A MORPHO-PHONOLOGICAL ANALYSIS OF BORROWED NOUNS FROM LUGANDA TO KUPSABINY

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF HUMANITIES AND SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF ARTS IN ENGLISH AND LINGUISTICS KENYATTA UNIVERSITY.

NOVEMBER, 2025

DECLARATION

This project is my original work and has not been presented for a degree in any University.

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DEDICATION

This study is dedicated to my family, whose unwavering support encouragement, and belief in my abilities have been a foundation in my academic journey. To my parents, for their endless sacrifices and love, and to my wife Cherotine Immaculate and children Cherop Lincoln, chemutai Daisy, chekwemoi Darlene and chepkwurui Daniela for always being my source of motivation. I also dedicate this work to my supervisor Dr. Joshua M. Itumo who has guided me through this study and instilled in me the value of pursuit of knowledge.

Finally, this work is dedicated to those who are committed to the pursuit of truth and knowledge, and to making the world a better place through educational research.

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ABBREVIATIONS AND ACRONYMS

ALIGN-ROOT-L : Align nouns with Kupsabiny noun class prefixes or affixes.

***COMPLEX** : Prohibit complex onsets or codas.

DEP- IO- **:** No epenthesis- Outputs must have input correspondents

DEP : No insertion of segments that are not in the input.

FDG- **:** Focus Group Discussion

GEN- **:** Generator

IDENT- **:** No feature change

IDENT[F] : Maintain features of consonants and vowels, such as voicing and nasality.

MAX- IO : No deletion**.** Input segments must have output correspondents

MAX : No deletion of input segments.

MORPHALIGN : Adapt nouns to fit Kupsabiny noun class morphology.

NOCODA : Avoid consonants in syllable codas.

OT - : Optimality Theory

VOWEL-HARMONY: Ensure compatibility of vowels within a word.

OPERATIONAL DEFINITIONS OF TERMS

Candidates	In this study, candidates refer to the possible realizations of an input, from which the optimal form is selected.
Constraint	A structural requirement that may be satisfied or violated by candidates in the process of evaluation.
Faithfulness	In this research, faithfulness denotes a type of constraint requiring similarity between the output form and its input.
Input	The original word in the donor language that has not undergone phonological modification prior to adaptation.
Recipient language	The language that adopts and adapts borrowed nouns in the course of lexical borrowing.
Borrowed nouns	Nouns that originate in another language and are integrated into the recipient language.
Noun adaptation	The phonological adjustments that borrowed nouns undergo as they are incorporated into the borrowing language.
Markedness	A constraint requiring that the output form conform to the structural well-formedness of the recipient language.
Nativization	The phonological modification of borrowed nouns to fit the sound system of the recipient language.
Output	The nativized form of a borrowed noun as it surfaces in the target language.
MAX	As used in this study, MAX refers to a faithfulness constraint that prohibits the deletion of input segments, ensuring that every element in the input has a correspondent in the output.

DEP	A faithfulness constraint preventing insertion, meaning no additional segments should appear in the output that were absent in the input.
GEN	The component of the grammar responsible for generating the set of possible candidate outputs from a given input.
EVAL	The evaluative component that compares candidates and determines the optimal output on the basis of the constraint ranking. It determines the optimal form by applying the hierarchy of constraints specific to Kupsabiny.
Hierarchy of constraints	The ranked ordering of constraints that determines which candidate is considered optimal when conflicts arise. While the constraints themselves are universal, their ranking varies across languages, which explains why different languages resolve similar input forms differently.
Violations	Instances in which candidates fail to satisfy a given constraint. Within OT, violations are not inherently disqualifying; rather, the optimal candidate is the one with the least serious violations given the established hierarchy.
Phonotactic constraints	Restrictions within the recipient language that determine which sound sequences are permissible.

ABSTRACT

In linguistics, borrowing is significantly used to enrich languages. In the case of *Luganda*, an established Bantu language spoken in Uganda, existing studies reveal that loanwords have been a major source of vocabulary expansion in *Kupsabiny*, a Southern Nilotic language spoken in Uganda. However, limited research has been identified dealing with the analysis on morpho-phonological patterns exhibited by borrowed words. This study therefore focuses on a morphophonological analysis of borrowed nouns by *Kupsabiny* from Luganda. These are two different languages belonging to two different linguistic families. The following objectives guide the study: to examine morphological patterns exhibited by borrowed nouns in *Kupsabiny* from Luganda in Kapchorwa District, explore phonological patterns exhibited by borrowed nouns in *Kupsabiny* from Luganda in Kapchorwa District, and determine the process of morphophonology engaged in the adaptation of nouns borrowed in *Kupsabiny* from Luganda in Kapchorwa District. The study collected qualitative data using a descriptive research design through semi-structured interviews and focus group discussions, with the aid of an interview schedule and audio tape recorder. Optimality Theory (OT) developed by Kager (1999) was adopted for data analysis. The population targeted was native speakers of the *Kupsabiny* language within the municipality of Kapchorwa district estimated at 12,399 in number. A purposive sampling procedure was used to settle on a sample size of 50 informants. This was a reasonable number to collect qualitative data for the study. the findings reveal that Luganda borrowed nouns undergo morphological changes to conform to Kupsabiny's noun class system. Additionally, Luganda's borrowed nouns syllable structures and phonemes are modified to align with Kupsabiny's phonotactic constraints. Additionally, the morphophonological modifications applied to Luganda borrowed nouns are essential for maintaining linguistic coherence and intelligibility within Kupsabiny. The findings are intended to shed light on the linguistic dynamics in language contact and adaptation. The findings are also relevant to linguistics enthusiasts, language researchers, and those interested in the intricate workings of language borrowing and language change. The findings therefore seek to contribute to both empirical understandings of language borrowing and adaptation.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

The chapter provides background of the study, statement of the problem, research objectives, and research questions. Afterwards, the rationale of the study and lastly the scope and limitations.

