this theme by stating that:

“Student’s access to learning resources in different study centres is always very difficult due to lack of internet connections and not everyone has a computer at home. Students are not able to download materials sent by the university. However, those who have computers and capacity to buy internet bundles have been able to do research and upload assignments for marking by subject tutors. This has reduced the burden of writing assignments on papers

and transport costs from student's homes to distance learning centres to submit those assignments.''

On the issue of the kind of support that can be rendered to learners and to solve learner's problems, a participant (P4) captured this theme by stating that;

“There is need to establish a common ground for meeting with learners at different time intervals such as weekly or bi-weekly and lecturers should have ample time to prepare course materials as well as dispatch the needed documents in time by post, courier or email. Lecturers should also keep regular contact classes based on the category of the students, whether they are new entrants or continuing students.... Above all, the university should give support to learners in terms of acquiring computers through loans to be able to follow virtual lectures...when this is done, so many high school graduates will be motivated to learn through distance education.’’

In regard to distance covered by students to get to the distance learning centres, a participant (P5) captured this theme in his statement that;

“The main issue with distance learning is that many of our students come from remote villages with slow or without internet access. Travelling long distances to write examinations at the study centres is another challenge... those who come from far are required to report at the examination centre to write examinations for almost two weeks which means that learners must have money for transport and subsistence. The good thing is that the host learning school gives us accommodation since our examination sessions come at a time when secondary school students are on vacationonline examinations can be a motivating factor for distance education institutions in terms of cost minimization and as a viable alternative for many distance learners who live far away from the distance learning centres.’’

Another participant (P6) commented on female students who come with their babies to write exams but fail to attend weekend tutorial face-to- face sessions due to problems related to family circumstances as follows;

“Some women come with their babies and baby sitters to write exams...we are emotionally moved to see a baby crying while the mother has started to write exams. Although we give them time to go and breast feed, this is a very disturbing moment for the mothers and this, to a great extent, contributes to poor results. ...therefore, female students can be motivated to learn when ICT infrastructure and services are made available for them to write online exams and assignments.”

The findings from qualitative assessment in this study agree with those of other researchers such as Nicholas et. al. (2010) who explained that the high demand for higher education is a true reflection of appreciation of distance learning by high school graduates. They noted that what motivates people to learn is informed by the demand and awareness that distance learning can expand the limited number of places available, reach a wider student audience and meet the needs of students who are unable to attend on-campus classes. These observations also resonate with the views by Jeremy et al. (2015) who explained that in any form of higher learning institutions, new students are required to join programmes that help them cope with life away from home.

Furthermore, most of the participants raised the issue of financial constraints which makes it difficult to equip the facilities with computers, laboratory instruments, projectors and many other necessary science kits. Therefore, personal motivation to learn through distance mode can influence learners to participate in distance learning programmes when all their needs are met. Inadequate funding has led to provision of inadequate learner support services. This view is supported by Borsetel (1992) who contends that money is a crucial input that education institutions need in order to succeed in several ways.

Overall, the findings of this study resonate with Williams & Williams (2011) who stated that, since alternatives to education delivery are made available through technology, educators and learners, it is timely for everyone to participate in distance and e-learning programmes. The same authors highlighted the need to create classroom structures and institutional devices that provide the environment for optimum motivation of learners in lecture halls while interacting with instructors using digital technologies in the education delivery. The current study established that personal experiences of learners are important in examining what motivates learners to participate in distance learning programmes. The study

also established how students learn, why and when they learn. An understanding of these learning strategies especially why and how they learn was the basis for the moderating variable (personal motivation to learn)

These findings also resonate with Rhodes and Nevill (2004) who asserted that self-motivation is the basis for learner's participation in distance learning in terms of knowledge acquisition, career opportunities and empowerment in the job market. A residential school for discussion is where students visit study centers purposely to interact with fellow classmates. Results showed that residential schools enable learners to meet with their course tutors so as to interact and have practical hands-on experience in the laboratories; ask questions; exchange ideas, opinions, attitudes and information; visit the library for research purpose and use other facilities provided to support learners

The study findings further showed that personal satisfaction with Distance learning programme derives from the need for professional development as teachers expect to have salary increment and promotion upon completion of studies and to benefit from self-directed learning and to keep the brain active. These observations are supported by Olkinuora et al (2010) who explained that the level of commitment and success in learner's courses, socialization and interaction in residential schools, are indicators of motivation. Higgins et al (2007) also asserted that when students are motivated by the institution, their expectations would be met and they would succeed in their course work.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presents a summary, conclusions and recommendations for the study. For each objective, a summary of the findings is made, followed by contribution to knowledge and practice. Recommendations and suggestions for further research are subsequently made from the research findings.

5.2. Summary of Research Findings

This study had set out to establish the influence of institutional management practices on participation of learners in distance learning programme in the College of Education, University of Rwanda. The study had also sought to establish the moderating influence of personal motivation to learn in the distance learning programme. Cross-sectional survey research design was used and the study was guided by five research objectives and five hypotheses related to the objectives.

