# **Bishop Stuart University**



# Distribution of Self-Study Materials and Home Learning Among Secondary School Students in Nyakayojo Mbarara City South

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University

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#### Declaration

I, Beatrace Nahurira, do hereby declare that the work contained in this dissertation entitled "Distribution of Self-Study Materials and Home Learning among Secondary School Students in Nyakayojo Mbarara City South" is my original work and has never been submitted to any other academic institution for any award.

Signed.....

Date 25/01/2023

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#### Approval

This dissertation entitled "Distribution of Self-Study Materials and Home Learning among Secondary School Students in Nyakayojo Mbarara City South" has been done under our supervision and is submitted with our approval.

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# **Dedication**

I dedicate this dissertation to my husband for the love and care he showed while pursuing this course. May the Almighty God reward you!

#### Acknowledgement

In the first place, I would like to thank the Almighty God for enabling me to sail through the course. Also, my sincere gratitude goes to my parents that have been there for me through it all financially and emotionally. More appreciation go to my supervisors Dr. Enock Barigye and Dr. Basil Tibanyendera for guiding me through this research study from the beginning up to this stage.

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# **List of Acronyms**

BSU Bishop Stuart University

CVI Content Validity Index

ICT Information and communications technology

MEAP Master of Education in Administration and Planning

MOES Ministry of Education and Sports

RDC Resident District Commissioner

SPSS Statistical Package for the Social Sciences

UK United Kingdom

#### **Abstract**

The study assesses the contribution of self-study materials on home learning among secondary school students in Nyakayojo Mbarara City South. Objectives of the study included; to examine the extent to which self-study materials were distributed to secondary school students, to assess the effectiveness of home learning, and to establish the relationship between distribution of self-study materials and home learning among secondary school students. The researcher used a cross sectional research designs. Both quantitative and qualitative approaches were used. The population of the study comprised of Mbarara City Inspector of Schools, Mbarara City Education Officer, Students, Headteachers, Director of Studies, Chairperson LC1 and parents. A sample size of 311 respondents participated in the study. The study findings found out that the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South was low. The study findings found out that the effectiveness of home learning in Nyakayojo Mbarara City South was bad. The study findings found out that there is a statistically significant relationship between distribution of self-study materials and home learning at p = 0.000. It was concluded that there was poor distribution of self-study materials in Nyakayojo Mbarara City South. There was ineffectiveness of home learning in Nyakayojo Mbarara City South was good. Distribution of self-study materials was associated with home learning. It was recommended that the government should always selfstudy materials in time. This will enable students to keep motivate while learning from home during holidays. The parents should guide their children on how to use study materials distributed. This will enable effective utilization of study materials. The government should ensure that the study materials distributed are effectively utilized by students. This can be implemented through sensitization on mass media like radios, TVs, Newspapers, among others.

#### **Chapter One**

#### Introduction

#### Introduction

This chapter is about background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, scope of the study, significance of the study and conceptual framework.

#### **Background of the Study**

Home learning originated in the United States from 1800's when teachers and learners at the University of Chicago, who were at different locations, tried to connect through correspondence programs (Simonson, Zvacek & Smaldino, 2019). Years later, the development of radio as a communication medium during World War II opened the door for using that technology for distance education and home learning in colleges and schools. With the popularity of televisions in the 1950s, visual instruction became possible for the first time between teachers and students who were not in the same locations (Kentnor, 2015).

Globally, home learning has been around for decades and literary scholars and current practitioners have shed new light on the history of home-learning in the UK both as a practice and as a philosophy (Hayesn, O'Toole & Halpenny, 2017). Home learning encompasses a range of technologies such as the worldwide web, email, chat, new groups and texts, audio and video conferencing delivered over computer networks to impart education. Home learning requires a great deal of resources and careful planning. In this, teachers act as facilitators rather than transmitters of content knowledge. Self-study materials and ICT are regarded as resources that enhance the home learning (Monk &Wagner, 2012). Learners learn through e-learning tools

which are available to all. Home learning has brought back the joy in learning through its innovative and interactive content delivery and has proved to be more appealing among students.

In Africa, in early 1990s Zimbabwe introduced a distance education programme (Musingafi, Mapuranga et al., 2015). The schools transformed into a full-fledged home learning through an Act of Parliament. Home learning enables a student to determine and advance his/her learning style, content, aim, current knowledge and individual skills. Therefore, person specific education could be provided through creating individual learning styles. Home learning enables the individual to plan and direct his/her own learning (Slough & Milam, 2013). Home learning is increasingly advocated as a new form of education that can help to increase access to flexible education especially in developing countries (Chawinga & Zozie, 2016).

In Uganda, the need for home learning is being manifested in the adoption of non-traditional home learning devices such as mobile phones, television, printed notes, pictures, etc. Limited access to self-study materials. Home learning was introduced and became popular following the closure of all institutions of learning in March 2020 over the outbreak of corona virus pandemic (Amodan et al., 2020). Several schools prepared holiday packages to keep the learners busy with academics during the break of COVID-19 while at home. It was later after the outbreak of the pandemic that the Ministry of Education and Sports (MOES) designed a frame work for the provision of self-study materials to enable continuous learning of students in their homes.

The Government of Uganda through the Ministry of Education and Sports started a "homeschooling programme" by distributing learning materials such as printed materials to affected students especially at primary and secondary levels.

However, according to one Mbarara City Inspector of Schools' Report (Feb 2021) the programme faced obstacles from self-study distributed materials not being enough for all students in Nyakayojo Mbarara City South, poor accessibility of radio and internet services to all students especially the most in rural areas. The constraints were further exacerbated in communities where schools were closed during lockdown, but remote learning options were not provided; leaving many students without studying during lockdown. Students from the most vulnerable such as disabled were particularly left out from alternative learning opportunities. Many felt isolated, lonely, and more vulnerable since their schools were closed and had no access to continuous learning.

#### **Theoretical Background**

This study was guided by theory of transactional distance developed by Moore's in 2007. Theory of transactional distance is one of the fundamental theories in distance education involving three key variables, namely dialogue, structure, and learner autonomy. According to Moore (2007), dialogue refers to the interaction between the learners and the teacher. Structure is defined by Moore (2007) as the level of the course flexibility and rigidity. Learner autonomy is contingent upon dialogue and structure involving the learners' ability to control their own learning and manage it in a self-reliant way by creating a learning plan, finding resources that support study and by self-evaluating. Full autonomy permits the determination of goals and their accomplishment by learners and allows them to determine how much to learn. On the other hand, the decision-making power of the learner is restricted when there is a lack of autonomy. This theory was applicable to the study because it suggests that distribution of self-study materials enable effective home learning as well as enabling students to have full control of their own learning. Several researchers refer to learner autonomy as the willingness of learners to be

active, take control and supervise their own learning as well as to take risks. Furthermore, they refer to learner autonomy as the learners' ability to set goals, to act independently and to take decisions about choosing materials, methods and tasks.

#### **Conceptual background**

The study has two variables namely the independent variable as "distribution of self-study materials" and the dependent variable as "home learning". Bergdahl & Nouri (2020) define distribution of self-study materials as supply of study materials to learners to ensure continuity of learning. Self-studying is a learning method where students direct their own studying outside the classroom and without direct supervision (Verissimo & Rodrigues, 2012). Since students are able to take control of what they are learning, self-study can be a very valuable way for many students to learn. The materials introduced as one of the interventions ensure that learners continue learning during the lockdown. In this study distribution of study materials will be conceptualized as: - quality of study materials, amount of study materials distributed and frequency of study materials distribution. The distribution of these materials has provided an invaluable chance to maintain connections and has revitalised children, parents and teachers with the knowledge that not even a pandemic can stop education.

Home learning is the education of students at home or a variety of places other than school (Redford, Battle & Bielick, 2016). Home learning is a self-reflective statement of parents' beliefs about learning (and teaching) at home. It conveys parents' core ideas about being effective parents in the context of home learning support for their children. It guides parents' choices, behaviours, thoughts and feelings. Home learning can range from reading a book aloud to completing a research project about a specific subject. The education of children at home by parents or other adults who take primary responsibility for this education. Parents assume the

primary responsibility for their children's education during home learning. In this study home learning will be conceptualized as; participation of parents in home learning, less or no participation of teachers in teaching and learning, self-motivated to learn while at home, access to learning materials. The Uganda government developed and produced home-school materials, but distribution posed a significant challenge (Ministry of Education and Sports, 2021).

## **Contextual background**

The Ministry of Education and Sports embarked on the nationwide distribution of the printed self-study materials to enable secondary school students continue with studies (Omara, 2020). The materials were introduced as one of the interventions to ensure that learners continue learning during the lockdown. Home learning has gained a lot of popularity in secondary schools in Uganda (Omara, 2020). Olum et al., (2020) contend that relevant and quality self-study materials are the main teaching tool as well as the teacher for home learning. Distribution of self-study materials is a very critical factor in influencing home learning. Students were advised to access reading materials to help them during the lock down.

Some television stations introduced learning programs designed for learners to study while at home (Suleiman et al., 2021). For home learning to take place, other gadgets like Laptops, tablets and smart phones are also required. However, this was expensive to most students in Nyakayojo Division. This became a stumbling block to the home learning. Another limitation of home learning are the destructions at home including other programmes on television, house chores and playing with siblings.

In Nyakayojo Mbarara City South, much as the materials were expected when learners had started the holiday due to pandemic, they were distributed a few days to the expected phased resumption of teaching and learning in schools and some students were unable to receive these

study materials (Mbarara City Inspector of Schools' Report, 2021). About 70% of the students did not get distributed study materials which may have negatively impacted their home learning. To address the gap the study examined whether distribution of self-study materials was associated with home learning among secondary school students in Nyakayojo Mbarara City South.

#### **Statement of the Problem**

Self-study materials should improve effectiveness of home learning of students (Dunlosky et al., 2013). Effective home learning is good as far as development of education sector is concerned in Uganda. The Government of Uganda and Ministry of Education rolled out distribution of self-study materials to enable continuous learning of students while at home. Home learning is an activity that a child is asked to complete outside of the school day, either on their own or with an adult. However, report from Inspector of Education (2020) indicates that majority (75%) of secondary school students in Nyakayojo Division were not utilizing study materials, as most of them lacked enough time to concentrate on studies while at home since some of them were involved in small businesses, farming, visiting friends, home activities, among others. Other students did not receive these study materials. And most them did not study home learning. If the problem was not urgently addressed there would be increased gaps in distribution of self-study materials which may result into lack of concentration on studies among students and poor academic performance. There were limited studies on self-study materials and home leaning carried out in Nyakayojo Mbarara City South which creates a contextual gap making it necessary to carry out a study.

#### **Purpose of the Study**

The purpose of the study was to assess the contribution of self-study materials on home learning among secondary school students in Nyakayojo Mbarara City South. That is; the extent to which self-study materials were distributed, effectiveness of home learning and the relationship between distribution of self-study materials and home learning.

## **Objectives of the Study**

The study was guided by the following objectives;

- (i) To examine the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South.
- (ii) To assess the effectiveness of home learning in Nyakayojo Mbarara City South.
- (iii) To establish the relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South.

#### **Research Questions**

The study employed the following research questions;

- (i) What is the extent to which self-study materials were distributed to secondary school students?
- (ii) What is the effectiveness of home learning in Nyakayojo Mbarara City South?

## **Hypothesis of the Study**

The following research hypothesis would be used;

There is no statistically significant relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South.

#### **Scope of the Study**

In this study the scope of the study involved; content scope, geographical scope, population scope and time scope as given below.