1.1 Background to the study

This section considers borrowed nouns, Kupsapiny and Luganda languages, and morphophonological processes.

1.1.1 Borrowed Nouns

In linguistics, borrowing refers to the process of adapting a word from one language for use in another (Havumetsa, 2023). This phenomenon is common across the world and plays a crucial role in enriching languages, expanding their vocabularies, and reflecting patterns of cultural interaction (Indriani & Bram, 2023). The study of borrowing dates back to historical linguistics, which has long sought to explain the origins, changes, and development of languages (Durkin, 2014). Over time, linguists have become increasingly interested in how languages evolve through contact with others, with lexical borrowing identified as one of the most visible outcomes of such contact.

Lexical borrowing can occur through several mechanisms, including direct adoption, phonological and morphological adaptation, and calquing (Adami & Ottolini, 2014). Among these, adaptation has drawn significant scholarly attention, since it often

reveals the structural characteristics of the borrowing language. Recent studies emphasize that the process of borrowing is influenced not only by social and cultural contact but also by the linguistic systems of both the donor and the recipient languages. Njagi (2016), for instance suggest that the nature of the donor language plays a decisive role in determining what gets borrowed and how it is adapted. This aligns with Larrimore et al. (2011) and Markowitz and Shulman (2021), who posit that languages with extensive vocabularies often exert a stronger influence over those they come into contact with.

Lusekelo (2018) documents how contact situations give rise to distinct mechanisms of noun borrowing in Tanzania, while Karimullina et al. (2023) explains the integration of English loanwords into regional sub-dialects, showing how global languages shape local linguistic practices. These insights underscore the dynamic nature of borrowing as a driver of language change. Similarly, Gardani (2020) points out that borrowing can trigger significant phonological and morphological changes in the recipient language, an observation that guides the present research. Al-Jarf (2023) provides further evidence from Arabic, where foreign affixes have been incorporated into native structures to produce hybridized forms, highlighting the transformative potential of lexical borrowing. Even beyond African and Semitic contexts, studies like Rimikis et al. (2023) show the influence of morphophonological patterns on language production, illustrating that structural features strongly shape how words are processed and adapted.

Despite this growing concern on language borrowing, limited attention has been given to borrowing between Luganda, a Bantu language, and Kupsabiny, a Nilotic language spoken in the Kapchorwa district of Eastern Uganda. Both languages coexist in close contact, and Luganda has increasingly influenced Kupsabiny through lexical transfer. Yet little is known about how borrowed Luganda nouns undergo adaptation to fit the morphophonological system of Kupsabiny. This represents a significant gap, given that such adaptation processes provide insight into the structural properties of recipient languages as well as the nature of language contact in Uganda.

1.1.2 Kupsabiny and Luganda Languages

1.1.2.1 Kupsabiny Language

Kupsabiny is a Southern Nilotic language of the Kalenjin group, spoken by the Sebei people in Kapchorwa, Kween, and Bukwo districts of Eastern Uganda. Census data places the Sebei population at around 360,000 (UBOS, 2014). Although central to the identity of this community, Kupsabiny has received relatively little linguistic attention. Kawachi (2018) describes it as a tonal language with nine vowels and thirteen consonants, while O'Brien and Cuypers (1975) note its agglutinative character, where words are formed through the use of prefixes and suffixes, often incorporating portmanteau morphemes. The language also displays vowel harmony, which shapes both morphology and phonetic patterns.

Despite these contributions, several gaps remain. Much of the existing literature is descriptive, focusing on phonological and morphological structures without addressing how the language responds to borrowing. Kawachi (2010) highlights that Kupsabiny

has long been in contact with neighboring languages through trade, intermarriage, and migration. Such contact almost certainly results in the borrowing of nouns and other lexical items, yet no systematic study has investigated the morphophonological strategies used to integrate these borrowings. This leaves an important gap in understanding how Kupsabiny adapts foreign elements while maintaining its structural integrity, especially in the face of external linguistic pressures.

1.1.2.2 Luganda Language

Luganda, also known as Ganda, belongs to the Bantu branch of the Niger-Congo family and is spoken by the Baganda, the largest ethnic group in Uganda. With an estimated 14 million speakers, about 16.5% of the population (Tumwine & Ntozi, 2017), it functions not only as a mother tongue but also as a lingua franca in central Uganda. Its historical role is tied to the Buganda Kingdom, where it gained prominence in the 14th century and was established as the official language (Reid, 2012).

Phonologically, Luganda is a tonal language with three tones such as high, low, and falling used to differentiate meaning (Kiyinikibi, 2021). Morphologically, it is characterized by a complex noun class system in which agreement is marked across nouns, verbs, and other sentence elements. Luganda has developed clear morphophonological strategies for handling borrowed nouns, including processes like vowel lengthening when identical vowels meet across morpheme boundaries (Ssempuuma, 2019; Kiyinikibi, 2021).

1.1.3 Morphophonological Process

Spencer (2017) refers to morphophonology as the study of how phonological processes shape word structure. It examines how sound patterns interact with morphology during word formation. When languages borrow nouns, they often adapt them morphophonologically to fit their sound systems. Such adaptations may involve vowel epenthesis, consonant deletion, or phoneme modification, ensuring borrowed words conform to native phonotactic rules (Rimikis, 2023).

Ni and Jin (2023) show how English inflectional morphemes like plural *-s* and possessive *′s* are incorporated into Chinese newspapers, reflecting global borrowing trends. Pérez-Leroux and Chen (2024) demonstrate how Spanish-English bilinguals rely on both syntactic and morphophonological cues when processing grammatical gender in Spanish noun phrases. Similarly, Josiah and Udoudom (2012) examines English and Ibibio nouns, showing how morphophonemic perspectives reveal structural adaptations across unrelated languages.