These objectives were to:

1. examine the influence of provision of administrative support services on learner participation in distance learning programmes in the College of Education, University of Rwanda

2. assess how provision of tutorial support services influence learner participation in distance learning programmes in the College of Education, University of Rwanda
3. evaluate the influence of provision of ICT infrastructure and services on learner participation in distance and e- learning programme in the College of Education, University of Rwanda
4. analyze the influence of combined aspects of management practices on learner participation in distance e-learning programmes in the College of Education, University of Rwanda
5. identify the moderating influence of personal motivation to learn on the relationship between management practices and learner Participation in distance and e-learning programme in the College of Education, University of Rwanda

The target population for the study were second year distance learning students, provincial coordinators of six study centers, course coordinators, instructors and the Director of the School of Open and Distance e- Learning (SODEL) in the College of Education. A sample was selected based on stratified random sampling techniques in which eighty-eight point five per cent (88.5%) of students participated in the study. Data was collected by use of questionnaires and interviews through key informants and focus group discussions. The summary of findings for the study is presented here below:

5.2.1. Findings on the Influence of Provision of Administrative Support Services on Learner Participation in Distance Learning Programmes.

The first research objective was to establish how provision of institutional administrative support services influence learner participation in distance learning programmes in the College of Education, University of Rwanda. Institutional administrative support services considered in this study consisted of institutional planning, issuance of time tables, curriculum quality, induction and orientation, handling of faculty issues and distribution of study materials, admission and registration process.

From summary statistical analysis, only 81(28.53%) of the distance learning students reported that institutional administrative support services availed to them are adequate with ($M= 2.54$, $SD= 0.787$). The results indicated that institutional provision of the administrative support services such as instructional planning of the programme, quality of the curriculum, electronic enrollments, organization of induction and orientation for students, handling faculty issues related to registration and admission are inadequate. Therefore, this fell short of providing effective, efficient and

sustainable execution of institutional administrative support services which is the mission of the University of Rwanda.

Findings of correlation analysis of the data showed a positive linear association between administrative support services and learner participation in the distance learning programme in the College of Education, with $r = 0.071$ $p = 0.231 > 0.05$. This meant that correlation between provision of administrative support services and learner participation in the distance learning programme is positive but not statistically significant. In addition, linear regression was performed to establish whether provision of administrative support services influence learners to participate in the distance learning programme. The hypotheses stated that:

H_0 : Provision of administrative support services do not significantly influence a learner to participate in the distance learning programme in the College of Education, University of Rwanda.

H_1 : Provision of administrative support services have significant influence on learner participation in the distance learning programme in the College of Education, University of Rwanda.

The coefficient of determination for the influence of provision of administrative support services on learner participation in distance learning programme was $R^2 = 0.005$. This meant that only 0.5 % of the variance in learner participation in distance learning is explained by provision of administrative support services which are made available for use by students. Analysis of variance (ANOVA) also showed that the model is not a good fit for the data analyzed because F-calculated (1.439) was less than F-critical (3.89) and the p-value ($p = 0.231$) is greater than the significance level ($p = 0.05$). It also means that the model may not be used to predict learner participation in the distance learning programme.

Further examination of the regression coefficients for provision of administrative support services and their influence on learner participation in distance learning programmes showed that provision of management practices does not have significant influence on learner participation in distance learning programme, with $\beta = 0.071$ ($t = 1.2$, $p = 0.231 > 0.05$). Thus, the null hypothesis was accepted that provision of administrative support services has no significant influence on learner participation in the distance learning programmes in the College of Education, University of Rwanda. This was interpreted to mean that administrative support services are not adequately provided to learners in the programme. Therefore, learners are hindered in participating fully in the distance learning programme.

This is supported by the finding from summary statistics where only 28.53 per cent of the learners felt that the administrative support services offered to them was adequate. However, these study findings contradict previous studies which emphasized the point that administrative support services have a positive and significant influence on learner participation in distance learning programmes. Thus, in spite of this overall finding, it appears that student's orientations, distribution of study materials, online registration, admission processes and procedures have the potential to provide students with operational support which would contribute to effective, efficient and institutional success.

5.2.2. Findings on the Influence of Provision of Tutorial Support Services on Learner Participation in Distance Learning Programmes.

The second study objective was to assess the influence of provision of tutorial support services on learner participation in distance and e-learning programmes in the College of Education at the University of Rwanda. Provision of support services considered in the study consisted of scheduling of tutorial meetings for face-to-face classes, career guidance and counselling services, scheduling of workshops and seminars, scheduling of peers meeting for discussion and interaction and provision of library services

Analysis by summary statistics indicated that provision of tutorial support services was rated by eighty-nine point three 89.3 per cent of the respondents as average. This means that the services were considered satisfactory, but with much room for improvement. In addition, examination by correlation analysis indicated that there is a positive and significant relationship between provision of tutorial support services and learner participation in the distance learning programme in the College of Education, University of Rwanda, with $r = 0.355$, $p = 0.000 < 0.05$. This suggested that tutorial support services could have an influence on learner participation in the distance learning programme.

Further investigation by regression analysis conducted to determine the influence of provision of tutorial support services on learner participation in the distance learning programme. The hypotheses tested stated that:

2H₀: Provision of tutorial support services does not have a significant influence on learner participation in distance learning programme in the College of Education, University of Rwanda.

2H₁: Provision of tutorial support services has significant influence on learner participation in distance learning programme at the University of Rwanda.

The coefficient of determination for the influence of provision of tutorial support services on learner participation in the distance learning programme was $R^2 = 0.141$. This meant that 14.1% of the variance in learner participation in distance learning programme is explained by provision of tutorial support services to learners.