#### **Content Scope**

The study was about distribution of self-study materials and home learning among secondary school students.

#### **Geographical Scope**

The study was carried out in Nyakayojo Mbarara City South. Nyakayojo Division which is one of the six Divisions of Mbarara City and borders with Isingiro District and Nyamitanga Division in the East, Bubaare sub county of Mbarara District in the North, Kakiika Division in the Northeast, Mwizi Sub County in the South, Bugamba and Rugando sub counties of Rwampara District in the west.

## **Population Scope**

The population scope involved Inspector of Schools of Mbarara City, City Education Officer, students, Resident District Commissioner and parents. The above population are key stakeholders in distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South.

## **Time Scope**

The study considered a period of the last two years from 2020 to 2021. This is because it was the time of lockdown when there was significant reports about distribution of self-study materials and home learning among secondary school students in Nyakayojo Division. The exercise of distributing study materials for home learning started in June 2020.

## Significance of the study

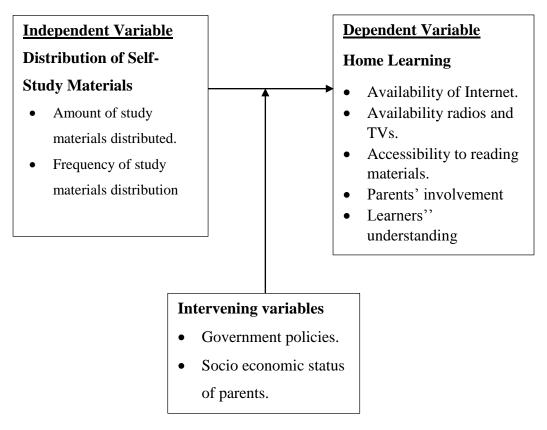
The findings of the study are expected to be of utmost importance to different stakeholders.

The findings of the study would help the government agencies to use appropriate measures to improve effective distribution of self-study materials as a way to improve home learning. This would enhance home learning and students' performance.

The study findings would help school administrators to modify their instructional strategies in line with the recommendations and suggestions for improved self-study package preparedness for home learning.

To the Inspect of Schools, City Education Officer and Resident District Commissioner, this work would be relevant because it would serve as useful to education stakeholders as a tool to use in implementation effective distribution of study materials for home learning.

#### **Conceptual Frame Work**



Source: Modified from Simonson et al., (2019)

Figure 1.1: conceptual frame work distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South

The above figure is a conceptual frame work about Distribution of Self-Study Materials and Home Learning among Secondary School Students in Nyakayojo Mbarara City South. It illustrates how independent variable influences dependent variable. The figure indicates independent variable as Distribution of self-study materials which is conceptualized as; amount of study materials distributed and frequency of study materials distribution. The figure indicates dependent variable as home learning which is conceptualized as; availability of internet, availability radios and TVs, accessibility to reading materials, parents' involvement and learners' understanding. The figure further indicates intervening variables that may influence dependent

variable, which include government policies and socio-economic status of parents. However these would be kept constant during data collection.

## Conclusion

This chapter described general introduction of the study that guided the study. Home learning offers modes of delivery where the teacher and the learners are separated in time and space.

#### **Chapter Two**

#### **Literature Review**

#### Introduction

This chapter presents theoretical review and related literature review to the study as it was given by other scholars and researchers.

#### **Theoretical Review**

The researcher used theory of transactional distance developed by Moore in 2007. Theory of Transactional Distance suggests that in distance learning scenarios, separation between the teacher and students can "lead to communication gaps, a psychological space of potential misunderstandings between the behaviors of instructors and those of the learners" the particularities of space and time pertaining to teacher and learner which characterize distance learning, create particular behavioural models for the teacher and the learner, psychological and communication distance between them, and insufficient understanding of each other. According to Moore (2007), the nature of the transaction developed between teachers and students in home learning needs to take into account three factors: dialogue, structure, and learner autonomy. Moore's theory asserts that an inverse relationship exists between these three factors, in that an increase in one can lead to corresponding decrease in others. A number of studies have been carried out to determine the empirical status of Moore's theory, which, although not unanimously accepted, generally confirm its usefulness as a framework against which to analyse distance education practice. However, there was poor distribution of self-study materials in Nyakayojo Mbarara City South which contradicts with Moore's theory of transactional distance. Whereas the theory suggests that distance learning between teachers and students can lead to communication gaps that can result into misunderstandings, the researcher believes that distance

learning between teachers and learners can result into effecting learning through distribution of study materials in Nyakayojo Mbarara City South.

#### **Review of Related Literature**

The related literature about distribution of self-study materials and home learning among secondary school students is presented following objectives of the study as sub themes.

#### **Distribution of Self-Study Materials**

Hirsh-Pasek et al., (2015) revealed that the self-study materials are available mostly through online classes and softcopy notes followed by e-books, YouTube videos, schools' platforms, educational websites, and educational applications. Different self-study content had been used to access the online classes. The distribution of these online tools was as follow; Zoom had the highest preference followed by WhatsApp, Google classroom, and social networks.

Microsoft Teams, Edmodo, Skype, and Google Meet were moderately used. While Canvas, Edpuzzle, Adobe connect, and Edverum were not popular tools. However, in the current study the distributions of self-study materials in secondary school students in Nyakayojo Mbarara City South focused on hard copies, radios and televisions.

Results by Anshari et al., (2017) indicated that the most popular device that students used to access the study materials was the smart phone followed by laptop, while the least used tool was the personal computer. This result is in accordance with the results reporting that students use smart phones and laptops at higher rates followed by iPads/tablets then PC to access online mathematics lessons and social media. In this regard, Lazarus, Sookrajh & Satyapal, (2017) showed that the use of mobile devices in studying anatomy among medical students in South Africa has a positive impact on students' learning experience. The above study indicated that

popular devices used by students to access the study materials were smart phones and laptops. However in the current study distribution of self-study materials focused on hand deliveries.

Dean & Hubbell (2012) asserted that teaching and learning materials are all those things which the teacher and the students do or use to interact with in order to achieve certain objectives in a classroom situation, such as maps, models, and board. Those materials enabled students to see touch, hear, smell and taste, and in so doing they are able to get concepts and skills. Self-study materials can be audio (that we can hear only or see –radios) or can be printed (textbooks, charts) or non–printed (real objects, machines). However, the distribution of self-study materials in Nyakayojo Mbarara City South was largely printed media and audio from radios.

Msoffe (2016) found out that teachers who enrolled in the open and distance learning (ODL) face challenges related to failure of trainees to receive self-study materials on time, students' engagement in other economic activities to supplement their family incomes, and poor learner support services especially where study centres are under resourced and overstretched. Musingafi, Mapuranga, Chiwanza & Zebron, (2015) found that, without an effective learners' support services system that provides on-site face to face, timely feedback on student home learning and access to library services, student achievement was undermined and dropout rates and procrastination would increase. However, in the current study teachers had less responsibility of being enrolled in the open and distance learning and government of Uganda through Ministry of Education and Sports have full responsibility of distributing self-study materials to secondary school students in Nyakayojo Mbarara City South.

The issue of delayed self-study materials deserves further discussion. Follow-up discussions with respondents revealed that students were not happy with delayed study material, especially modules (Ellis & Goodyear, 2013). Most of the respondents (95%) received study

materials late or never got them. In this situation students are affected academically, psychologically, and financially. Lack of study materials may force students to submit assignments that were not properly written and they were likely to get to examinations without enough preparation resulting in poor performance (Langat, 2019). There was no discussion or no follow-up concerning the delay of distribution self-study materials in Nyakayojo Mbarara City South.

The results by Chiong & Jovanovic (2012) showed that home learning is challenged with a range of obstacles. The most reported challenges were lack of sufficient time to study, difficulties in access and use of ICT, ineffective feedback and lack of study materials. Several studies have supported that the internet utilization is most prevalent among younger, educated individuals. In the same survey, Rubin (2017) found out that most of the students who utilize the internet for educational purposes prefer to use e-books among print study materials and the essential electronic library (TEEL) among the electronic resources. The students stated that the use of internet sources has brought about positive change in their academic activities in general. They reported that searching for materials via e-books and e-journals enabled them to carry out research ahead of time, thereby easing and improving their academic research and learning. However, most of the secondary school students in Nyakayojo Mbarara City South had no access for internet because they lacked devices that access internet in addition to having low skills of using internet to get e-books and e-journals.

#### The effectiveness of home learning

Lam et al., (2014), a number of factors that affect home learning. One of the factors is how students actually learn or intend to learn and what teachers actually teach. In his view, other factors like shortage of books and materials, teaching and teacher education affect home learning. The type of teachers, their experience professional, qualifications and commitment to work may contribute to the home learning. However, in the current study teachers had less control on delivering lessons during home learning.

Dang, Nguyen & Le, (2013), cited five factors affecting home learning. He mentioned among others, the level of training of teachers, study materials availability, language of instruction and curriculum reforms. The importance of individual aspects might vary substantially from place to place and from time to time. From his experience, the shortage of trained teachers is so widespread that under-qualified persons are frequently employed as teachers, especially in remote locations. Home learning in Nyakajo Mbarara City South secondary schools still faced challenges because it poorly implemented.

Musingafi, Mapuranga, Chiwanza & Zebron, (2015) indicated that lack of concentration in home learning may not be the true reflection of their academic abilities. Proper guidance and lack of professional person along with the inadequate collection in the self-study materials as well as insufficient networking computers have been the main drawbacks on students exploring the resources (Butcher, 2015). For learners to be more interested in libraries librarians along with the faculty members need to work together in educating them about the services and resources that is available and library should also work towards networking with other libraries so that it could provide better range of self-study materials in given subject. However, it was not well

documented whether secondary schools students on home learning were properly were guided in Nyakayojo Mbarara City South.

Home learning is an activity that a child is asked to complete outside of the school day, either on their own or with an adult (Skwarchuk, Sowinski & LeFevre, 2014). Home learning can range from reading a book aloud to completing a research project about a specific subject. Wheatley (2013) noted that home learning models range from unschooling to traditional classroom schooling. Unschooling is based on interest-based learning in which the child expresses interest in a particular subject, and the parents take steps to provide the materials for that subject. Most parents have a traditional setting of home learning in which the children are taught subjects such as mathematics, reading, history, science, grammar, and spelling within a structured schedule created by the parents. There are many schools that provide a packaged curriculum, but many parents like to design their own curriculum with various books and materials from different vendors (Sleeter & Carmona, 2017). The current study in Nyakajoyo Mbarara City South was largely focus on formal home learning where the curriculum was designed by the Ministry of Education than traditional one.

Simonson & Smaldino (2019) revealed that in most communities, home learning can take advantage of a local support group. A home learning support group organizes monthly meetings in which new and existing home learning families discuss different home schooling issues. The group may also arrange for cooperative teaching in which parents with different skills teach a group of home schooled children once a week in a rented or donated building. The group may also arrange field trips and sports activities. A number of home school groups field sports teams that compete against each other or with local private schools. These activities are intended to provide socialization skills for the students (Siedentop, Hastie & Van der Mars, 2019). In the

current study, there was less community support towards home learning. The home learning support was largely by parents and the team distributing self-study materials.

Beyaztaş & Senemoglu (2015) showed that some home learning families teach their children until they feel they are mature enough to handle peer pressure and other social influences. If a family decides to teach their children through home learning, they must keep records of the schooling that vary from state to state. However, in this study the population scope focused on mature learners that is secondary school students in Nyakayojo Mbarara City South.