Therefore, borrowing is rarely a straightforward transfer of words; it involves systematic phonological and morphological adjustments shaped by each language′s grammar (Kerkhoff, 2007; Gribanova, 2015). For instance, Luganda, a Bantu language with a complex noun class system and SVO word order, contrasts with Kupsabiny, a Nilotic language with flexible word order (VSO/SOV) and simpler morphology (Kawachi, 2010). Against this background, the present study investigated how Luganda nouns are morphophonologically adapted into Kupsabiny.

1.2 Statement of the problem

Borrowing of nouns is a common outcome of language contact, yet the specific morphophonological changes that take place when Luganda nouns are integrated into Kupsabiny have received little scholarly attention. While earlier studies on borrowing describe general processes of lexical adaptation, they do not explain how Kupsabiny reshapes foreign nouns to fit its phonological and morphological system. This gap is significant because Kupsabiny, as a minority Nilotic language, is in continuous interaction with Luganda, a dominant Bantu language. The present study therefore investigated the morphophonological patterns and processes involved in this borrowing, with the aim of uncovering how Kupsabiny accommodates Luganda nouns and what this reveal about language contact and adaptation in Uganda's multilingual setting.

1.3 The Research Objectives

1. To examine morphological patterns exhibited by borrowed nouns in *Kupsabiny* from Luganda in Kapchorwa District.
2. To explore phonological patterns exhibited by borrowed nouns in *Kupsabiny* from Luganda in Kapchorwa District.
3. To determine the morphophonological processes involved in the adaptation of borrowed nouns in *Kupsabiny* from Luganda in Kapchorwa District

1.4 Research Questions

1. What are the morphological patterns exhibited in borrowed nouns from Luganda in Kupsabiny in Kapchorwa District?
2. How do the phonological patterns of borrowed nouns from Luganda manifest in Kupsabiny in Kapchorwa District?
3. What are the morphophonological processes involved in adaptation of nouns borrowed from Luganda to Kupsabiny in Kapchorwa District?

1.5 Assumptions.

1. Borrowed nouns from Luganda into Kupsabiny follow recognizable morphological patterns.
2. Borrowed nouns exhibit phonological patterns influenced by both languages.
3. The adaptation of borrowed nouns in Kupsabiny involves systematic morphophonological processes.

1.6 Justification and Significance of the Study

This study holds important implications for linguistic research and language preservation efforts. By investigating the morpho-phonological patterns of borrowed nouns, the findings build on previous researches on lexical borrowing which have shown how languages adopt and adapt vocabulary through contact. However, the present study have analyzed how Kupsabiny reshapes Luganda nouns to fit its phonological and morphological system. By focusing on morphophonological processes in borrowing, the study contributes to a deeper understanding of the mechanisms of language contact and adaptation. The findings have both theoretical

and practical significance. Theoretically, they add to the field of morphophonology and language contact studies by documenting how structural differences between Bantu and Nilotic languages are negotiated during borrowing. Practically, they provide insights into the linguistic dynamics of Kapchorwa, offering evidence of how minority languages like Kupsabiny accommodate influence from dominant languages without losing their identity.

Furthermore, the study carries implications for language preservation and revitalization. Documenting how borrowed nouns are integrated contributes to safeguarding the linguistic heritage of Kupsabiny and can inform strategies for promoting its continued use. At the same time, it enriches our understanding of Luganda's influence beyond its core speech community. In this way, the research not only fills a scholarly gap but also supports broader efforts to maintain cultural and linguistic diversity in Uganda.

1.7 Scope and Limitation

The study analyzes how borrowed nouns from Luganda are adapted in Kupsabiny, focusing specifically on the morphophonological patterns. It examines changes in sound structure, word formation, and inflectional processes that occur during borrowing. Data was collected from Kupsabiny speakers who are familiar with Luganda loanwords, with a focus on the morphophonological systems of Luganda and Kupsabiny. The study compares the two language families to identify adaptations and processes involved in borrowing and explore how borrowed nouns are integrated into the recipient language.

However, finding a wide range of borrowed nouns and speakers knowledgeable about Luganda loanwords in Kupsabiny posed some difficulties. The study also focused specifically on borrowed nouns in Kapchorwa District, and findings may not be fully applicable to other areas where the two languages are in contact. There may also be other languages influencing Kupsabiny in Kapchorwa District, which could affect borrowing patterns. Variability in speakers' proficiency in both Luganda and Kupsabiny may have impacted on data accuracy. Further, the study primarily analyzed phonological and morphological changes and did not delve into semantic shifts or sociolinguistic factors.

1.8 Summary

In Chapter one, the foundational aspects of the research are established, providing a comprehensive overview of the linguistic interaction between Luganda and Kupsabiny. This contact has led to the borrowing of nouns from Luganda into Kupsabiny, necessitating an analysis of the morpho-phonological adaptations that occur during this process. The core issue addressed is the lack of comprehensive studies on how borrowed nouns from Luganda are integrated into the Kupsabiny linguistic system. Understanding these adaptations is crucial for insights into the dynamics of language contact, borrowing mechanisms, and the structural adjustments languages undergo to accommodate foreign elements.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter has a review of the literature and theoretical framework related to the study. The review is on noun borrowing, Luganda and Kupsabiny languages, and the morphophonological process in the adaptation of borrowed nouns.