Furthermore, analysis of variance (ANOVA) tested showed that the model was a good fit for the data analyzed. This means that the model may be used to predict the influence of provision of tutorial support services on learner participation in the distance learning programme. Further analysis of coefficients of regression for the influence of provision of tutorial support services on learner participation revealed that provision of tutorial support services positively and significantly influences learners to participate in the distance learning programme as shown by the coefficient of regression $\beta = 270.222$, $t = 6389$, $p = 0.000 < 0.05$. Therefore, the null hypothesis (2H₀) was rejected and the alternative (2 H₁) accepted that tutorial support services provided have a significant influence on learner participation in distance learning programmes. Thus, tutorial support services were found to be important in influencing learner participation. The support services enable the learner to effectively and efficiently carry out their studies

5.23. Findings on the Influence of Provision of ICT Infrastructure and Services on Learner Participation in the Distance Learning Programmes

This objective sought to establish how provision of information and communication technology infrastructure and services influences participation of learners in the distance learning programmes in the College of Education. Provision of ICT infrastructure and services in this study comprised provision of video conferencing facilities, provision of computers for learning at study centers and provision of digital video and CD- ROM, provision of internet connection points, provision of email accounts to students for interaction, access to e- libraries and printed materials.

Overall results from analysis of data showed that distance learners disagreed that information and communication technology infrastructure and services were adequately provided with ($M=1.68$, $SD=0.43$). This meant that ICT infrastructure such as video-conferencing and discussions portals among peers, computers for teaching and learning, e-mail accounts for communication between learners and instructors, internet connections in all the study centers, audio cassette, CD-ROM, study materials (modules) are not adequately provided to learners in the programme. This may hinder full participation of learners in the programme since learners usually depend on ICT infrastructure for their studies.

Correlation analysis indicated that there is a significant and positive association between provision of ICT infrastructure and services and learner participation in distance learning programmes ($r = 0.396$, $p=0.000<0.05$). This suggested that provision of ICT infrastructure and services could have an influence on learner participation in the distance learning programme. Further examination by regression analysis was performed to test hypotheses stating that:

3 H₀: Provision of information and communication technology infrastructure and services does not have significant influence on learner participation in the distance learning programme

3 H₁: Provision of information and communication technology infrastructure and services have significant influence on learner participation in the distance learning programme.

The coefficient of determination for the relationship between provision of ICT infrastructure and services and learner participation was $R^2=0.058$. This meant that 5.8 per cent of the variance in learner participation in the distance learning programme was explained by provision of ICT infrastructure and services. Analysis of variance (ANOVA) further showed that the regression model is a good fit for the data analyzed. The F-calculated ($F=44.66$) was greater than F-critical (4.02), with p-value being within the significance level ($p=0.00<0.05$). Thus, the model may be used to predict learner participation in the programmes by e-learning.

Further examination of coefficients of regression for the influence of provision of ICT infrastructure and services on learner participation indicated that provision of ICT infrastructure and services significantly influences learner participation in the distance and e-learning programmes in the College of Education, with $\beta=74.27$, $t=7.261$ and $p=0.000<0.05$.

Thus, the null hypothesis ($3H_0$) was rejected and the alternative ($3H_1$) accepted that provision of ICT infrastructure and services has a significant influence on learner participation in the distance learning programme.

Research on distance learning has been driven by what many scholars and learners call information revolution. Advances in technology offer both the general public and faculty have exhibited an array of challenges that are unprecedented. This imply that technology has a profound impact on colleges and universities in Rwanda and around the globe. Thus, Distance learning, which was once a poor and often unwelcome stepchild within the academic community, is becoming increasingly more visible as a part of the higher education family. But the research and literature reviewed for this study indicate that the higher education community has a lot to learn regarding how, and in what ways, technology can enhance the teaching/learning process, particularly at a distance.

While considering the opportunities associated with ICT enhanced education it can be said that ICT-enhanced learning is better than a traditional way whereby it has its benefits if the infrastructures are well established. The benefits mentioned include: - (i) Immediacy to information; ICT, technology makes material available anytime and anywhere through multimedia (e.g., video and audio) can engage multiple brain channels; graphics can help understanding of complex concepts; interactive activities can involve students in dynamic learning through a cycle of questions/answers/feedback; discussion and work groups allow students to evaluate their performance against that of peers.

This is linked to the application of wireless devices in today's college campuses. Wireless technologies have revolutionized the ways teaching and learning have become in many colleges and universities. It is therefore interesting to observe the way wireless technologies are used to organize small group meetings. It provides online access to internet resources such as instructor lecture series. It finally helps in problem-solving of real-time interactions with students and instructors without being present at the physical place (Ngozi Oriaku 2008).

The advent of mobile devices like smart phones and tablet PCs give people the freedom to use what they need, where and when it is needed (Trifonova and Ronchetti, 2007). Mobile devices have become more affordable, effective and easy to use (Nassuora, 2012). These

devices can extend the benefits of E-learning systems (Motiwalla, 2007) by offering university students opportunities to access course materials and ICT, learn in a collaborative environment (Nassuora, 2012) and obtain formative evaluation and feedback from instructors (Crawford, 2007).

Mobile devices can extend the learning process beyond university settings by providing flexible, portable and independent learning environments; they can allow students a method of communication both among themselves and between them and their lecturers (Khadija et al., 2009). In addition, these devices also give students and lecturers an opportunity to exploit their spare 13 time while traveling to work on an assignment or in lesson preparation (Virvou and Alepis, 2005).

5.2.4. Findings on the Influence of Combined Institutional Management Practices on Learner Participation in Distance Learning Programmes

The fourth objective was to analyze how combined management practices influence learner participation in distance learning programmes. The indicators considered were provision of administrative support services, provision of tutorial support services and provision of information and communication technology infrastructure and services.

Regression analysis was performed to test the hypotheses that;

4H₀: Institutional management practices do not have significant influence on learner participation in the distance learning programmes.