Shah & Sharma (2012) demonstrate that children are usually superior to their schoolattending peers in social skills, social maturity, emotional stability, academic achievement, personal confidence, communication skills and other aspects. The current study assessed effectiveness of home learning of each individual student. Therefore, in this study there was no concern about carrying out a study on students in peers.

## Distribution of self-study materials and home learning

Loyens, Gijbels, Coertjens & Cote (2013) noted that self-study is important aspect of effective home learning. Self-study is one of the most important things not only to qualify for an examination but it is most important to acquire practical approach of theoretical information. Research studies reflect that there is a perfect correlation between the distribution of study materials and home learning process. If there is effective distribution of study materials, there are chances of better home learning and vice versa. This study established the statistical relationship between distribution of self-study materials and home learning in Nyakayojo Mbarara City South using two approaches namely; qualitative and quantitative approaches.

Self- study materials develop personality traits like self-reliance, self-dependence, and self-confidence among the learners (Agung & Widiputera, 2019). Distribution of study materials develop creativity among the students and makes them research oriented during home learning. Distribution of study materials broaden the mental horizon of the students. The self-study method makes the students to utilize the leisure time properly to enrich and increase knowledge during home learning (Pererva et al., 2020). Home learning provides learners with a flexible methodology of instruction, because the teacher and institution play a supportive role in which the student is in the foreground of the learning process. Whereas the above studies focused on effects of self-study materials, the current study focused on relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South.

Self-study materials provide a form of home learning that gives learners an opportunity to work individually according to their special needs (Soper, 2017). The advantage of learner autonomy is attractive to the self-motivated learner who has already self-identified knowledge gaps with a planned approach of gaining the missing knowledge. With self-study materials, learners study by themselves using textbooks and notes prepared by the teachers. However, according to Palloff & Pratt (2013), self-study limits the interactive face-to-face nature of the learning environment. This limits teachers' guidance in critical thinking exercises, and thereby alters the nature of the teacher-learner relationships. The lack of face-to-face interaction may be overcome by the package content delivery. However, in the current study parents were immediate supervisors of their children's home learning and expected to provide guidance for their children in Nyakayojo Mbarara City South.

Karatas & Oral (2015) indicated that the study material should make the learner active and responsive. A unit is said to be learner active if it has the potential to motivate the learner to sit up and be engaged in various types of academic activities such as jotting down points, explaining the concepts, collecting study materials, applying what has just been learnt to a new situation, doing self-check exercises, writing assignment responses and similar exercises. Such built-in strategies make a unit learner active and pedagogically purposive. Whereas the above studies found out the roles of self-study materials towards home learning, this study was about how distribution of self-study materials affect effectiveness of home learning in Nyakayojo Mbarara City South.

Putri et al., (2020) noted that the success and effectiveness of home learning largely depend on the study materials. Home learning is a more challenging task and different from that face-to-face teaching. Self-learning materials depend on exploiting the various means and ways of communication to suit it to the needs of learners. The learners in home learning have less contact with either the institution or the tutor or the teacher, and depend heavily on these specially prepared learning materials (Jaggars, 2014). Every home learning course needs to be updated from time to time to incorporate the developments in the field of study or discipline. The other reason is to review the performance of the courses in the light of the communication between teachers and students, counselors, experts and others, in order to make the course more relevant, learner friendly and academically rich. Whereas the above studies noted that the success and effectiveness of home learning largely depends on the study materials, the current study was about deeper analysis on the level of significance between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South.

# Conclusion

Whereas different studies were done about distribution of self-study materials and home learning, none of the studies was carried out in secondary school students in Nyakayojo Mbarara City South. This created a contextual gap making it necessary to be carried out.

#### **Chapter Three**

## Methodology

#### Introduction

This chapter gives the methodology that was used in the current study. These include; research design, study population, sample size and selection, data collection methods, data collection instruments, procedure of data collection, data quality control and data analysis.

#### **Research Design**

The researcher used a cross sectional research design since data was collected at single point of time. Both quantitative and qualitative approaches were used. Cross sectional research was preferred because it was easy to apply research instruments such as questionnaires which allowed for the collection of data from a large number of respondents in a relatively short period.

## **Area of Study**

The study was carried out in Nyakayojo Mbarara City South. Nyakayojo Mbarara City South borders with Isingiro District and Nyamitanga Mbarara City South in the East, Bubaare sub county of Mbarara District in the North, Kakiika Division in the Northeast, Mwizi Sub County in the South, Bugamba and Rugando sub counties of Rwampara District in the west. Nyakayojo Mbarara City South is the second most populous division in Mbarara city after Kakoba. This study area was chosen for the study because it experienced high cases related to distribution of self-study materials and home learning among secondary school students and the presence of many secondary school students affected by the closure of educational institutions due to the COVID-19 pandemic. The lockdown necessitated that the students do home learning which partly depended on the distributed study materials.

#### **Study Population**

The population of the study comprised of Mbarara City Inspector of Schools, Mbarara City Education Officer, Students, Headteachers, Director of Studies, Chairperson LC1 and parents. Inspector of Schools participated in the study since they were responsible for monitoring the teaching and learning. City Education Officer, headteachers and director of studies participated in the study because they were responsible for implementing governments' education programs at City level. Students participated in the study because the study was about home learning among secondary school students in Nyakayojo Mbarara City South. Parents and chairperson LC1 participated in the study because they were immediate supervisors for home learning of their children. Mbarara City Resident Commissioner participated in the study because, he headed the team distributing the study materials to students.

## Sample Size

A sample is a small portion of the respondents from the population size, the researcher selected for observation. According to national census (2014) there are approximate 1400 secondary school students and their parents in Nyakayojo Mbarara City South Census, therefore from a population of 1400, a sample size of 311 respondents participated in the study. These included one Mbarara City Inspector of Schools, one Mbarara City Education Officer, 149 Students, one Chairperson LC1, five Headteachers, five directors of schools, and 149 parents. The sample size was determined using Yamane's formula (1967) as follows.

$$n = \frac{N}{1 + N(e)^2}$$

$$n=N/[1+N(e^2)]$$

n = sample size

N =the total population

e = margin error (0.05)

$$n = \frac{1400}{1 + 1400(0.05)^2}$$

$$n = \frac{1400}{4.5}$$

= 311 Respondents

## **Sampling Techniques**

Sampling involved two techniques namely; simple random sampling and purposive sampling technique.

## Simple random sampling

Simple random sampling is a type of sampling where each individual has an equal chance of being selected as a participant in the study. The study employed simple random sampling technique to select students and parents. Simple random sampling avoided bias in selection of students and parents. According to Suhairom (2014) a simple random sample is a sample obtained from a population in such a way that participants in the same population have equal chances of being selected. Under simple random sampling technique, the researcher used simple rotary approach on which a pass number were assigned on the list of the names of the students and parents obtained from each cell in Nyakayojo Division. The procedure was repeated until the required sample size was attained. For each student selected one of his / her parents were selected too by using simple random sampling.

### **Purposive sampling**

Purposive sampling was used to select Mbarara City Inspector of Schools, Mbarara City Education Officer and Mbarara Resident City Commissioner because of their positions and involvement in distribution of self-study materials. Secondly they had relevant information about distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South. Parents were those of selected students since they were responsible for immediate supervisors of home learning. Gender was not catered in selecting respondents because both gender provided same information.

### **Data Collection Methods**

The researcher used two data collection methods; namely questionnaire survey and interview.

# **Research Questionnaire Survey**

This method was used to collect data from students and parents. Questionnaire survey helped to collect data from a large number of respondents. The questionnaire survey included close-ended questions. This method of data collection was very useful because it was fast to use in data collection. Besides, with the nature of the respondents, that is students and parents easily responded to the question items because of their proficiency in English which was the language that was used in the questionnaire. Researcher translated questions to local language for respondents not proficiency in English.

# **Interview method**

This method was used to collect data from Mbarara Inspector of Schools, Mbarara City Education Officer and Mbarara Resident City Commissioner. Interview method helped to collect qualitative data by which the researcher collected responses regarding study variables.

Qualitative data provided by interviewing was added to the interpretation of data collected by survey. Interviewing helped in providing very complete responses since the respondents provided in depth information necessary for deep exploration and clarity.

#### **Data Collection Instruments**

The researcher used both a self-administered questionnaire and an interview guide as data collection instruments.

# **Self-administered Questionnaire**

The quantitative data collection instrument was a self-administered questionnaire. This was because a self-administered questionnaire enables students and parents of selected students to give more time to understand the meaning of the question, and retrieve and compose a response, which improves the quality of responses. A questionnaire was used because it was quick in producing results. The questionnaire was simple, short, and structured enabling the respondents to fill it more easily. The questionnaire had two sections namely; section (A) on background characteristics and section (B) on the dependent and independent variables with the ranking of a five-point Likert Scale (Where 5 = strongly agree, 4 = Agree, 3 = undecided, 2 = disagree, 1 = strongly disagree).

### **Interview Guide**

Qualitative data was collected using an interview guide. The design of the interview items were open ended questions. The interview included open ended questions. Inspector of Schools, City Education Officer and Resident City Commissioner were asked open ended questions relating to study variables. Interviews helped in digging out additional information to that captured by the questionnaires.

#### **Research Procedure**

The researcher obtained an introductory letter from the research Coordinator of Graduate School Bishop Stuart University which she presented to the Mbarara City Education Officer seeking for permission to conduct research in Nyakayojo Mbarara City South Division Offices and then proceed to local leaders. The researcher followed the program given by local leaders. Once the researcher was given permission, she informed respondents about the purpose of the study and request them to willingly provide the information that is required after taking part in the study. The researcher visited secondary school students and parents from their homes with guidance from local leaders. The researcher administered questionnaires herself to the respondents after which she picked them back from respondents after being filled and interview the respondents (Inspector of Schools, City Education Officer and Resident City Commissioner) from their places of work personally while recording their responses.

# **Data Quality Control**

Data quality control was determined by calculating validity and reliability of instruments.

# **Validity of the Instruments**

Validity of research instrument is the degree to which the tool measures what it is intended to measure. Content Related Evidence of Validity method was used to determine the degree to which the instruments measure what they are intended to measure. A list of objectives, which guided the construction of the instrument and separate list of the items designed specifically to answer the research questions were given to two knowledgeable persons about the study topic.

These knowledgeable persons were independently asked to have a thorough inspection of the items and link each objective with respective item, assess the relevancy of the items to the content addressed to objectives. The two knowledgeable persons were asked to rate each item on a 4-point scale namely: - not relevant (NR), somewhat relevant (SR) quite relevant (QR) and very relevant (VR). The researcher computed the level of agreement on the items between the two knowledgeable persons as inter-rater agreement (to what extent do these knowledgeable persons agree).

$$CVI = \frac{\textit{Number of items rated quite relevant and very relevant}}{\textit{Total number of items in the quetionnaire}}$$

$$CVI = \frac{n}{N}$$

Where:

CVI = Content Validity Index,

n = Number of items rated relevant

N = Total number of items in the questionnaire.

Table 3.2: CVI for Questionnaire for the Teachers and Director of Studies

Raters	Items relevant (n)	Items not relevant	Total items (N)
Rater 1	22	4	26
Rater 2	21	5	26
Total	43	9	52

The CVI for the questionnaire

$$=\frac{n}{N}=\frac{43}{52}=0.83$$

A Content Validity Index of 0.7 and above according to Amin (2005) qualifies the instrument to be used. Therefore, basing on the results above, the CVI being 0.83 was above the minimum standard qualifying the instrument to be valid. Therefore the instruments were valid.