2.1 Morphological Patterns Exhibited by Borrowed Nouns

Ralli (2012) examines morphological patterns in borrowed nouns across Modern Greek dialects, showing how Romance loanwords are adapted through gender shifts and changes in inflectional class. For example, French nouns often change from masculine to feminine, while Italian borrowings tend to preserve their original gender, with many adopting Greek declension patterns. This is similar to the present study in that both investigate how borrowed nouns are structurally reshaped to fit the recipient language. However, while Ralli's work emphasizes dialectal variation in Greek and does not extend her findings to Standard Greek or fully account for the integration of borrowed nouns into inflectional paradigms, the current study focused specifically on the morphophonological processes through which Luganda nouns are incorporated into Kupsabiny. In doing so, it sought to uncover systematic rules of adaptation between two typologically distinct languages, rather than variation within one language family.

In another study, Evans (2014) examines morphological patterns in borrowed nouns, much like the current research. His analysis of English nouns in the Lubukusu dialect of Western Kenya shows that borrowings often retain original affixes while being integrated into the recipient language's morphology, and that they undergo changes in

gender, number, and case endings to align with Lubukusu grammar. This focus on structural adaptation parallels the present study's concern with how Luganda nouns are reshaped in Kupsabiny. However, Evans does not investigate the underlying mechanisms that enable such integration, leaving unanswered questions about how morphological rules are extended to accommodate borrowed forms. The current study addressed this gap by examining the morphophonological processes that guide the incorporation of Luganda nouns into Kupsabiny, thereby highlighting not only the outcomes but also the mechanisms of borrowing.

Further, Ayagah (2023) investigates morphophonemic patterns of affixation in Tiv plural formation, which is relevant to the present study's focus on borrowed nouns from Luganda to Kupsabiny. His analysis shows that borrowed nouns in Tiv display distinctive integration patterns shaped by the recipient language's morphology, including the use of native affixes and alignment with existing noun classes. This parallels the current study in its concern with how borrowings adapt to host grammatical systems. However, Ayagah's work does not address the extent to which borrowed nouns contribute to morphological productivity, such as the creation of new words or grammatical categories. The present study builds on this gap by examining not only the adaptation of Luganda nouns in Kupsabiny but also the morphophonological processes that reveal how borrowing interacts with and potentially expands the morphological system of the recipient language.

Midigo and Wambura (2024) provide a detailed morphological analysis of number marking in Dholuo, focusing on the morphophonological processes involved in

pluralization. Their study shows that plural morphemes in Dholuo are often irregular, with common suffixes such as *-e, -i,* and *-ni* attaching to singular nouns in unpredictable ways. For example, the noun *nyako* (girl) becomes *nyiri* (girls), where the suffix *-i* combines with an internal vowel change from *a* to *i*. This work is relevant to the current study as it illustrates how morphophonological processes shape noun morphology and supports broader discussions of structural adaptation. However, unlike the present research, Midigo and Wambura's analysis does not address borrowed nouns. The current study extends this line of inquiry by examining how Luganda nouns are adapted into Kupsabiny, highlighting not only morphological changes but also the specific mechanisms through which borrowing operates across distinct language families.

2.2 Phonological Patterns Exhibited by Borrowed Nouns

Stephen (2023) examines language borrowing among Syrians speaking Arabic in the United States, with a focus on the Arabization of English words. His study is relevant to the present research as it shows how borrowed English nouns are reshaped to fit Arabic phonological rules, undergoing significant sound changes to achieve conformity. This provides useful insights into the phonological adaptation of borrowed nouns and contributes to our broader understanding of linguistic borrowing. However, Stephen's analysis does not address specific phonological aspects such as stress and intonation, which are central to how borrowed nouns are fully integrated into the recipient system. The current study builds on this gap by investigating how Luganda nouns are adapted into Kupsabiny, with particular attention to stress and intonation patterns in addition to other morphophonological processes.

Siame *et al*. (2023) investigate the phonological processes involved when English words are borrowed into Lungu, Mambwe, and Namwanga (collectively referred to as LuMaNa) languages in Zambia. Their findings show that loanwords are systematically modified to conform to native phonotactic constraints, often through sound substitution. For instance, English sounds absent in the LuMaNa phonemic inventories, such as the voiced dental fricatives /ð/ and /θ/, are replaced with /t/ or /f/, while /z/ is replaced with /s/. This study is relevant to the present research as it highlights how languages reshape borrowings through phonological adaptation. However, it differs in scope and approach. While the study analyze borrowing across three related Bantu languages, the current study focused specifically on the adaptation of Luganda nouns into one Nilotic language, Kupsabiny. Furthermore, their use of Lexical Phonology and Morphology (LPM) theory contrasts with the present study's application of Optimality Theory, which emphasizes constraint ranking in explaining morphophonological outcomes

Nnko (2023) investigates Swahili loanwords in Meru, a language spoken in Northeastern Tanzania, with particular focus on the phonological characteristics of borrowed nouns. The study reveals a strong tendency for consonant clusters to be simplified to fit Meru phonotactic constraints, such as the deletion of initial consonants in clusters; for example, the Swahili word *mkono* (hand) becomes *kono* in Meru. It also shows evidence of vowel deletion and reduction, especially in unstressed syllables, where vowels may be omitted or altered, as in the simplification of *madawa* (medicine) to *mdawa*. These findings are relevant to the present research as they illustrate how loanwords are reshaped to conform to the phonological system of the

borrowing language. However, Nnko's study does not extend its analysis by comparing Meru adaptations to those in Kiswahili itself, leaving unanswered questions about cross-language variation in borrowing. The current study addressed this gap by examining how Luganda nouns are adapted in Kupsabiny, providing a comparative perspective that highlights the interaction of phonological systems across different language families.

Mose (2021) examines the phonological processes involved in borrowed nouns in Ekegusii, making his work highly relevant to the current study's focus on phonological patterns in noun borrowing. His research analyzes how words from English, Swahili, and other Bantu languages are adapted to fit the phonological system of Ekegusii. The findings reveal a clear tendency toward segmental adaptation, where consonants and vowels in loanwords are modified or substituted to align with the phonological inventory and phonotactic constraints of the language. While this contributes valuable insights into how Ekegusii manages foreign sounds, the study does not address other phonological phenomena that may occur in borrowing, such as vowel harmony, assimilation, or tonal adjustments. These processes are crucial for gaining a more comprehensive picture of how loanwords integrate into a host language. The present study addressed this gap by examining the full range of morphophonological adaptations, including tonal and assimilation processes, in Luganda nouns as they are borrowed into Kupsabiny.