4 H : Institutional management practices have a significant influence on learner participation in the distance learning programmes.

The study findings for coefficient of determination for the association between combined management practices and learner participation in the distance learning programme was $R^2=0.233$. Thus, 23.3 per cent of the variance in learner participation could be explained by the combined aspects of institutional management practices. Analysis of variance (ANOVA) to ascertain the goodness of fit of the model for the data analyzed showed that F-calculated ($F=20.322$) was greater than F-critical ($F=2.26$), with $p=0.00<0.05$. This meant that the model is a good fit for the data analyzed. Thus, the model may be used for predicting learner participation in e-learning programmes in the College of Education.

Further examination of coefficients of regression indicated that the combined aspects of institutional management practices significantly influence learner participation in the distance learning programme, with the exception of provision of administrative support services. The null hypothesis (**4H₀**) was therefore rejected and the alternative (**4H₁**) accepted that combined aspects of management practices have significant influence on learner participation in distance learning programmes in the College of Education.

5.2.5 Findings on the moderating Influence of Personal Motivation to Learn on the relationship between Management Practices and Learner Participation

The fifth study objective sought to identify the moderating influence of personal motivation to learn on the association between the combined management practices and learner participation in distance learning programme. Personal motivation to learn considered in this study consisted of the desire to enhance professional development, monetary benefits upon completion of course, benefit from self-directed learning; determination to balance family, work and study responsibilities; desire to widen employment opportunities; desire to interact with peers; desire to keep brain active; and desire to benefit from tuition fee waiver by the government.

Regression analysis which was performed to determine additional contribution of personal motivation to learn on the association between institutional management practices and learner participation had a coefficient of determination of $R^2=0.267$ as compared to $R^2=0.223$ for institutional management practices alone. Thus, the moderating influence of personal motivation to learn added 4.4% of explanatory capacity to the model. It is therefore an important moderating variable in motivating learners to participate in learning programmes in the College of Education, University of Rwanda.

Further examination of the regression coefficients indicated that personal motivation to learn positively and significantly influences learner participation in the distance learning programme. Thus, the null hypothesis (**5H₀**) was rejected and the alternative (**5H₁**) accepted that the moderating influence of personal motivation to learn on learner participation in the College of Education, University of Rwanda is significant.

5.3. Conclusions of the Study

One of the findings of the study was that administrative support services do not have significant influence on learner participation in distance learning programmes in the College of Education. It was, therefore, concluded that administrative support services are not adequately provided to learners in the programme. The study also showed that provision of tutorial support services has a positive and significant influence on learner participation in the distance learning programme in the College of Education. It was, therefore, concluded that tutorial support services are key determinants of learner participation in the distance and e-learning programme

The results further indicated that provision of ICT infrastructure and services positively and significantly influences learner participation in distance learning programme in the College of Education. It was, therefore, concluded that provision of ICT infrastructure and services is an important element in the provision of distance and e-learning programme in the College of Education, University of Rwanda. The study also concluded that personal motivation to learn is an important moderating variable in the provision of distance learning programmes in the College.

On the whole, it was concluded that institutional management practices are important determinants of learner participation in distance learning. They provide the environment in which learning takes place and are positively associated with learner participation.

5.4. Recommendations of the study

Grounded on the findings, a number of recommendations were made in this section for policy makers, readers, planners, researchers and implementers of distance learning.

1. The findings of the first objective established that management practices do not have significant influence on learner participation in the distance learning programme. The indicators of management practices considered were administrative support services related to planning, student's induction, orientation and handling faculty issues related to admission and registration processes. It is therefore, recommended that the College of Education, University of Rwanda should enhance provision of these services to learners and plan to increase the knowledge and skills of the tutors, students and administrators. The capacity development could be achieved through workshops, seminars and handling of faculty issues.

2. The finding of the second objective was that provision of tutorial services plays a significant role in learner participation. The components of provision of tutorial support services involved were scheduling of tutorial meetings for face-to-face classes, provision of career guidance and counseling services, scheduling of workshops and seminars, scheduling of peers meeting for discussion and interaction and library services. It was established that tutorial support services were average. It is therefore recommended that the University of Rwanda should lay down practical strategies of providing the necessary tutorial support services for use by learners.

3. It was also established for the third objective that provision of ICT infrastructure and services are important in influencing learner participation in the distance learning programme. The indicators of ICT infrastructure and services considered were provision of video conferencing facilities, provision of internet connection points, electronic mail accounts, provision of computer for learning and provision of digital video and CD –ROM and access to e-libraries. It was, however, also established that nearly all distance training centers of the College of Education are poorly equipped with ICT infrastructure and services. It is, therefore, recommended that the University of Rwanda should improve ICT infrastructure and services to enhance participation in the distance education programme.

4. The finding of the fifth objective was that personal motivation to learn is an important moderating factor in learner participation in the distance learning programme. The indicators of the variable were the desire to enhance professional development, desire to benefit from self-directed learning, determination to balance family, work and study responsibilities and desire to interact with peers. To realize this potential, the University of Rwanda should enhance provision of guidance and counseling services for students in distance learning programmes. The College of Education should also embark on harnessing digital technologies for inclusion in the provision of guidance and counseling support, especially for learners in remote parts of the country.

5. For scholars, it is recommended that model building of learner participation in distance learning should incorporate provision of administrative support, tutorial support, ICT infrastructure and services as well as learner's personal motivation. This is because the study has shown that these variables are positively associated with learner participation.