# **Reliability of instruments**

Reliability refers to the consistency of measurement that is; the extent to which the results are similar from different forms of the instrument. Reliability for the interview guide was achieved with help of the supervisors who read the question items and guided on the formulation of the questions. Primary data was systematically checked, focus maintained and identification and correcting of errors carried out. The reliabilities of items were tested using Cronbach Alpha ( $\alpha$ ) method under Statistical Package for Social Scientists (SPSS). Reliabilities for the items were attained at the benchmark of  $\alpha = 0.70$  and above. The items thus enabled collection of accurate data. The results were presented in Table 3.3.

**Table 3.3: Reliability Indices** 

Items	Number of Items	Cronbach Alphas
Distribution of self-study materials	11	0.725
Home Learning	15	0.877

### **Data Analysis**

Data was analyzed using quantitative and qualitative data analysis methods as explained below;

# **Qualitative Data**

Qualitative data from objectives one and two were analyzed descriptively and information presented in the narrative form. Qualitative data was organized into themes and patterns, categorized through content analysis and then tabulated. The procedure involved presenting information, summarizing such data into categories or themes for valid inference and interpretation to draw better conclusions for the study.

# **Quantitative Data**

Quantitative data from the questionnaires was sorted, coded, edited and classified into categories as per study objectives. The results from objective three were summarized and entered into SPSS Version 20, where frequency tables and mean scores were generated for easy interpretation of findings. Rating for descriptive statistics was done according to the Likert scale ranging from 1 to represent strongly disagree (very bad), 2 to represent disagree (bad), 3 to represent not sure (moderate), 4 to represent agree (good) and 5 to represent strongly agree (excellent) on scale of 1-5. Correlation between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South was determined to find out whether there is positive statistical relationship between distribution of self-study materials and home learning. This was done using Pearson product moment correlation in SPSS tool.

#### **Measurement of Variables**

Measurement of the variables were based on the nominal and ordinal scales. The nominal scale was used to measure questions on demographic characteristics because the nominal scale helps label or tag in order to identify study items. The ordinal scale which was a ranking and order scale was used to measure the items of the independent and dependent variables. The scale helped to distinguish between objects according to a single attribute and direction. The ranking was a five-point Likert Scale (Where 5 = strongly agree, 4 = Agree, 3 = undecided, 2 = disagree, 1 = strongly disagree).

### **Ethical Considerations**

The researcher maintained a high level of ethics throughout the whole research process.

Material obtained from other sources such as journal articles, books were acknowledged.

The respondents were informed as to why and how they had been chosen. Each questionnaire was contained an opening introductory letter requesting for the respondent's cooperation in providing the required information for the study.

The respondents furthered assured of confidentiality of the information they provided and that the purposes of the study findings. Anonymity was ensured and the researcher observed confidentiality while handling the responses.

Information was availed to respondents that the research would not endanger them directly or indirectly and that participation is voluntary. During data management and analysis, the findings were associated with respondents through a coding system.

Informed consent was signed by all participants and guardians. For those less than 18 yeras old of age assented.

# Conclusion

This chapter described methods that were used in the study and how data was presented in the following chapter.

# **Chapter Four**

# **Data Presentation, Analysis and Interpretation**

# Introduction

This chapter deals with presentation, analysis and interpretation of findings. It comprises of the findings of the whole research based on primary as well as the secondary data which was gathered from the field. Descriptive statistics were used to analyze the data.

# **Response Rate**

The response rate of the respondents is critical to this study because it reflects deeply on the data gathered as the results are shown in table 4.1.

**Table 4.1: Response Rate** 

Category	Sample	Response rate	Percentage (%)			
	Size					
Inspector of Schools	1	1	100.0			
City Education Officer	1	1	100.0			
Chairperson LC1	1	1	100.0			
Headteachers	5	5	100.0			
Director of Studies	5	5	100.0			
Students	149	135	90.6			
Parents.	149	135	90.6			
Total	311	283	91.0			

Source: Primary Data, 2022

Table 4.1 shows that all the sample categories that were targeted participated in the study, making the overall response rate 91.0%. A response rate of 50% and above is acceptable (Mugenda, 2003). Therefore the response rate of current study was considered acceptable for

research. The dropout rate emerged from those who refused to participate in the study and tools that were poorly answered.

# **Demographic characteristics of respondents**

Demographic characteristics of respondents that were considered in this study in order to ascertain whether respondents were fairly selected from the target population. Results on this are presented on Table 4.2.

**Table 4.2: Demographic characteristics (n=273)** 

Age	Frequency	Percentage
Below 18 years	135	49.5
18-30 years	42	15.4
31-40 years	85	31.1
41-50 years	9	3.3
Above 50 years	2	0.7
Total	273	100.0
Gender		51.8
Male	54	40
Female	81	60
Total	273	100.0
<b>Education Level</b>		
Primary	20	7.3
Secondary	150	54.9
Diploma	55	20.1
Bachelors	42	15.4
Postgraduate	6	2.2
Total	273	100

Source: Primary Data, 2022

Table 4.2 indicated that majority of the respondents most of the respondents 135 (49.5%) were below 18 years, followed by 85 (31.1%) who were 31-40 years, 42 (15.4%) were 18-30 years, and 9 (3.3%) 41-50 years. The majority of the respondents 81 (60%) were females while 54 (40%) were male. Concerning the levels of education, most of the respondents 150 (54.9%) had secondary level of education, 55 (20.1%) had diploma, 42 (15.4%) had bachelors, 20 (7.3%) had primary and 6 (2.2%) had postgraduate level of education.

# **Objective One**

The extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South

Results under this section were obtained in line with objective one of this study which stated as "To examine the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South" results were obtained using questionnaires from teachers and students and interview guide from inspector of schools, city education officer, and resident city commissioner.

It was revealed that resident city commissioner was responsible for monitoring and supervising the whole activity of distributing study materials to students. Different challenges were met during the operation of distributing study materials, as one of the respondents said that,

"...... there was a lot of challenges in distributing study materials such as inadequacy of materials, some students' homes where had to reach, some students were not interested in studying since they were devoted to activities like brick making, farming, trading food, among others. Some parents were complaining that the content in study materials was very little to cover the whole syllabi....." (Respondent A, 2022).

The Inspector of Schools said that

"...... since it was a lock down, I faced a challenge of supervising and conducting inspections project schools, sharing quality inspection reports which can drive clear and high impact actions for developing School Improvement Plans (SIPs), supporting project School Leaders, identifying capacity gaps amongst school leaders aligned to overall school improvement and lead the development of coaching and mentoring approaches and ensure gaps are addressed, Gathering feedback from project schools......." (Respondent B, 2022).

When asked to comment on the distribution of self-study materials during lock down, both the Mbarara Resident City Commissioner and Mbarara City Inspector of schools indicated that the ".....the distribution of study materials was fair....."

City Education Officer said that "....materials came to our office but they were very few and we lacked even the means of taking them to schools ....." (Respondent D, 2022).

One of the Head teacher said that;

"..... I am the chairman ASHUU but the City Education Officer called to go to his office and see how to distribute the materials.... they were only 18 (Eighteen) copies to be distributed to the whole of greater Mbarara......." (Respondent G).

Chairman LCI mentioned that ".....Many students came asking me the materials but I could tell them that we have not received them up to date......" (Respondent H).

The above study findings imply that there was poor distribution of self-study materials in Nyakayojo Mbarara City South. This is because students were dissatisfied, students were unable able to understand the content in study materials distributed, students were unable to do all

assignments contained in the study materials received, the distributed self-study materials not adequate enough, and the self-study materials were not distributed in time.

# **Objective Two**

# The effectiveness of home learning in Nyakayojo Mbarara City South

Results under this section were obtained in line with objective two of this study which stated as "To assess the effectiveness of home learning in Nyakayojo Mbarara City South" results were obtained using questionnaires from teachers and students and interview guide from inspector of schools, city education officer, and resident city commissioner.

In addition from interviews when asked to comment on the effectiveness of home learning among secondary school students, the RDC said that ".....home learning was generally good......" However this contradicts with views from inspector of schools who said that "....home learning was not effective because students did not concentrate in studying, some students were exposed to immorality within the communities......"

One of the parents said that ".... for us in the village, we did not even know that there was online learning...." (Respondent E, 2022).

In addition from interviews when asked about the ways of how self-study materials help to improve home learning in Nyakayojo Mbarara City South, and the RDC said that; ".....in cooperation with media, and parents, self-study materials have helped to improve home learning.......". Similarly, the inspector of schools said that "....to a smaller extent, self-study materials helped to improve home learning in Nyakayojo Mbarara City South....."

The above study findings imply that the effectiveness of home learning in Nyakayojo Mbarara City South was moderate. Some parents had laptops, phones, internet data bundles, radio, TVs, and power / internet.

# **Objective Three**

The relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South

Results under this section were obtained in line with the third objective which stated that "To establish the relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South" To establish the results both descriptive statistics and Pearson correlation coefficient were run from the data was gathered. Rating for descriptive statistics was done according to the Likert scale ranging from 1 to represent strongly disagree (very bad), 2 to represent disagree (bad), 3 to represent not sure (moderate), 4 to represent agree (good) and 5 to represent strongly agree (excellent) on scale of 1-5. Findings are presented in tables 4.3, 4.4, and 4.5;

Table 4.3: Descriptive statistics on the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South

Items		5		4		3		2		1	Mean
	$\mathbf{F}$	<b>%</b>	F	<b>%</b>	$\mathbf{F}$	<b>%</b>	F	<b>%</b>	F	%	Scores
I received distributed self-study materials in the lockdown of 2020	5	1.8	22	8.1	55	20.1	164	60.1	27	9.9	2.32
I am satisfied with self-study materials distributed in terms of learning	3	1.1	14	5.1	66	24.2	137	50.2	53	19. 4	2.18
I got self-study materials for all subjects	11	4.0	16	5.9	68	24.9	150	54.9	28	10. 3	2.38
Study materials distributed helped me to keep learning during lockdown.	0	0.0	0	0.0	35	12.8	197	72.2	41	15. 0	1.98
I understood the content in study materials distributed.	14	5.1	22	8.1	66	24.2	131	48.0	40	14. 7	2.41
The self-study materials were distributed more than once.	14	5.1	27	9.9	46	16.8	137	50.2	49	17. 9	2.34
I was able do all assignments contained in the study materials I received	8	2.9	16	5.9	27	9.9	142	52.0	80	29. 3	2.01
The content in distributed self-study materials was relevant to syllabus of my level.	8	2.9	19	7.0	66	24.2	126	46.2	54	19. 8	2.27
The distributed self-study materials were adequate enough	0	0.0	26	9.5	55	20.1	137	50.2	55	20. 1	2.19
The self-study materials were distributed in time	11	4.0	14	5.1	44	16.1	177	64.8	27	9.9	2.29
I understood the language of instruction in self-study materials distributed.	8	2.9	16	5.9	71	26.0	137	50.2	41	15. 0	2.32
Overall mean score											2.24

Source: Primary Data, 2022

Results in table in Table 4.3, concerning whether students received distributed self-study materials in the lockdown of 2020, 164 (60.1%) of the respondents disagreed, 55 (20.1%) were moderate, 27 (9.9%) strongly disagreed, and 5 (1.8%) mentioned strongly agree. The mean score

= 2.32 meant that the majority students did not received distributed self-study materials in the lockdown of 2020. With respect to whether students are satisfied with self-study materials distributed in terms of learning, almost half of the respondents 137 (50.2%) mentioned disagree, 66 (24.2%) mentioned undecided, 53 (19.4%) strongly disagree, 14 (5.1%) agree, and 3 (1.1%) of the respondents mentioned strongly agree. The mean score = 2.18 meant that the majority of students were not satisfied with self-study materials distributed in terms of learning. Concerning whether students got self-study materials for all subjects, most of the respondents 150 (54.9%) mentioned agree, 68 (24.9%) mentioned undecided, 28 (10.3%) mentioned strongly agree, 16 (5.9%) disagree and 11 (4.0%) strongly disagreed. The mean score = 2.38 meant that students did not get self-study materials for all subjects. With respect to whether study materials distributed helped students to keep learning during lockdown, the majority of the respondents 197 (72.2%) mentioned that disagree, 41 (15.0%) mentioned strongly disagree, and 35 (12.8%) undecided. The mean score of 1.98 implied that study materials distributed did not help students to keep learning during lockdown.