2.3 Morphophonological Processes Involved in the Adaptation of Borrowed Nouns

Yeboah and Ansah (2022) analyze the morphophonological features of English loanwords in Lete, a study that closely aligns with the present research on morphophonological changes in borrowed nouns. Their findings highlight two key adaptation strategies: vowel epenthesis, where vowels are inserted to break up English consonant clusters and simplify syllable structure, and vowel deletion, particularly in unstressed syllables or in the presence of adjacent vowels. These processes ensure that borrowed forms conform to the phonotactic rules of Lete. While this study offers valuable insights into morphophonological adaptation, it does not specifically focus on how borrowed nouns are integrated into the morphological system of the recipient language. The current study addressed this limitation by examining the morphophonological processes involved in the adaptation of Luganda nouns into Kupsabiny, providing a noun-specific perspective that has been underexplored.

Naika (2021) conducts a morphophonological analysis of loanwords in Oluwanga, a study relevant to the present research on noun borrowing. The findings show that loanwords undergo systematic modifications in order to align with Oluwanga's phonological constraints, including adjustments to phonemes, syllable structures, and stress patterns. A notable strategy identified is vowel epenthesis, where additional vowels are inserted to ensure conformity with the language's syllabic structure. While this study offers important insights into phonological adaptation, it does not examine the interplay between morphology and phonology in the borrowing process. The current study addressed this limitation by analyzing both morphological and

phonological dimensions in the adaptation of Luganda nouns into Kupsabiny, thereby providing a fuller account of morphophonological processes in language contact.

Musa (2022) investigates the morphophonological adaptation of English loanwords in Hausa, a study closely aligned with the current research on noun borrowing. His analysis reveals that some loanwords undergo consonant addition to satisfy Hausa phonological constraints, with extra consonants inserted in specific positions to conform to the language's syllable structure. Vowel epenthesis is also observed, where vowels are added to break up consonant clusters and ensure the loanwords fit Hausa phonotactics. These findings are relevant to the present study as they illustrate common strategies in the morphophonological adaptation of borrowed words. However, Musa's work generalizes loanwords as a whole, without narrowing down to specific categories. In contrast, the current study focused exclusively on nouns borrowed from Luganda into Kupsabiny, allowing for a more detailed analysis of morphophonological processes within this word class.

Okoroji and Uchechukwu (2023) analyze aspects of morphophonology in Igbo, focusing on the morphophonemic processes that shape word formation in the language. Their study highlights how morphemes in Igbo undergo phonological changes depending on linguistic environments, with processes such as vowel harmony and tonal variation determining the realization of morpheme allomorphs. One key finding is that the negative suffix *-ghi* surfaces as either *ghi* or *gh* depending on vowel harmony rules, which are governed by the Advanced Tongue Root (ATR) distinction that divides Igbo vowels into +ATR and –ATR sets. The suffix therefore harmonizes

with the vowel quality of the verb root it attaches to, ensuring grammatical acceptability. While this study is useful in illustrating morphophonological processes, it does not address the adaptation of borrowed nouns in Igbo. In contrast, the present research specifically investigated how Luganda nouns are borrowed and integrated into Kupsabiny through morphophonological processes, thereby extending the discussion beyond inherent language processes to cross-linguistic borrowing.

Mudogo *et al.* (2024) analyze the adaptation of English verbs into Lukabaras, a Luhya dialect spoken in Kenya, with particular focus on the morphophonological constraints encountered in the borrowing process. Using Optimality Theory (OT) as their analytical framework, similar to the present study, they show that English verbs containing complex consonant clusters are simplified to fit the CV (consonant–vowel) syllable structure of Lukabaras. This simplification is often achieved through vowel insertion, which breaks up clusters and ensures conformity to native phonotactic rules. While this research is valuable in demonstrating how OT accounts for morphophonological adaptation, its focus is limited to verbs. In contrast, the current study extended the analysis to nouns borrowed from Luganda into Kupsabiny, thereby applying OT to a different word class and context of cross-linguistic borrowing.

2.4 Theoretical Framework

The study adopts Optimality Theory as propounded by Prince and Smolensky (1993). This theory was introduced as a framework to assist in Linguistic analysis. This theory was developed by Kager (1999) at an introductory level and later advanced by McCarthy (2001). The latest development on this theory can be noticed in Kuhn

(2023) who discusses how OT's constraint-based approach can be applied to LFG's syntactic structures. Kuhn proposes that language acquisition involves adjusting the ranking of universal constraints to match the target language. In our study, we are concerned with how Optimality Theory (OT) aims to explain the way languages organize and prioritize constraints to generate surface forms. In OT, constraints are rules or principles that govern linguistic structures and interactions. They can be phonological constraints, morphological constraints, syntactic constraints, or any other type of linguistic constraint.