6. It is also recommended that the Government of Rwanda ICT policy makers should cater for the University of Rwanda in terms of provision of infrastructure and services to enable the institution to improve services to its distance learning clientele.
7. This study focused on distance learning programme in the College of Education and the University of Rwanda is currently planning to expand the dual mode of learning in other Colleges and Campuses. It is, therefore, recommended that the dual mode programme planners should read the findings of this study to gain insights on what is required in terms of administrative support services, tutorial support, ICT support and learner motivation.

5.5. Suggestions for Further Research

1. It is suggested that similar studies should be conducted in other higher learning institutions that offer distance learning programmes in Rwanda and in the region. This would facilitate the formation of more building blocks for developing theoretical explanations of academic performance and participation in distance learning programmes.
2. The study found out that personal motivation to learn has an important moderating influence on learner participation in distance learning and it has been recommended in this study that guidance and counseling should be provided for its enhancement. It is further suggested that a study be conducted to explore the preparedness of administrative staff in terms of competence, attitude and availability of time to offer counseling services to distance learners.
3. The study focused on learner participation in distance learning programmes in the College of Education, University of Rwanda. However, based on the outbreak of COVID-19 pandemic and educational disruptions in particular, during this study, it is suggested that further research should be conducted on how to harness digital technologies in education delivery across all levels of education in Rwanda in order to guard against similar eventualities.

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APPENDICES

Appendix 1: Questionnaire for Students

RE: REQUEST FOR RESEARCH DATA

I am a Doctor of Philosophy candidate at University of Nairobi, undertaking a Research Study on “Institutional Management Practices, Personal Motivation and Learner Participation in Distance Learning: the case of Distance Learning Students Undertaking Diploma course in selected Distance Training Centres of the College of Education, University of Rwanda”

The study is undertaken as part of the requirements of the doctorate degree programme.

Your assistance through filling of the attached questionnaire will be highly appreciated. Your responses will be treated as confidential and will be used for the purpose of this study only.

Upon completion of the study you may request for a copy of the research report.

Yours faithfully,

Evariste Gahima Mfitumukiza

This study seeks to establish the influence of institutional management practices on learner participation in distance learning programmes of the University of Rwanda, College of Education

SECTION 1 (a): Socio-demographic characteristics

i). Please write, in the spaces provided the college, faculty and department you belong to.

College.....

Department.....

(ii) Please indicate your gender. (Tick one)

1- Male

2- Female

(iii). Please, indicate your age group by ticking in the box provided

1- Below 25 years

2- (25-30) years

3. (31-40) years

4. 41-50 years

5. Above 50

years

(iv). Please, indicate your Marital status by ticking in the box provided

1- Married

2- Single

3- Divorced

4- widow

5- widowed

(v) For how long have you been learning at the University of Rwanda, College of Education?

(Tick one in the box provided).

1- 0-2 years

2- 3-5 years

3- Over 5 years

(vi). what programme are you enrolled in?

b) Please, tick in the column provided to represent your enrollment programme

Type of award		Please tick one here
i	Certificate in Higher learning	

ii	Diploma	
iii	Advanced Diploma	
iv	Degree	
v	Non-academic purpose	

c) What is your subject combination? Please tick one that represents your specialization

i	History, Geography with Education	
ii	English French with Education	
iii	Kiswahili, Kinyarwanda with Education	
iv	Kinyarwanda English with Education	
v	Economic, Entrepreneurship with Education	
vi	Mathematics, Physics with Education	
vii	Biology, Chemistry with Education	

Section 2: (a) Learner Participation in distance learning programme

Please tick in the space provided to indicate the level of institutional commitment in meeting your needs as a learner.

i) How long does it take you to register using online means?

ii) within 30 Minutes 1 hour 3- 5 hours 4 hours -
1day 5-over 1 day

iii) How often do you attend plenary address sessions for the programme? Please, tick one option.

1- Once in a semester 2- Twice in a semester
2- 3- once a year 4- more than once

iii). How many hours of weekend tutorials did you attend during the last face-to-face sessions last semester? Tick one.

1- (0-10) hours 2- (11-20) 3- (21-30 hours)

4- 31-40 hours 5- above 40 hours

iv). On average, how many hours of tutorial sessions did you attend during face-to face sessions last semester? Tick one. 1- s hours purs

4-8 hours 5- 10 hours

xii) How many face-to-face tutorial hours did you miss in the last face-to-face sessions?

Tick one. 1. 5-10- hours 2. 10-15 hou 3. 15-20 hou
4.None

xiii) Why did you miss? Tick one.

1- Health related problems 2- Lack of transp 3- lack of time due to
family responsibilities

How many course units did you register for in the last semester? Tick one.

1- 3 course units 2- 4 course units 3- 5 course units 4- 6 course units
4- 6 course units

v). How many assignments did you submit last semester per course unit?

- 1- one assignment 2- two assignments 3- three assignments
4- four assignments 5- five assignments

vii) How many assignments did you fail to submit?

- 1- 1-5 assignments 2- submitted all assignments 3- None

viii) Why did you fail to submit the assignments? Tick one

- a) It is NOT a requirement to submit all assignments before sitting for exams”
b) Did not get time to submit the assignment
c) I was sick

ix. How much time did you take to complete your assignment? Tick one

- a) 1 week
b) 2 weeks
c) 3 weeks
d) above 3 weeks

x) How much time do you allocate to yourself during home study time? Tick one

- a) 1 hour b) 2 hours c) 3 hours d) 4 hours e) above 4 hours

xi) How many of your colleagues do you meet to discuss different course units per day? Tick one.