Regarding whether students understood the content in study materials distributed, most of the respondents 131 (48.0%) disagreed with the statement, 66 (24.2%) undecided, 40 (14.7%) strongly agreed, 22 (8.1%) agreed, and 14 (5.1%) strongly agreed. The mean score of 2.41 implied that students did not understand the content in study materials distributed. Concerning whether the self-study materials were distributed more than once, most of the respondents 137 (50.2%) mentioned disagree, 49 (17.9%) mentioned strongly disagree, 46 (16.8%) undecided, 2 (9.9%) agreed and 14 (5.1%) strongly agreed. The mean score of 2.34 implied that the self-study materials were distributed more than once. Regarding whether students were able to do all assignments contained in the study materials they received, most of the respondents 142 (52.0%)

disagreed the statement, 80 (29.3%) strongly disagreed, 27 (9.9%) undecided, 16 (5.9%) agreed, and 8 (2.9%) strongly agreed. The mean score of 2.01 implied that students were not able to do all assignments contained in the study materials they received.

Concerning whether the content in distributed self-study materials was relevant to syllabus of students' level of education, most of the respondents 126 (46.2%) mentioned disagree, 66 (24.2%) undecided, 54 (19.8%) strongly disagreed, 19 (7.0%) disagreed and 8 (2.9%) strongly agreed. The mean sore of 2.27 implied that the content in distributed self-study materials was not relevant to syllabus of students' level of students. Concerning whether the distributed the distributed self-study materials were adequate enough, almost half of the respondents 137 (50.2%) disagreed with the statement, on the same item 55 (20.1%) strongly disagreed, 55 (20.1%) were undecided, and 26 (9.5%) agreed. The mean score of 2.19 implied that the distributed self-study materials were adequate enough.

Regarding to whether the self-study materials were distributed in time, most of the respondents 177 (64.8%) mentioned disagree, 44 (16.1%) undecided, 27 (9.9%) strongly disagreed, 14 (5.1%) agreed and 11 (4.0%) strongly disagreed. The mean score of 2.29 implied that the self-study materials were distributed in time. Concerning students understood the language of instruction in self-study materials distributed, approximately half of the respondents 137 (50.2%) disagreed, 71 (26.0%) undecided, 41 (15.0%) strongly disagreed, 16 (5.9%) agreed and 8 (2.9%) strongly agreed. The mean score of 2.32 implied that students did not understand the language of instruction in self-study materials distributed. The overall mean score of 2.24 implied that the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South was low (disagree).

Table 4.4: Descriptive statistics on effectiveness of home learning in Nyakayojo Mbarara City South

Items		5 4			3		2		1	Mean	
	f	%	f	<b>%</b>	f	<b>%</b>	f	<b>%</b>	f	%	score
There is a laptop / computer at home which enables me to surf reading content from internet	0	0.0	11	4.0	54	19.8	178	65.2	30	11.0	2.17
I use my parent's phone to surf reading content from internet	3	1.1	10	3.7	67	24.5	139	50.9	54	19.8	2.15
My parents afford buying data bundles for educational purposes.	9	3.3	12	4.4	65	23.8	160	58.6	27	9.9	2.33
I have skills of surfing learning content from internet.	3	1.1	6	2.2	49	17.9	175	64.1	40	14.7	2.11
There is radio at home where I can access online lessons	11	4.0	18	6.6	65	23.8	131	48.0	48	17.6	2.32
There is TV at home where I can access visual online lessons	14	5.1	22	8.1	45	16.5	141	51.6	51	18.7	2.29
There is power to enable continuous home leaning via radio or TV	5	1.8	15	5.5	30	11.0	141	51.6	82	30.0	1.97
I have access to all study distributed materials	6	2.2	17	6.2	65	23.8	130	47.6	55	20.1	2.23
I am able to read all the content in the distributed study materials	1	0.4	22	8.1	60	22.0	130	47.6	60	22.0	2.17
I am able to do all tests in distributed materials.	10	3.7	12	4.4	47	17.2	172	63.0	32	11.7	2.25
My parents always remind the stakeholder involved in distribution of study materials about my need for my learning.	5	1.8	12	4.4	60	22.0	154	56.4	42	15.4	2.21
My parents also visit the nearest education government official for inquiry about distribution of study materials.	6	2.2	13	4.8	55	20.1	161	59.0	38	13.9	2.22
My parents always make phone calls to residence city commissioner concerning distribution of study materials	7	2.6	14	5.1	47	17.2	170	62.3	35	12.8	2.22
My parents make sure that I receive all study materials of my education level.	4	1.5	10	3.7	40	14.7	182	66.7	37	13.6	2.13
Overall Mean											2.20

Source: Primary Data, 2022

Study findings presented in Table 4.4, concerning whether there are laptops / computers at home which enable students to surf reading content from internet, more than half of the respondents 178 (65.2%) of the respondents mentioned disagree, 54 (19.8%) mentioned undecided, 30 (11.0%) strongly agreed, and 11 (4.0%) agreed. The mean score of 2.17 implied that there are no laptops / computers at home which limited students from surfing and reading content from internet. Concerning whether students always use their parents' phone to surf reading content from internet, slightly more than half of the respondents 139 (50.9%) mentioned disagree, 67 (24.5%) mentioned undecided, 54 (19.8%) mentioned strongly disagree, 10 (3.7%) agree and 3 (1.1%) mentioned strongly agree. The mean score of 2.15 implied that students don't always use their parents' phone to surf reading content from internet.

Regarding whether parents afford buying data bundles for educational purposes, most of the respondents 160 (158.6%) disagreed, 65 (23.8%) undecided, 27 (9.9%) strongly disagreed, 12 (4.4%) agreed, and 9 (3.3%) strongly agreed. The mean score of 2.33 implied that the parents don't afford buying data bundles for educational purposes. Concerning whether students have skills of surfing learning content from internet, most of the respondents 175 (64.1%) disagreed, 40 (14.7%) strongly disagreed, 49 (17.9%) undecided, 6 (2.2%) agreed and 3 (1.1%) strongly agreed. The mean score of 2.11 implied that students don't have skills of surfing learning content from internet. With respect to whether there are radios at home where students can access online lessons, most of the respondents 131 (48.0%) disagreed, 48 (17.6%) strongly agreed, 65 (23.8%) undecided, 18 (6.6%) agreed, and 11 (4.0%) strongly agreed. The mean score of 2.32 indicated that there are limited radios at home where students can access online lessons. Regarding whether there are TVs at homes where students can access visual online lessons, approximately half of the respondents 141 (51.6%) disagreed, 51 (18.7%) strongly disagreed, 45 (16.5%)

undecided, 22 (8.1%) agreed, and 14 (5.1%) strongly agreed. The mean score of 2.29 implied that there are TVs at homes where students can access visual online lessons.

With respect to whether there is power to enable continuous home leaning via radio or TV, most of the respondents 141 (51.6%) disagreed, 82 (30.0%) strongly disagreed, 30 (11.0%) undecided, 15 (5.5%) agreed, and 5 (1.8%) strongly agreed. The mean score of 1.97 implied that there is no power to enable continuous home leaning via radio or TV. Concerning whether students have access to all study distributed materials, most of the respondents 130 (47.6%) were disagreeing, 55 (20.1%) were strongly disagreeing, 65 (23.8%) were undecided, 17 (6.2%) were disagreeing, and 6 (2.2%) were strongly agreeing. The mean score of 2.23 implied that students had no access to all study distributed materials. With respect to whether students are able to read all the content in the distributed study materials, most of the respondents 130 (47.6%) mentioned disagree, 60 (22.0%) indicated strongly disagree, 60 (22.0%) undecided, 22 (8.1%) agree, and 1 (0.4%) strongly agree. The mean score = 2.17 implied that students are not able to read all the content in the distributed study materials. Concerning whether, students are able to do all tests in distributed materials, most of the respondents 172 (63.0%) mentioned disagree, 32 (11.7%) mentioned strongly disagree, 47 (17.2%) mentioned undecided, 12 (4.4%) agree, and 10 (3.7%) strongly agree. The mean score of 2.25 implied that students are not able to do all tests in distributed materials.

With respect to whether parents always remind the stakeholders involved in distribution of study materials about students need for their learning, most of the respondents 154 (56.4%) disagreed, 42 (15.4%) strongly disagreed, 60 (22.0%) undecided, 12 (4.4%) agreed, and 5 (1.8%) strongly disagreed. The mean score of 2.21 implied that parents don't always remind the stakeholders involved in distribution of study materials about students need for their learning.

Concerning whether, parents visit the nearest education government official for inquiry about distribution of study materials, more than half of the respondents 161 (59.0%) disagreed, 38 (13.9%) strongly disagreed, 55 (20.1%) undecided, 13 (4.8%) agreed, and 6 (2.2%) strongly agreed. The mean score of 2.21 implied that parents don't always visit the nearest education government official for inquiry about distribution of study materials.

Concerning whether parents always make phone calls to residence city commissioner concerning distribution of study materials, most of the respondents 170 (62.3%) disagreed, 35 (12.8%) strongly disagreed, 47 (17.2%) undecided, 14 (5.1%) agreed, and 7 (2.6%) strongly agreed. The mean score of 2.22 indicated that parents don't always make phone calls to residence city commissioner concerning distribution of study materials. With respect to whether parents make sure that students receive all study materials of their education level, most of the respondents 182 (66.7%) mentioned disagree, 37 (13.6%) mentioned strongly disagree, 40 (14.7%) undecided, 10 (3.7%) agreed, and 4 (1.5%) strongly agreed, the mean score of 2.13 implied that parents don't make sure that students receive all study materials of their education level. The oversell mean score of 2.20 implied that the effectiveness of home learning in Nyakayojo Mbarara City South was bad (disagree).

Table 4.5: Correlation coefficient for distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South

	Cor	relations	
		Distribution of self- study materials	Home learning
Distribution of self- study materials	Pearson Correlation	1	.258**
·	Sig. (2-tailed) N	273	.000 273
Home learning	Pearson Correlation	.258**	1
	Sig. (2-tailed) N	.000 273	273
**. Correlation is sign	nificant at the 0.01 lev	rel (2-tailed).	

Source: Primary Data, 2022

The results in Table 4.5, the 2-tailed significance test shows that the correlation coefficient was 0.863 which indicates that there is a high positive relationship between distribution of self-study materials and home learning. The p value 0.000 shows that there is a statistically significant relationship between distribution of self-study materials and home learning. Therefore the null hypothesis which stated that "There is no statistical relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South." was rejected. Therefore the study findings adopted alternative hypothesis which stated that there is statistical relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South. The above study findings imply that there is a positive effect of distribution of self-study materials on home learning among secondary school students in Nyakayojo Mbarara City South.

### **Chapter Five**

# **Discussion of Findings, Conclusions and Recommendations**

#### Introduction

This chapter gives discussion of findings, conclusions and recommendations. However the purpose of the study was to assess the effect of distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South as indicated in chapter one of this dissertation.