Each constraint has a set of violable and ranked candidates, and the optimal candidate is the one that violates the fewest constraints. It assumes that languages have a set of competing constraints, and the optimal surface form is determined by the ranking of these constraints. OT also introduces the concept of markedness and faithfulness. Markedness constraints indicate what is considered less preferable or less natural in a language, while faithfulness constraints ensure that there is a correspondence between the input and output forms. To determine the optimal surface form in OT, a grammarian assigns rankings to constraints based on the data from a particular language or linguistic phenomenon. The analysis involves evaluating various candidate forms and determining which one satisfies the constraints and minimizes violations. This theory is relevant to the study since it has tenets that can address the objectives of this study. Three tenets are used to analyze the data:

2.4.1 Constraint-based Analysis Tenet

The first tenet is constraint-based analysis which was used as an analytical tool on the data collected as per the first objective. Constraint-based analysis is a fundamental aspect of Optimality Theory (OT) that facilitates the systematic examination of linguistic structures, particularly in the adaptation of borrowed nouns. This tenet assumes that linguistic constraints interact in a hierarchical manner, where some constraints take precedence over others, leading to possible modifications in borrowed forms. In the context of Kupsabiny, borrowed nouns from Luganda are subjected to a set of ranked constraints that may shape their phonological and morphological structure to conform to the recipient language's system.

One of the key aspects of constraint-based analysis is the distinction between faithfulness and markedness constraints. This aspect was used in the study to find out the preservation of the phonological and morphological integrity of borrowed nouns, ensuring that they remain as close as possible to their original Luganda forms. Further, the tenet was used to find out how constraints enforce the phonotactic and structural preferences of Kupsabiny, often requiring modifications in order to align with the native linguistic patterns. For example, Kupsabiny may restrict certain consonant clusters that are permissible in Luganda. This tenet also assisted in uncovering systematic morphophonological processes governing linguistic borrowing in Kupsabiny. This approach not only identifies which constraints are at play but also explains why certain phonological and morphological adaptations occur, shedding light on the interplay between native linguistic structures and external influences from Luganda.

2.4.2 Faithfulness Constraints

The second tenet is faithfulness constraints that was used to analyze data in the second objective. In OT, faithfulness constraints ensure that there is a correspondence between the input and the output forms. These constraints ensure that the borrowed nouns retain their original phonological and morphological features to some degree. Faithfulness constraints tenet was used to analyze the adaptation of borrowed nouns by ensuring a level of similarity between the input (original Luganda form) and the output (Kupsabiny-adapted form). In Optimality Theory (OT), these constraints aim to preserve the integrity of linguistic elements, preventing unnecessary alterations to the phonological and morphological structure of borrowed words.

This tenet was further used to analyze the preferred linguistic structures of Kupsabiny borrowed nouns from Luganda, and how they may undergo phonological modifications when faithfulness is overridden by more dominant constraints. Faithfulness constraints can help identify cases where the borrowed nouns have undergone phonological changes due to the adaptation process. The key faithfulness constraints relevant to the adaptation of borrowed nouns in Kupsabiny include:

Maximality (MAX): This constraint was used to find out how all segments present in the original Luganda noun are retained in the Kupsabiny adaptation. Optimality Theory posits that, if MAX is highly ranked, borrowed nouns will be minimally altered, preserving all consonants and vowels from the original form. However, if another constraint (such as a markedness constraint prohibiting certain consonant

clusters) is ranked higher, some segments may be deleted to satisfy the borrowing language's phonotactic rules.

Dependency (DEP): This constraint was used to find out the prohibitions of the insertion of new segments that were not present in the original Luganda form. Optimality Theory posits that, if DEP is highly ranked, borrowed nouns will not acquire additional vowels or consonants during adaptation. However, in cases where Kupsabiny required a vowel to break up an impermissible consonant cluster, DEP was used to investigate the violation.

Identicality (IDENT[F]): This constraint ensures that certain phonetic features (such as place of articulation, manner of articulation, or vowel quality) are preserved between the input and output forms. It was used to find out how borrowed Luganda noun phonetic features would enforce its retention in Kupsabiny modification.

2.4.3 Markedness Constraints

The third tenet is markedness constraints which is used in the third objective. Markedness constraints determine what is considered more or less marked in a given language or context. They can account for language-specific preferences or restrictions in the adaptation of borrowed nouns. These constraints are fundamental in Optimality Theory (OT) because they determine which linguistic forms are more natural or preferred within a given language. In the case of borrowed nouns from Luganda, markedness constraints guided the analysis on the structural modifications necessary to conform to Kupsabiny's phonotactic and morphophonological rules. The analysis

was done to find restrictions Kupsabiny may have on certain phonological and morphological patterns or syllable structures.

Markedness constraints function by discouraging or eliminating complex or uncommon linguistic patterns that may be disallowed in Kupsabiny. Some of the key markedness constraints that influence the adaptation of borrowed nouns include:

ONSET Constraint: This constraint requires syllables to begin with a consonant, making onsetless syllables (vowel-initial syllables) marked. The constraint was used to investigate a situation where borrowed nouns from Luganda starts with a vowel, making Kupsabiny to insert a consonant (such as a glottal stop or glide) to satisfy the ONSET constraint.

NO-CODA Constraint: This constraint discourages syllables from ending in a consonant. The constraint was used to assess how a borrowed noun from Luganda with final consonant violates the NO-CODA constraint, and how Kupsabiny may adapt it by inserting a vowel to maintain a CV (consonant-vowel) structure.

COMPLEX Constraint: This constraint prohibits consonant clusters, favoring simpler syllable structures (CV over CCV or CVC). It was used to examine how the borrowed noun may undergo cluster simplification where Luganda allows consonant clusters that Kupsabiny does not allow.

2.5 Summary

While specific examples of Kupsabiny nouns borrowed into Luganda are limited in the available literature, similar studies on other Bantu and Nilotic language interactions provide insights. The insights indicate that the morphophonological processes exemplify the intricate mechanisms languages employ to incorporate foreign elements, balancing the preservation of native linguistic norms with the integration of new lexical items. The gaps identified are addressed in the current study to address morphophonological processes exhibited when nouns are borrowed from Luganda and integrated into Kupsabiny.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The chapter entails research design, variables, the study site and target population. This chapter further highlight sample procedure and sample size as well as research instruments. In addition, the chapter highlights the data collection procedure, the data analysis and presentation as well as ethical presentations.