- a) One b) Two c) Three d) above Four

xii) How many times do you go to a physical library to read in a week? Tick one

- a) Once a week b) twice a week c) None because of limited time

xiii) How much do you pay per course unit? Tick one that applies

- a) Nothing b) 5,000 Rwandan francs c) 10, 000 Rwandan francs
d) 20,000 Rwandan francs e) Above 20, 000 Rwandan francs

xiv) State the number of modules for which you paid fees per semester. Tick one.

- a) One module b) Two modules c) Three modules
d) Four modules e) Five modules f) Six modules

xv) How many times do you read from e-learning resources in a week? Tick one

- a) Once in a week b) Twice c) More than twice
d) None due to lack of internet connectivity e) None due to lack of electricity

xvi) If you do not, where do you source for materials to read? Tick one

- a) Read modules provided by the institution
b) Buy internet bundle for my phone

xvii) How many times in a week do you meet with your peers for discussion and interaction?

- a) Once a week b) twice a week c) more than twice
d). None

xiii) On a scale of 1-10 (where 1 is lowest and 10 is the highest), rate your level of participation in the distance learning programme considering all aspects that you have answered in the section above? (Tick one)

- 1 2 3 4 5 6 7 8 9 10
S 3: ovi A stu Su S

Instructions. Using the following Table and the Likert scale provided below, please tick on your level of agreement with the statements on provision of administrative support services in Distance learning at University of Rwanda, College of Education.

Scale: Strongly Disagree=1, Disagree= 2, Neutral= 3, Agree =4, Strongly Agree= 5.

Administrative support services	1	2	3	4	5
i) Institutional planning is well envisioned					
ii) Course outlines in the curriculum are detailed					
iii) Induction and orientation are well conducted					
iv) Study materials are well distributed to different learning centers					
v) Faculty issues related to admission and registration process are effectively handled					
vi) organize workshops and seminars					

ix. On a scale of 1-10 (where 1 is lowest and 10 is the highest) indicate your level of satisfaction with the provision of administrative support services rendered to learners in the College of Education, University of Rwanda.

1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4: (c) Tutorial Support Services

i). Does the Faculty schedule tutorial meetings for teacher-learner interaction? Tick one

1. Yes

2. No

(ii) How many tutorial meetings were scheduled in the last semester? Tick one

1. once 2. Two times 3. Three times 4. More than three

iv) How many career guidance and counseling sessions were organized for students last semester? Tick one.

1. Once a month 2. Twice a month

3. Once during induction and orientation week

v) Does the University organize workshops and seminars for academic teacher-learner interaction? Tick Yes or No.

a) Yes b) No

v). How many seminars and workshops were conducted for academic teacher-learner interaction during last semester? Tick one

a) One Two

c) I have never been invited to attend any workshop

(vi) Does the University have Centres where students can meet and discuss study issues as peers? Tick Yes or No

1. Yes 2. No

vii). How many meeting Centres are accessible to you? Tick one

a) One b) Two c) More than two

viii). How many hours are available for you in a week to meet with your peers for discussion and interaction? Tick one.

a). 1 hour b) 2 hours c) 3 hours d) above 3 hours

e) none due to limited time

ix) How many libraries are provided for your use by the University? Tick one.

a) One b) Two c) More than two

x). How well stocked are these libraries with books that you need? Tick one.

a) Well stocked b) Very well stocked c) Not well stocked

e) Poorly stocked

xi). Indicate on a scale of 1-10 (where 1 is lowest and 10 is the highest), your level of satisfaction with the provision of tutorial support services for your study programme (Tick one)

1 2 3 4 5 6 7 8 9 10

SECTION 5: (e) Provision of Institutional Information and Communication Technology Infrastructure and Services in Distance learning programme

What are the ICT infrastructure services offered to you as a distance learner at the College of Education? Instructions.

Using the following Table and the Likert scale provided below, please tick on your level of agreement with the statements on provision of ICT infrastructure and services in Distance learning at the University of Rwanda, College of Education.

Scale: Strongly Disagree=1, Disagree= 2, Neutral= 3, Agree =4, Strongly Agree= 5.

ICT infrastructure and services	1	2	3	4	5
i)The University provides video-conferencing facilities for Distance learning					
ii) The University provides computers for teaching and learning at the regional centers					
iii). The University provides electronic mail accounts for students					
iv). The University provides internet connection points/hot spots for students in Distance Learning Centres					
vii. The university provides learning materials on video and CD ROMS					
viii. The University provides digitally printed learning materials for Distance Learners					

Indicate on a scale of 1-10 (where 1 is lowest and 10 is highest) your level of satisfaction with the provision of Information and Communication Technology infrastructure and services at the College of Education, University of Rwanda?

Section 7: (g) Personal Motivation to Learn in Distance learning programme

(1). What are the reasons for your participation in the Distance learning programme at the University of Rwanda, College of Education?

Instruction. Using the following Table, please indicate your level of agreement with the statements relating to your reasons for enrolling in the Distance Learning Programme in the College of Education, where Strongly Disagree=1, Disagree= 2, Neutral= 3, Agree =4, Strongly Agree= 5.