# **Discussion of findings**

The study findings were presented following objectives of the study as sub themes as below;

The extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South

The study findings found out that there was poor distribution of self-study materials in Nyakayojo Mbarara City South. This is because students were dissatisfied, students were unable able to understand the content in study materials distributed, students were unable to do all assignments contained in the study materials received, the distributed self-study materials not adequate enough, and the self-study materials were not distributed in time. This finding differs from Hirsh-Pasek et al., (2015) who revealed that the self-study materials are available mostly through online classes and softcopy notes followed by e-books, YouTube videos, schools' platforms, educational websites, and educational applications. Different self-study content had been used to access the online classes. The distribution of these online tools was as follow; Zoom had the highest preference followed by WhatsApp, Google classroom, and social networks. However the above findings are in line with Anshari et al., (2017) that the most popular device

that students used to access the study materials was the smart phone followed by laptop, while the least used tool was the personal computer. This result is in accordance with the results reporting that students use smart phones and laptops at higher rates followed by iPads/tablets then PC to access online mathematics lessons and social media.

Additionally, Chiong & Jovanovic (2012) showed that home learning is challenged with a range of obstacles. The most reported challenges were lack of sufficient time to study, difficulties in access and use of ICT, ineffective feedback and lack of study materials. Several studies have supported that the internet utilization is most prevalent among younger, educated individuals. Similarly, Rubin (2017) found out that most of the students who utilize the internet for educational purposes prefer to use e-books among print study materials and the essential electronic library (TEEL) among the electronic resources. The students stated that the use of internet sources has brought about positive change in their academic activities in general. They reported that searching for materials via e-books and e-journals enabled them to carry out research ahead of time, thereby easing and improving their academic research and learning. In conclusion the researcher believed that there was poor distribution of self-study materials in secondary schools in Nyakayojo Mbarara City South because there was negative responses from the field.

## The effectiveness of home learning in Nyakayojo Mbarara City South

The study findings found out that the effectiveness of home learning in Nyakayojo Mbarara City South was moderate. This finding is in line with Dang, Nguyen & Le (2013) who cited five factors affecting home learning. That is; the level of training of teachers, study materials availability, language of instruction and curriculum reforms. The importance of individual aspects might vary substantially from place to place and from time to time. From his

experience, the shortage of trained teachers is so widespread that under-qualified persons are frequently employed as teachers, especially in remote locations.

Additionally, Musingafi, Mapuranga, Chiwanza & Zebron, (2015) indicated that lack of concentration in home learning may not be the true reflection of their academic abilities. Proper guidance and lack of professional person along with the inadequate collection in the self-study materials as well as insufficient networking computers have been the main drawbacks on students exploring the resources (Butcher, 2015). In a similar way, Skwarchuk, Sowinski & LeFevre (2014) noted that home learning is an activity that a child is asked to complete outside of the school day, either on their own or with an adult. Home learning can range from reading a book aloud to completing a research project about a specific subject. Wheatley (2013) noted that home learning models range from unschooling to traditional classroom schooling. Unschooling is based on interest-based learning in which the child expresses interest in a particular subject, and the parents take steps to provide the materials for that subject. Most parents have a traditional setting of home learning in which the children are taught subjects such as mathematics, reading, history, science, grammar, and spelling within a structured schedule created by the parents.

Simonson & Smaldino (2019) revealed that in most communities, home learning can take advantage of a local support group. A home learning support group organizes monthly meetings in which new and existing home learning families discuss different home schooling issues. The group may also arrange for cooperative teaching in which parents with different skills teach a group of home schooled children once a week in a rented or donated building. The group may also arrange field trips and sports activities. A number of home school groups field sports teams that compete against each other or with local private schools. These activities are intended to

provide socialization skills for the students (Siedentop, Hastie & Van der Mars, 2019). In conclusion the researcher, also supported findings from field as low effectiveness of home learning among secondary school students in Nyakayojo Mbarara City South because there was less support from stakeholders such as teachers, head teachers, NGOs, among others towards home learning.

The relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South

The study findings found out that there is a statistically significant relationship between distribution of self-study materials and home learning at p =0.000. Therefore there is a positive association between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South. This is agreement with Loyens, Gijbels, Coertjens & Cote (2013) who noted that self-study is important aspect of effective home learning. Self-study is one of the most important things not only to qualify for an examination but it is most important to acquire practical approach of theoretical information. Research studies reflect that there is a perfect correlation between the distribution of study materials and home learning process. If there is effective distribution of study materials, there are chances of better home learning and vice versa.

In a similar way, Agung & Widiputera (2019), found out that self- study materials develop personality traits like self-reliance, self-dependence, and self-confidence among the learners. Distribution of study materials develop creativity among the students and makes them research oriented during home learning. Distribution of study materials broaden the mental horizon of the students. The self-study method makes the students to utilize the leisure time properly to enrich and increase knowledge during home learning (Pererva et al., 2020). Home

learning provides learners with a flexible methodology of instruction, because the teacher and institution play a supportive role in which the student is in the foreground of the learning process.

Additionally Soper (2017), self-study materials provide a form of home learning that gives learners an opportunity to work individually according to their special needs. The advantage of self-study materials is attractive to the self-motivated learner who has already self-identified knowledge gaps with a planned approach of gaining the missing knowledge. With self-study materials, learners study by themselves using textbooks and notes prepared by the teachers. The above findings also agree with Putri et al., (2020) who noted that the success and effectiveness of home learning largely depends on the study materials. Home learning is a more challenging task and different from that face-to-face teaching. Self-learning materials depend on exploiting the various means and ways of communication to suit it to the needs of learners. In conclusion, the researcher suggested that home learning is associated with distribution of self-study materials among secondary school students in Nyakayojo Mbarara City South since poor distribution of study materials contributed to ineffectiveness of home learning.

#### **Conclusions**

In relation to objective one, it was concluded that the extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South was high. This implies that students were not able to receive all the distributed materials, they were not able to get study materials for all the subjects, study materials did not enable students to keep learning during lockdown, they were not able to do all assignments contained in the study, there was no adequacy of study materials distributed.

In relation to objective two, it was concluded that the effectiveness of home learning in Nyakayojo Mbarara City South was poor. This implies that students had gadgets such as laptops / computers at home which enabled them to continue learning, parents were able to buy internet data for students, there were radios at home, there are TVs at homes, there was power / electricity which enabled continuous home leaning via radio or TV, students were able to read all the content in the distributed study materials, among others.

In relation to objective three, it was concluded that there was a statistically significant relationship between distribution of self-study materials and home learning. This implied that the more the distribution of self-study materials the more the effectiveness of home learning among secondary school students in Nyakayojo Mbarara City South and vice versa.

### Recommendations

The extent to which self-study materials were distributed to secondary school students in Nyakayojo Mbarara City South

- The government should always self-study materials in time. This will enable students to keep motivate while learning from home during holidays.
- The government should involve all the educationists in distribution of study materials, such as teachers, head teachers, board of governors, and inspector of schools.

# The effectiveness of home learning in Nyakayojo Mbarara City South

- The parents should play their role of monitoring and supervising their children at home while learning. This will increase effectiveness of students in home learning.
- The parents should guide their children on how to use study materials distributed. This will enable effective utilization of study materials.

The relationship between distribution of self-study materials and home learning among secondary school students in Nyakayojo Mbarara City South

- The government should ensure that the study materials distributed are effectively utilized by students. This can be implemented through sensitization on mass media like radios, TVs, Newspapers, among others.
- The government always distribute enough study materials to enable all the children / students to continue studying.

#### **Areas for Further Research**

- The same study about distribution of self-study materials and home learning among secondary school students should be carried out in other division in, Mbarara City and compare results from Nyakayojo Division in more conclusions and recommendations.
- Distribution of self-study materials and home learning among primary pupils in Nyakayojo Mbarara City South.

### Limitation of the study

This study makes significant contributions as far suggesting distribution of self-study materials and home learning among secondary school students.. First, the study was carried out on secondary schools in Nyakayojo Division. This limits generalisation of the findings on all secondary schools in Mbarara City. Two, this study used the quantitative approach as the dominant one limiting in-depth analysis of the problem.

#### References

- Abdous, M. H. (2012). Toward a Taxonomy of Distributed Learning Delivery Modes. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 1-22). Association for the Advancement of Computing in Education (AACE).
- Agung, I. & Widiputera, F. (2019). The Effect of The use of Gadget on Psychosocial, Socio-Emotional, Self-Reliance, Responsibility, and Students Learning Results in Elementary School. *Education Quarterly Reviews*, 2(1).
- Amodan, B. O. et al., (2020). Level and determinants of adherence to COVID-19 preventive measures in the first stage of the outbreak in Uganda. *International journal of environmental research and public health*, 17(23), 8810.
- Anshari, M. et al. (2017). Smartphones usage in the classrooms: Learning aid or interference?. *Education and Information technologies*, 22(6), 3063-3079.
- Bell, T. N. (2019). How Second Life can be Utilized as a Synchronous Tool in E-Learning

  Courses to Increase Learner Engagement (Doctoral dissertation).
- Bergdahl, N. & Nouri, J. (2020). Covid-19 and crisis-prompted distance education in Sweden. *Technology, Knowledge and Learning*, 1-17.
- Beyaztas, D. I. & Senemoglu, N. (2015). Learning approaches of successful students and factors affecting their learning approaches. (165-195). London: Lawrence Erlbaum Associates, Publishers.
- Butcher, N. (2015). A basic guide to open educational resources (OER). Commonwealth of Learning (COL). Ankara: Nobel Yayınevi.

- Chiong, R. & Jovanovic, J. (2012). Collaborative learning in online study groups: An evolutionary game theory perspective. *Journal of Information Technology Education:*\*Research, 11(1), 81-101.
- Dang, T. K. A. Nguyen, H. T. M. & Le, T. T. T. (2013). The impacts of globalisation on EFL teacher education through English as a medium of instruction: An example from Vietnam. *Current Issues in Language Planning*, *14*(1), 52-72.
- Dean, C. B., & Hubbell, E. R. (2012). Classroom instruction that works: Research-based strategies for increasing student achievement. Ascd.
- Dunlosky, J. et al. (2013). Improving students' learning with effective learning techniques:

  Promising directions from cognitive and educational psychology. *Psychological Science*in the Public Interest, 14(1), 4-58.
- Ellis, R. & Goodyear, P. (2013). Students' experiences of e-learning in higher education: the ecology of sustainable innovation. Routledge.
- Giossos, Y., Koutsouba, M. and Mavroidis, I. (2016). Development of an instrument for measuring Learner–Teacher transactional distance. *American Journal of Distance Education*, 30(2), 98-108.
- Hayesn, N., O'Toole, L. and Halpenny, A. M. (2017). *Introducing Bronfenbrenner: A guide for practitioners and students in early years education*. Taylor and Francis.
- Hirsh-Pasek, K. et al. (2015). Putting education in "educational" apps: Lessons from the science of learning. *Psychological Science in the Public Interest*, *16*(1), 3-34.
- Inspector of education (2020) Report on Distribution of self-study materials and home learning among secondary school students during lockdown.