3.1 The Research Design.

This is the method used to collect and analyze data (Mbabazi, 2008). In this qualitative study, a descriptive research design was employed to gather information on the morphophonological status of borrowed nouns from Luganda to Kupsabiny. This design involves investigating the structure of a language through the collection of firsthand data (Chelliah & Reuse, 2010). The design also facilitates discovery in a natural environment, allowing the researcher to gain a detailed understanding by actively engaging with the experiences. By utilizing this design, the study examined the borrowing of Luganda nouns as they naturally exist in Kupsabiny. The researcher interacted with adult proficient speakers of both Luganda and Kupsabiny to collect data through interviews and focus group discussions. The qualitative approach was used to analyze the morphophonological patterns and processes exhibited by borrowed nouns in Kupsabiny from Luganda in the Kapchorwa District.

3.2 Variables

The morphophonological features of borrowed nouns from Luganda to Kupsabiny were treated as the dependent variables in this study. This refers to the specific characteristics of the borrowed nouns that were examined, including changes in

vowels, consonants, syllable structure, stress patterns, and morphology. The independent variable on the other hand, was language contact, which refers to the extent of interaction between the Luganda and Kupsabiny speakers. This variable affects the borrowing process and influences the morphophonological features of the borrowed nouns.

3.3 The Study Site

The study was conducted in Kapchorwa District, located in the Eastern Region of Uganda. This district is known for its linguistic diversity, with the Kupsabiny community being the primary speakers of the language. Specifically, the study focused on the Sabiny people within the Kupsabiny community, who have had extensive contact with Luganda-speaking communities. This interaction is particularly notable in Kapchorwa municipality, where there is a significant presence of Luganda speakers. Over time, this interaction has resulted in the adoption of some Luganda nouns into the day-to-day conversations of the Kupsabiny speakers. The choice of Kapchorwa District as the research site is based on the availability of Kupsabiny-speaking communities with significant exposure to Luganda.

3.4 The Target Population.

The target population for this study comprised native speakers of Kupsabiny aged 18-50 years and above who have had exposure to Luganda. These respondents were drawn from communities within Kapchorwa District where contact with Luganda-speaking groups is common, leading to the integration of Luganda borrowings into everyday Kupsabiny speech. The study specifically focused on individuals who

actively use Kupsabiny as their primary language of communication and who demonstrate familiarity with borrowed nouns from Luganda in their linguistic repertoire. The population was of both gender (males and female) regardless of the educational level. According to the 2014 Uganda Housing and Population Census, Kapchorwa Municipality alone has 12,933 residents who speak Kupsabiny (UBOS, 2015), forming a significant pool of potential respondents for this research.

3.5 Sample Procedure and Sample Size

3.5.1 Sample Technique

Purposive Sampling procedure was used in the selection of the informants who meet the criteria relevant to the research objectives. The researcher selected participants using purposive sampling, guided by the idea that this approach allows them to choose individuals they believe are suitable for the study (David and Sutton, 2011). The informants consisted of adults aged 18-50 years who have a good understanding of the use of Luganda borrowings in Kupsabiny. Their proficiency in both languages was considered for accurate data collection regarding borrowed nouns. The decision to focus on adults between 18-50 years is based on the assumption that speech is fully developed by adulthood, and older individuals may have less control over their articulators. It is important to note that the upper age limit for the study was set at 50 to minimize potential articulation issues.

3.5.2 Sample Size

A total of 50 informants were selected as the sample size for this study. This number was considered both manageable and adequate for generating reliable qualitative data. From these participants, the study aimed to collect fifty Kupsabiny nouns borrowed

from Luganda for analysis. Each selected respondent was approached individually and provided with a clear explanation of the research objectives to ensure voluntary participation and informed consent. It is worth noting that, as Milroy and Milroy (2017) observe, even a sample size as small as 24 can be sufficient to support generalization in sociolinguistic research. The chosen sample size of 50, therefore, exceeds this threshold and enhances the robustness of the study.

3.6 Research Instruments

An interview guide with open-ended questions was developed to elicit responses on the pronunciation and morphological adaptation of borrowed nouns. Participants were encouraged to share not only their observations but also their lived experiences with Luganda borrowings in Kupsabiny. A discussion guide consisting of open-ended questions was used to direct conversations toward the morpho-phonological features of borrowed nouns, with particular emphasis on pronunciation, noun structure, and the influence of Luganda on Kupsabiny.

To ensure accuracy and completeness of the data collected, a tape recorder was used during both the interviews and focus group discussions. This allowed for precise capture of participants' speech patterns, pronunciation nuances, and tone variations that might have been missed through note-taking alone. The recordings were later transcribed and analyzed to identify key morpho-phonological features in the borrowed nouns.

3.7 Pilot Study

Before the main data collection, a pilot study was conducted to test the suitability and effectiveness of the research instruments. The pilot involved a small group of 10 participants drawn from Kapchesombe town to collect a corpus of borrowed nouns from Luganda into Kupsabiny. These participants were not included in the final study. This process helped to identify any ambiguities in the interview and discussion guides and ensured that the questions were clear, relevant, and capable of eliciting the intended information.

The pilot study also served to assess the time allocation for both semi-structured interviews and focus group discussions. It revealed that ten minutes per interview session and five minutes per focus group session were adequate for participants to provide meaningful responses without fatigue. Minor adjustments were made to the wording of some questions to enhance clarity and flow.

3.7.1 Validity

The validity of the study was ensured through the following steps. Firstly, a comprehensive literature review was conducted to gather relevant information. Additionally, five experts in the field were consulted to ensure the research instruments accurately captured the variables under investigation. Native speakers of both languages were consulted during this process, providing valuable insights and feedback. This step enhanced the content and face validity of the instruments, ensuring that they effectively captured the nuances of pronunciation and morphological adaptation across the two languages.