Likert scale	1	2	3	4	5
It will enhance my professional development as a teacher					
I will gain monetary benefits upon completion of the programme					
It will enhance my ability for self- directed learning					
It will enhance my employment opportunities					
It meets my desire to interact with peers					
It meets my desire to keep brain active					
I am encouraged by the government fee waiver					

xx) On a scale of 1-10 (where 1 is the lowest and 10 is the highest score) indicate your level of personal motivation to learn in the distance learning programme in the College of Education, University of Rwanda. (Tick one)

1 2 3 4 5 6 7 8 9 10

THANK YOU FOR YOUR VALUABLE TIME AND INFORMATION

Appendix II: Data Collection Tools (Interview Guide Questions)

RE: REQUEST FOR RESEARCH DATA

I am a Doctor of Philosophy Candidate at University of Nairobi, undertaking a Research Study on “Institutional Management Practices, Personal Motivation and Learner Participation in Distance Learning: the case of distance learning students undertaking Diploma course in selected distance training centres of the College of Education, University of Rwanda”

The study is undertaken as part of the requirements of the doctorate degree programme.

Your assistance through filling of the attached Interview Guide will be highly appreciated. Your responses will be treated as confidential and will be used for the purpose of this study only. Upon completion of the study you may request for a copy of the research report.

Yours faithfully,

Evariste Gahima Mfitumukiza

1	<p>In the context of DTP, what administrative support services do you give to distance learners?</p> <p>Probing questions in terms of;</p> <p>Learner support (Academic career Guidance and counseling, workshops, seminars, orientations, handling administrative issues related to registration and admission and student's examinations results)</p>
2	<p>What are the support services you give to learners in terms of residential face-to-face sessions, weekend tutorials, feedback to assignment and examinations, feedback to questions raised using student online portal, group discussions and guidelines?</p>
3	<p>What are the ICT services provided to learners in relation to the use of computers for teaching and learning, Tele-conferences, video conferencing facilities, online discussions with instructors and learners, e-library for research, internet services etc.</p>
4	<p>Please comment on the following as drivers of motivation to learn for students in the distance e-learning programme in the College of Education, University of Rwanda.</p> <p>Enhancement of professional development as a teacher</p> <p>Monetary benefits upon completion</p> <p>Enhancement of ability for self-directed learning</p> <p>Enhancement of employment opportunities</p> <p>Commitment to pass assignments and exams</p> <p>Need to interact with peers, need to keep brain active and encouragement by government fees</p>

Appendix III: Comparative Statistics on Distance Education Enrollment

Institution/ Country	Institution's enrollment	DE as % of total tertiary students
Indra Gandhi National open University- India	182, 200	11
Universities Terbuka, Indonesia	170,000	18
University of Air, Japan	68,000	4
Open Learning Institute, Hong Kong	20,000	21
Open University, Thailand	180,000	37
Open University, Sri Lanka	1,640	32
Fédération inter-universitaire de l'enseignement à Distance, France	35,000	2
Open University, United Kingdom	154.200	8
South Korea National Open University	208,935	13
China	1.422.900	24
National Centre doe Distance Education, Ireland	3,500	5
Anadolu University, Turkey	470,072	26
University Saints, Malesia	5,500	3

Source: Saint Williams (2009)

Appendix IV: Distance Learning and Tertiary Enrollment Projections for Sub-Saharan Africa

Country	Tertiary enrolments 1996	Population 1996	Projected population 2010	Enrolment 2010 (at current GER)	At current GER 50 %
Angola	6.331	11,185,000	17,185,000	20,278	30,417
Benin	14,055	5,563,000	8,330,000	31,504	47,256
Botswana	8,850	1,484,000	1,992.00	14.442	21.663
Burkina Faso	8.911	10.780.000	15.928.000	18.954	28.431
Burundi	4.256	6.221.000	8.924.000	9.718	14.577
Cameroon	36	13.560.000	19.820.000	50.145	75.217
Cape Verde	*	396	541	2.658	3.988
Central African Republic	3.684	3.344.000	4.492.000	7.484	11.226
Chad	3.446	6.516.000	9.186.000	6.283	9.425
Congo	13.806	2.668.000	3.911.000	30.252	45.378
Ivory Coast	52.228	14.015.000	18.976.000	107.594	161.391
Democratic Rep. of Congo	93.266	46.812.000	69.782.000	192.598	288.897
Eretria	3.093	3.280.000	4.804.000	5.813	8.719
Ethiopia	35.027	58.243.000	89.515.000	70.806	106.209
Gabon	4.655	1.106.000	1.566.000	4.736	7.103
Gambia	1.591	1.141.000	1.523.000	175.145	2.977
Ghana	36.012	17.832.000	25.998.000	3.119.760	43.677
Guinea	8.151	7.518.000	10.428.000	14.5162	21.774
Kenya	43	27.799.000	38.869.000	78.982	118.472
Lesotho	4.614	2.078.000	2.927.000	8.079	12.118
Liberia	*	2.245.000	4.443.000	*	*
Madagascar	26.715	15.363.000	23.469.000	59.635	89.452
Malawi	5.561	9.845.000	14.154.000	10.276	15.414
Mali	*	11.134.000	16.733.000	15.796	23.694

Mauritius	6.746	1.129.000	1.306.000	7.725	11.587
Mozambique	7.143	17.796.000	25.048.000	11.823	17.734
Namibia	11.344	1.575.000	2.189.000	20.922	31.384
Niger	*	9.465.000	14.751.000	11.874	17.811
Nigeria	260	115	168.369.000	814.569	1.221.854
Rwanda	2.2	5.397.000	9.716.000	5.927	8.89
Senegal	24.081	8.532.000	12.241.000	48.695	73.042
Sierra Leone	*	4.297.000	6.056.000	9.053	13.58
Somali	*	4.297.000	6.056.000	9.053	13.58
South Africa	617.897	42.393.000	56.613.000	981.16	1.471.740
Sudan	*	27.291.000	36.850.000	121.605	182.407
Swaziland	5,658	881,000	1,263,000	8,639	12.958
Tanzania	12.776	30.799.000	44.014.000	26.408	39.74
Togo	11.639	4.201.000	6.082.000	26.493	39.74
Uganda	30.266	20.256.000	30.137.000	60.455	90.682
Zambia	10.489	8.275.000	11.717.000	37.494	56.242
Zimbabwe	46.973	11.439.000	15.270.000	126.054	189.081