- Jaggars, S. S. (2014). Choosing between online and face-to-face courses: Community college student voices. *American Journal of Distance Education*, 28(1), 27-38.
- Kabahizi, C. B. (2020). Impacts of the COVID-19 Disruptions on Institutions of Higher Education in Uganda. Uganda Christian University. Published by Africa Policy Centre.
- Karataş, K. & Oral, B. (2015). Teachers' perceptions on culturally responsiveness in education. *Journal of Ethnic and Cultural Studies*, 2(2), 47-57.
- Kentnor, H. E. (2015). Distance education and the evolution of online learning in the United States. *Curriculum and teaching dialogue*, *17*(1), 21-34.
- Lam, S. F. et al. (2014). Understanding and measuring student engagement in school: The results of an international study from 12 countries. *School Psychology Quarterly*, 29(2), 213.
- Langat, G. (2019). Schooling experiences of displaced high school students: A case of Olposimoru forest Evictees, Narok North Sub-County Narok County, Kenya (Doctoral dissertation, Moi University).
- Larkin, K., & Jamieson-Proctor, R. (2015). Using transactional distance theory to redesign an online mathematics education course for pre-service primary teachers. *Mathematics*Teacher Education and Development, 17(1), 44-61.
- Lazarus, L. Sookrajh, R. & Satyapal, K. S. (2017). Tablet technology in medical education in South Africa: a mixed methods study. *BMJ open*, 7(7), e013871.
- Loyens, S. M., Gijbels, D., Coertjens, L., & Cote, D. J. (2013). Students' approaches to learning in problem-based learning: Taking into account professional behavior in the tutorial groups, self-study time, and different assessment aspects. *Studies in Educational Evaluation*, 39(1), 23-32.

- Marsick, V. J. & Watkins, K. (2015). *Informal and incidental learning in the workplace*(Routledge revivals). London: The Society for Research into Higher Education and Open University Press.
- Mbarara City inspector (Feb 2021) Report about distribution of self study materials for continuous learning of students, Mbarara City.
- McTurnal, R. E. (2019). Reasons Why Homeschooling Families Choose Strict Home-Based Education or Cooperative Groups. Doctoral Dissertations and Projects. Liberty University.
- Monk, E. & Wagner, B. (2012). *Concepts in enterprise resource planning*. Cengage Learning. London: Lawrence Erlbaum Associates, Inc.
- Msoffe, R. M. (2016). The role of open and distance learning in gender equality and women empowerment: A case of Diploma in Primary Teacher Education, the Open University of Tanzania. *Dar es Salaam, Tanzania*.
- Musingafi, M. C., Mapuranga, B., Chiwanza, K. & Zebron, S. (2015). Challenges for open and distance learning (ODL) students: Experiences from students of the Zimbabwe OpenUniversity. *Journal of Education and Practice*, 6(18), 59-66.
- Olum, R. et al. (2020). Medical Education and E-Learning During COVID-19 Pandemic:

  Awareness, Attitudes, Preferences, and Barriers Among Undergraduate Medicine and

  Nursing Students at Makerere University, Uganda. *Journal of Medical Education and*Curricular Development, 7, 2382120520973212.
- Omara, P. (2020). Learning at home during COVID-19 pandemic in Abim District, Uganda: learners' perspectives.

- Owusu-Fordjour, C., Koomson, C. K. & Hanson, D. (2020). The impact of Covid-19 on learning-the perspective of the Ghanaian student. *European Journal of Education Studies*.
- Palloff, R. M., & Pratt, K. (2013). Lessons from the virtual classroom: The realities of online teaching. John Wiley and Sons.
- Pererva, V. et al. (2020). The technique of the use of Virtual Learning Environment in the process of organizing the future teachers' terminological work by specialty.
- Putri, R. S. et al (2020). Impact of the COVID-19 pandemic on online home learning: An explorative study of primary schools in Indonesia. *International Journal of Advanced Science and Technology*, 29(5), 4809-4818.
- Redford, J., Battle, D. & Bielick, S. (2016). Homeschooling in the United States: 2012. NCES 2016-096. *National Center for Education Statistics*.
- Rubin, R. E. (2017). Foundations of library and information science. American Library Association.
- Shah, J. K. & Sharma, B. (2012). A study on Social Maturity, School Adjustment and Academic achievement among residential school girls. *Journal of Education and Practice*, *3*(7), 69-80.
- Chawinga, W. D., & Zozie, P. A. (2016). Increasing access to higher education through open and distance learning: Empirical findings from Mzuzu University, Malawi. *International Review of Research in Open and Distributed Learning*, 17(4), 1-20.
- Siedentop, D. Hastie, P., & Van der Mars, H. (2019). *Complete guide to sport education*. Human Kinetics.

- Simonson, M., Zvacek, S. M. and Smaldino, S. (2019). Teaching and Learning at a Distance: Foundations of Distance Education 7th Edition.
- Skwarchuk, S. L., Sowinski, C. & LeFevre, J. A. (2014). Formal and informal home learning activities in relation to children's early numeracy and literacy skills: The development of a home numeracy model. *Journal of experimental child psychology*, 121, 63-84.
- Sleeter, C. & Carmona, J. F. (2017). *Un-standardizing curriculum: Multicultural teaching in the standards-based classroom*. Teachers College Press.
- Slough, S. W. & Milam, J. O. (2013). Theoretical framework for the design of STEM project-based learning. In *STEM Project-Based Learning* (pp. 15-27). Brill Sense.
- Soper, T. (2017). Knowledge into learning: comparing lecture, e-learning and self-study takehome packet instructional methodologies with nurses. *Nursing open*, *4*(2), 76-83.
- Suhairom, N. (2014). The development of competency model and instrument for competency measurement: The research methods. *Procedia-Social and Behavioral Sciences*, 152, 1300-1308.
- Suleiman, Y., Ishola, M. A., Modupe, O. R. & Ayodeji, N. G. (2021). COVID-19 and private schools' management strategies during lockdown in Nigeria. *African Perspectives of Research in Teaching and Learning* 5(1), 76-83.
- Vasiloudis, G., Koutsouba, M., Giossos, Y. & Mavroidis, I. (2015). Transactional distance and autonomy in a distance learning environment. *European Journal of Open, Distance and E-learning*, 18(1), 114-122.
- Verissimo, P., & Rodrigues, L. (2012). *Distributed systems for system architects* (Vol. 1). Springer Science and Business Media.

Wheatley, K. F. (2013). How unschoolers can help to end traditional reading instruction. *Journal of Unschooling and Alternative Learning*, 7(13).

### **Appendices**

**Appendix 1: Informed Consent Form** 

Dear respondent,

Thank you very much for accepting to participate in my study

### **Appendix 2: Questionnaire for Students**

### **Section A: Background Characteristics**

1.	Age		
2.	Gender		
	Male	Female	
3.	Education	Level	
	(i)	S.1 (ii) S.2 (iii) S.3	(iv) S.4
		(v) S.5 (vi) S. 6 (	

Section B: Distribution of Self-Study Materials and Home Learning among Secondary

### School Students in Nyakayojo Mbarara City South

### (I) Distribution of self-study materials

This part contains questions about distribution of self-study materials and home learning among Secondary School Students in Nyakayojo Mbarara City South. In the tables below, 5 represents strongly agree, 4 represents agree, 3 represents undecided, 2 represents disagree and 1 represents strongly disagree. Please mark the given statements in the table below according to your level of agreement.

No.	Statements on distribution of self-study materials	5	4	3	2	1
1.	I received distributed self-study materials in the lockdown of 2020					
2.	I am satisfied with self-study materials distributed in terms of learning					

3.	I got self-study materials for all subjects			
4.	Study materials distributed helped me to keep learning during lockdown.			
5.	I understood the content in study materials distributed.			
6.	The self-study materials were distributed more than once.			
7.	I was able do all assignments contained in the study materials I received			
8.	The content in distributed self-study materials was relevant to syllabus of my level.			
9.	The distributed self-study materials were adequate enough			
10.	The self-study materials were distributed in time			
11.	I understood the language of instruction in self-study materials distributed.			

## (II) Home Learning

This part contains questions about home learning among secondary school students in Nyakayojo Mbarara City South. In the tables below, 5 represents strongly agree, 4 represents agree, 3 represents undecided, 2 represents disagree and 1 represents strongly disagree. Please mark the given statements in the table below according to your level of agreement.

No.	Statements on home learning	5	4	3	2	1
	Availability of internet					
1	There is a laptop / computer at home which enables me to surf					
	reading content from internet					
2	I use my parent's phone to surf reading content from internet					
3	My parents afford buying data bundles for educational					
	purposes.					
4	I have skills of surfing learning content from internet.					
	Availability of radios and TVs					
5	There is radio at home where I can access online lessons					
6	There is TV at home where I can access visual online lessons					
7	There is power to enable continuous home leaning via radio or					
	TV					
	Availability of reading materials					
9	I have access to all study distributed materials					
10	I am able to read all the content in the distributed study					
	materials					
11	I am able to do all tests in distributed materials.					
		1	<u> </u>	1		

	Parental involvement			
12	My parents always remind the stakeholder involved in			
	distribution of study materials about my need for my learning.			
13	My parents also visit the nearest education government official			
	for inquiry about distribution of study materials.			
14	My parents always make phone calls to residence city			
	commissioner concerning distribution of study materials			
15	My parents make sure that I receive all study materials of my			
	education level.			

### **Appendix 3: Questionnaire for Parents**

# **Section A: Background Characteristics** 1. Age ..... 2. Gender Male Female 3. Education Level Never (iii) Secondary (ii) Primary (i) (iv) Diploma (v) Bachelors (vi) Postgraduate (vii) Others specify..... Section B: Distribution of Self-Study Materials and Home Learning among Secondary School Students in Nyakayojo Mbarara City South (I) Distribution of self-study materials This part contains questions about distribution of self-study materials and home learning among Secondary School Students in Nyakayojo Mbarara City South. In the tables below, 5 represents strongly agree, 4 represents agree, 3 represents undecided, 2 represents disagree and 1 represents strongly disagree. Please mark the given statements in the table below according to your level of agreement. No. Statements on distribution of self-study materials 5 4 3 2 1 My child received distributed self-study materials in the 1.

lockdown of 2020

2.	My child was satisfied with self-study materials distributed in			
	terms of learning			
3.	My child got self-study materials for all subjects			
4.	Study materials distributed helped my child to keep learning			
	during lockdown.			
5.	My child understood the content in study materials distributed.			
6.	The self-study materials were distributed more than once for			
	three months			
7.	My child was able do all assignments contained in the study			
	materials received without external assistance			
8.	The distributed self-study materials were adequate enough			
10.	The self-study materials were distributed in time regularly.			
11.	My child understood the language of instruction in self-study			
	materials distributed.			

## (II) Home Learning

This part contains questions about home learning among secondary school students in Nyakayojo Mbarara City South. In the tables below, 5 represents strongly agree, 4 represents agree, 3 represents undecided, 2 represents disagree and 1 represents strongly disagree. Please mark the given statements in the table below according to your level of agreement.

No.	Statements on home learning	5	4	3	2	1
	Availability of internet					
1	There is a laptop / computer at home which enables my child to					
	surf reading content from internet					
2	My child uses phone to surf reading content from internet					
3	I afford buying data bundles for educational purposes for my					
	child					
4	I have skills of surfing learning content from internet.					
	Availability of radios and TVs					
5	There is radio at home where I can access online lessons					
6	There is TV at home where I can access visual online lessons					
7	There is power to enable continuous home learning via radio or					
	TV					
	Availability of reading materials					
9	My child have access to all study distributed materials					
10	My child is able to read all the content in the distributed study					
	materials					
11	My child is able to do all tests in distributed materials.					
11	My child is able to do all tests in distributed materials.					

	Parental involvement			
12	I always remind the stakeholder involved in distribution of			
	study materials about the need for my child's learning.			
13	I always visit the nearest education government official for			
	inquiry about distribution of study materials.			
14	I always make phone calls to residence city commissioner			
	concerning distribution of study materials			
15	I make sure that I receive all study materials of my education			
	level.			

## **Appendix 4: Interview Guide for Inspector of Schools**

- 1. How was the distribution of self-study materials handled during lock down?
- 2. Comment on adequacy of self-study materials distributed during lock down?
- 3. Comment on effectiveness of home learning among secondary school students?
- 4. In what ways did self-study materials help to improve home learning in Nyakayojo Mbarara City South?

### **Appendix 5: Interview Guide for City Education Officer**

- 1. As an education officer of this region, what roles did you play during the distribution of study materials for secondary school students in Nyakayojo Division?
- 2. What challenges did you face during the operation of this exercise?
- 3. Comment on the distribution of self-study materials during lock down?
- 4. Comment on effectiveness of home learning in this region?
- 5. How was monitoring of distribution of self-study materials and home learning done during lockdown?

# Appendix 6: Interview guide for director of studs (DOS)

- 1. How do you compare the academic performance of your students before lockdown and after lockdown?
- 2. Do you bother to know the difference in performance of those who received self-study materials and those who did not? if yes, comment on their performance?

## **Appendix 7: Interview Guide for Headteachers**

- 1. Comment on the distribution of self-study materials to students in your schools in terms of the following.
  - (a) Amount of study materials
  - (b) quality of the materials
- 2. Do you think these self-study materials had any impact on your students as far as academic performance is concerned? If yes explain.

# **Appendix 8: Interview Guide for Chairperson LC1**

- 1. How was the distribution of self-study materials handled during lock down?
- 2. Comment on adequacy of self-study materials distributed during lock down?
- 3. Comment on effectiveness of home learning among secondary school students?
- 4. In what ways did self-study materials help to improve home learning in Nyakayojo Mbarara City South?

SUDAN KAABONG MOYO KITGUM ADJUMANI MARACHA/TEREGO KOTIDO PADER ARUA GULU AMURU ABIM MOROTO LIRA AMURIA BULIISA APAC MASINDI NAKAPIRIPIRIT D.R CONGO AMOLATAR HOIMA NAKASONGOLA NAKASEKE GUDAK MBALE/ BUDUDA KIBOGA KAMULI KIBAALE LUWERO IGANGA KABAROLE KYENJOJO BUGIRI MUBENDE MAYUGE MUKONO KENYA KAMWENGE MPIGI WAKISO KASESE KIRUHURA MASAKA BUSHENYI MBARARA? KALANGALA RAKAI ISINGIRO 0 50 100KM **TANZANIA** RWANDA

Appendix 9: Map of Uganda Showing Mbarara City

Appendix 10: Map Showing Location Nyakayojo Division



Appendix 11: Raw Data for Distribution of Self-Study Materials and Home Learning

CODE	IV	DV
,1	2.32	2.21
,2	2.34	2.22
,3	2.32	2.21
,4	2.34	2.22
,5	2.41	2.32
,6	2.34	2.29
,7	2.01	1.97
,8	2.27	2.23
,9	2.19	2.17
,10	2.29	2.25
,11	2.32	2.21
,12	2.34	2.22
,13	2.01	2.22
,14	2.32	2.17
,15	2.18	2.15
,16	2.38	2.33
,17	2.32	2.21
,18	2.34	2.22
,19	2.32	2.21
,20	2.34	2.22
,21	2.41	2.32
,22	2.34	2.29
,23	2.01	1.97
,24	2.27	2.23
,25	2.19	2.17
,26	2.29	2.25
,27	2.32	2.21
,28	2.34	2.23
,29	2.01	2.17
,30	2.32	2.25
,31	2.18	2.21
,32	2.32	2.22
,33	2.34	2.22
,34	2.32	2.17
,35	2.34	2.15
,36	2.41	2.33
,37	2.34	2.21

,38	2.01	2.22
,39	2.27	2.21
,40	2.19	2.22
,41	2.29	2.32
,42	2.32	2.29
,43	2.34	1.97
,44	2.01	2.23
,45	2.32	2.15
,46	2.18	2.33
,47	2.01	2.21
,48	2.27	2.22
,49	2.19	2.21
,50	2.29	2.22
,51	2.32	2.32
,52	2.34	2.29
,53	2.01	1.97
,54	2.32	2.23
,55	2.18	2.17
,56	2.32	2.25
,57	2.34	2.21
,58	2.32	2.23
,59	2.34	2.17
,60	2.41	2.25
,61	2.34	2.21
,62	2.01	2.22
,63	2.27	2.22
,64	2.19	2.17
,65	2.29	2.15
,66	2.32	2.33
,67	2.34	2.21
,68	2.01	2.22
,69	2.32	2.21
,70	2.18	2.22
,71	2.32	2.32
,72	2.34	2.15
,73	2.32	2.33
,74	2.34	2.21
,75	2.41	2.22

,762.342.21,772.182.22,782.342.29,802.321.97,812.342.23,822.412.17,832.342.25,842.012.21,852.272.23,862.192.17,872.292.25,882.322.21,902.012.22,912.322.17,922.182.15,932.322.22,962.182.21,972.322.22,982.342.22,992.322.17,1002.342.25,1012.412.21,1022.342.25,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.15,1102.322.33,1112.182.21,1122.322.22,1132.342.21,1142.322.22,1132.342.21			
,782.322.29,802.342.23,812.342.25,842.012.21,852.272.23,862.192.17,872.292.25,882.322.21,892.342.22,902.012.22,912.322.17,922.182.15,932.322.21,942.342.21,952.322.22,962.182.21,972.322.22,982.342.32,992.322.17,1002.342.25,1012.412.21,1022.342.23,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.32	,76	2.34	2.21
,79         2.34         2.29           ,80         2.32         1.97           ,81         2.34         2.23           ,82         2.41         2.17           ,83         2.34         2.25           ,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.21           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.25           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,10	,77	2.18	2.22
,80         2.32         1.97           ,81         2.34         2.23           ,82         2.41         2.17           ,83         2.34         2.25           ,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.21           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,1	,78	2.32	2.32
,81         2.34         2.23           ,82         2.41         2.17           ,83         2.34         2.25           ,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.22           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,1	,79	2.34	2.29
,82         2.41         2.17           ,83         2.34         2.25           ,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.22           ,98         2.34         2.22           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,108         2.34         2.17 <td< th=""><th>,80</th><th>2.32</th><th>1.97</th></td<>	,80	2.32	1.97
,83         2.34         2.25           ,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,107         2.32         2.22           ,108         2.34         2.17 <t< th=""><th>,81</th><th>2.34</th><th>2.23</th></t<>	,81	2.34	2.23
,84         2.01         2.21           ,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,108         2.34         2.17           ,106         2.29         2.22           ,108         2.34         2.17           <	,82	2.41	2.17
,85         2.27         2.23           ,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.32           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,107         2.32         2.22           ,108         2.34         2.17 <t< th=""><th>,83</th><th>2.34</th><th>2.25</th></t<>	,83	2.34	2.25
,86         2.19         2.17           ,87         2.29         2.25           ,88         2.32         2.21           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.33           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,108         2.34         2.17           ,109         2.01         2.15           ,110         2.32         2.33           ,111         2.18         2.21	,84	2.01	2.21
,87         2.29         2.25           ,88         2.32         2.21           ,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,108         2.34         2.17           ,109         2.32         2.22           ,101         2.32         2.22           ,105         2.19         2.21           ,107         2.32         2.22	,85	2.27	2.23
,88       2.32       2.21         ,89       2.34       2.22         ,90       2.01       2.22         ,91       2.32       2.15         ,93       2.32       2.33         ,94       2.34       2.21         ,95       2.32       2.22         ,96       2.18       2.21         ,97       2.32       2.22         ,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,86	2.19	2.17
,89         2.34         2.22           ,90         2.01         2.22           ,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.25           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,107         2.32         2.22           ,108         2.34         2.17           ,109         2.01         2.15           ,110         2.32         2.33           ,111         2.18         2.21           ,112         2.32         2.22	,87	2.29	2.25
,90         2.01         2.22           ,91         2.32         2.15           ,93         2.32         2.33           ,94         2.34         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,108         2.34         2.17           ,109         2.01         2.15           ,110         2.32         2.33           ,111         2.18         2.21           ,112         2.32         2.22	,88	2.32	2.21
,91         2.32         2.17           ,92         2.18         2.15           ,93         2.32         2.21           ,95         2.32         2.22           ,96         2.18         2.21           ,97         2.32         2.22           ,98         2.34         2.32           ,99         2.32         2.17           ,100         2.34         2.25           ,101         2.41         2.21           ,102         2.34         2.23           ,103         2.01         2.17           ,104         2.27         2.25           ,105         2.19         2.21           ,106         2.29         2.22           ,107         2.32         2.22           ,108         2.34         2.17           ,109         2.01         2.15           ,110         2.32         2.33           ,111         2.18         2.21           ,112         2.32         2.22	,89	2.34	2.22
,92       2.18       2.15         ,93       2.32       2.33         ,94       2.34       2.21         ,95       2.32       2.22         ,96       2.18       2.21         ,97       2.32       2.22         ,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,90	2.01	2.22
,93       2.32       2.33         ,94       2.34       2.21         ,95       2.32       2.22         ,96       2.18       2.21         ,97       2.32       2.22         ,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,91	2.32	2.17
,94       2.34       2.21         ,95       2.32       2.22         ,96       2.18       2.21         ,97       2.32       2.22         ,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,92	2.18	2.15
,95     2.32     2.22       ,96     2.18     2.21       ,97     2.32     2.22       ,98     2.34     2.32       ,99     2.32     2.17       ,100     2.34     2.25       ,101     2.41     2.21       ,102     2.34     2.23       ,103     2.01     2.17       ,104     2.27     2.25       ,105     2.19     2.21       ,106     2.29     2.22       ,107     2.32     2.22       ,108     2.34     2.17       ,109     2.01     2.15       ,110     2.32     2.33       ,111     2.18     2.21       ,112     2.32     2.22	,93	2.32	2.33
,96       2.18       2.21         ,97       2.32       2.22         ,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,94	2.34	2.21
,97     2.32     2.22       ,98     2.34     2.32       ,99     2.32     2.17       ,100     2.34     2.25       ,101     2.41     2.21       ,102     2.34     2.23       ,103     2.01     2.17       ,104     2.27     2.25       ,105     2.19     2.21       ,106     2.29     2.22       ,107     2.32     2.22       ,108     2.34     2.17       ,109     2.01     2.15       ,110     2.32     2.33       ,111     2.18     2.21       ,112     2.32     2.22	,95	2.32	2.22
,98       2.34       2.32         ,99       2.32       2.17         ,100       2.34       2.25         ,101       2.41       2.21         ,102       2.34       2.23         ,103       2.01       2.17         ,104       2.27       2.25         ,105       2.19       2.21         ,106       2.29       2.22         ,107       2.32       2.22         ,108       2.34       2.17         ,109       2.01       2.15         ,110       2.32       2.33         ,111       2.18       2.21         ,112       2.32       2.22	,96	2.18	2.21
,992.322.17,1002.342.25,1012.412.21,1022.342.23,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,97	2.32	2.22
,1002.342.25,1012.412.21,1022.342.23,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,98	2.34	2.32
,1012.412.21,1022.342.23,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,99	2.32	2.17
,1022.342.23,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,100	2.34	2.25
,1032.012.17,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,101	2.41	2.21
,1042.272.25,1052.192.21,1062.292.22,1072.322.22,1082.342.17,1092.012.15,1102.322.33,1112.182.21,1122.322.22	,102	2.34	2.23
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