Source: Saint Williams 2009

Appendix V: Distance Training Programme and Student's Enrollment from 2001 – 2016

2001-2007	498
2009-2010	1115
2011-2012	1565
2015-2016	898
Total	5,195

Source: College of Education report (2016)

It can be noted here that in 15 years, the College of Education will have graduated less than 5000 students

Appendix VI: Target Population

Selected centers	Total no. of enrolled students	Tutors	Population
St. Alloys sec. school (Eastern province)	225	14	239
KIE/ College of Education	318	16	334
Groupe Scolaire Butare (Southern Province)	319	16	335
Gihundwe sec. school (Western province)	275	14	229
Byumba sec. school (Northern province)	229	12	171
Musanze St. Therese secondary school (Northern province)	280	18	286
Total	1646	80	1594

Source: Student Records Management Unit, College of Education (2015)

The researcher formulated and calculated sample size using stratification as shown below;

1. For students;

Proportionally allocated sample = $[\text{Centre population} \times \text{sample for the study}] \div \text{Population size}$

i. St. Alloy's secondary school – Rwamagana (Eastern province) = $195 \times 322 \div 1646 = 44$

ii. College of Education (Kigali City) = $[318 \times 322 \div 1646 = 62$

iii. Groupe Scolaire Butare (Southern province) (allocated sample) = $[319 \times 322] \div 1646 = 62$

iv. Gihundwe Sec. school (Western province) (allocated sample) = $[319 \times 322] \div 1646 = 54$

v. Nyundo Sec. School (Northern Province) (Allocated sample) = $[275 \times 322] \div 1646 = 45$

vi. Musanze Centre (Allocated sample) = $[280 \times 322 \div 1646 = 55.$

Sample study for learners: n=322

2. Sample study for tutors

Proportionally allocated sample = [Centre population × sample for the study] ÷ Population size

- i. St. Aloys secondary school – Rwamagana (allocated sample) = $[10 \times 14] \div 40 = 4$
- ii. College of Education – Kigali city (allocated sample) = $[12 \times 16] \div 40 = 5$
- iii. Groupe scolaire Butare- Southern province (Allocated sample) = $[10 \times 16] \div 40 = 4$
- iv. Gihundwe secondary school – Western province (Allocated sample) = $[10 \times 14] \div 40 = 4$
- v. Nyundo sec. school (Northern province) (Allocated sample) = $[9 \times 12] \div 40 = 3$
- vi. Musanze training center (Northern province (Allocated sample) $[12 \times 18] \div 40 = 5$

Sample size for tutors: n=25

3. Sample study for Administrative staff members; ODEL

Proportionally allocated sample = [Centre population × sample for the study] ÷ Population size

- i. St. Aloys secondary school – Rwamagana (allocated sample) = $[4 \times 20] \div 25 = 3$
- ii. College of Education – Kigali city (allocated sample) = $[5 \times 20] \div 25 = 4$
- iii. Groupe scolaire Butare- Southern province (Allocated sample) = $[4 \times 20] \div 25 = 3$
- iv. Gihundwe secondary school – Western province (Allocated sample) $[4 \times 20] \div 25 = 3$
- v. Nyundo sec. school (Northern province) (Allocated sample) $[4 \times 20] \div 25 = 3$
- vi. Musanze training center (Northern province (Allocated sample) $[5 \times 20] \div 25 = 4$

Sample size for administrators Purposively selected : n=13.

Therefore, the actual sample size is calculated as; $n=13+n=25+n=322= 360$

Appendix VI: Consent Form for the Interviews with Academic and Administrators at the College of Education, University of Rwanda

I agree to participate in the research project titled’’ Institutional Management Practices and Personal Motivations to Learn on Learner Participation in Distance Learning Programmes: The case of six selected distance training centers in Rwanda’’ being carried out by Mr. Evariste Gahima, a graduate student at the University of Nairobi.

I have been informed that the purpose of the study is to examine both institutional and personal motivation factors influencing learner participation in distance education. I understand that if I agree to participate in this study, I will be subjected to an interview in which I will be asked to provide answers to study- related questions.

I understand that each interview will last between 25 to 30 minutes and that my responses will be digitally-recorded. I have been informed that interviews will be conducted at the College of Education, targeting Dean, School of Open and Distance Learning, Heads of departments, provincial heads, course coordinators and the principal of the College of Education. I may also skip any questions that I am not comfortable to answer. I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Mr. Evariste Gahima Mfitumukiza at (+250) 788645537 by email at evagahima02@gmail.com

I understand that if I need further information regarding my rights as a research participant, I may contact the Office of Research Compliance at the University of Nairobi at (+254) 2500759/ 2500760/1). I also understand that the findings of this study will provide the University of Rwanda with the opportunity to identify gaps that exist between Distance educational policy reforms and pedagogical practices. I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form. I agree to be interviewed and agree that my comments be recorded

Name and signature of the participant----- Date -----

Appendix VIII: Request Letter to Conduct a Research Study in Rwanda



Appendix IX: Recommendation Letter to Conduct a Research Study in Rwanda

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