3.7.2 Reliability

To ensure the reliability of the study, the test-retest technique was employed. This involved conducting three repeated series of data collection from five informants, administering the same test to the same group of individuals on three separate occasions. This helped determine the consistency and dependability of the measurement over time. The results obtained from each instance were compared to assess accuracy and the ability to elicit the necessary and adequate responses. By employing this method, the researcher was able to establish the reliability of the data to be collected.

3.8 Data Collection Techniques

Data collection is an essential part of research, allowing the researcher to gather information systematically on the topic of study within a specific setting (Yin, 2011). This study utilized semi-structured interviews and focus group discussions. Through semi-structured interviews, the researcher had the opportunity to explore the participants' thoughts, experiences, and perspectives on borrowed nouns from Luganda to Kupsabiny in depth. This method's flexibility allowed for open-ended questions, enabling participants to provide detailed and nuanced responses. Additionally, focus group discussions (FDG) was used to encourage participants to expand on ideas and engage in a productive exchange of viewpoints. The study aimed to collect 50 borrowed nouns from Luganda to Kupsabiny and 40 were used for discussion.

3.8.1 Semi-structured Interviews

Semi-structured interviews are a pivotal qualitative research method, particularly effective in exploring linguistic phenomena such as the morphophonological adaptation of borrowed nouns. This method combines predetermined questions with the flexibility to probe deeper based on participants' responses, allowing for comprehensive insights into language adaptation processes. The study conducted a series of semi-structured interviews consisting of four sessions, each lasting ten minutes. Participants were encouraged to share their observations, experiences, and insights on borrowing and adapting nouns from Luganda to Kupsabiny.

3.8.2 Focus Group Discussion

FGDs are designed to gather diverse perspectives through group interactions, providing depth to the research topic. Four focus group discussion sessions (FGDs) were conducted with ten participants, each lasting for five minutes. The FGDs aimed to obtain detailed responses from participants regarding the borrowing and adaptation of nouns from Luganda to Kupsabiny, focusing particularly on pronunciation and noun structure.

To explore morpho-phonological aspects of these borrowed nouns, participants were asked questions such as: *"*When a Luganda noun is borrowed into Kupsabiny, do you notice any changes in the way it is pronounced or the syllables are structured?" "Can you provide examples of Luganda nouns that sound different when spoken in Kupsabiny, and explain what changes occur in their pronunciation or endings?" These questions encouraged participants to reflect on both phonological shifts and

morphological adjustments occurring during the borrowing process, providing rich linguistic data for analysis.

3.9 Data Analysis and Presentation

The study employed qualitative and descriptive analytical approaches to examine the morpho-phonological adaptation of borrowed nouns from Luganda to Kupsabiny. Firstly, all recorded and transcribed data from interviews and focus group discussions were reviewed and categorized. Borrowed nouns were grouped and to help identify common trends and linguistic variations in pronunciation and morphological structure.

Secondly, a comparison was conducted to observe and describe changes that occurred in the process of borrowing. The analysis focused on vowel and consonant substitutions, alterations in syllable structures, stress placement, and other morpho-phonological adaptations that reflected the nativization of Luganda nouns into Kupsabiny. Each borrowed noun was compared with its original Luganda form to determine the degree and nature of the adaptation.

Thirdly, the data were analyzed through the lens of Optimality Theory (OT) to explain how Kupsabiny speakers select the most optimal or acceptable form of the borrowed noun. The OT framework helped in illustrating the hierarchy of linguistic constraints influencing pronunciation and morphological choices during the borrowing process.

To enhance clarity and accessibility of findings, the analyzed data were presented in tables. These tables displayed each Luganda borrowed noun alongside its

corresponding Kupsabiny equivalent, highlighting phonological and morphological changes such as.

3.10 Ethical Considerations

The research permit from National Commission of Science and Technology (NACOSTI) was sought before proceeding to the field. The study was meant for academic purposes and its confidentiality and anonymity was guided by moral principles as expressed in Madhushani (2016). The study acknowledged the works of the authors quoted and paraphrased. Additionally, the study was conducted responsibly and appropriately guarded the privacy of the informants. It avoided using offensive words and other unacceptable behaviors during the interviews and the focus group discussion sessions. The informants participated based on informed consent. They were given sufficient information and assurances, concerning the reason for conducting the study and to whom it would benefit. The data was presented and analyzed without any misleading information or biases. All the communication regarding this study was done with honesty and transparency.

3.11 Summary

By following this methodology, it was possible to systematically analyze the morpho-phonological adaptation of borrowed nouns from Luganda to Kupsabiny, contributing to a deeper understanding of the dynamic nature of these languages. The methodology also assisted in finding out unique phonological and morphological pattterns that influence how borrowed nouns are adapted in Kupsabiny. Understanding these constraints enabled accurate analysis.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, AND DISCUSSION

4.0 Introduction

This chapter covers the data presented, analyzed, and discussed as per the study's objectives. It is intended to answer the research questions under sections 4.1, 4.2, and 4.3. Fifty Luganda borrowed nouns were identified for data analysis, and forty were used for discussion.

4.1 Morphological Patterns Exhibited by Borrowed Nouns

The first question the study seeks to answer is, what are the morphological patterns observed in borrowed nouns from Luganda in Kupsabiny? A morphological pattern refers to the associations governing morphemes (the smallest units of meaning) combination to form different word forms. The Constraint-Based Tenet of Optimality Theory (OT) provides a framework to analyze how borrowed nouns from Luganda are adapted into Kupsabiny. In OT, the surface forms (outputs) are evaluated against ranked constraints. The most optimal form is the one that best satisfies the ranked constraints, even if some lower-ranked constraints are violated.

Key OT Constraints used as Relevant to Kupsabiny Borrowings:

Faithfulness Constraints:

MAX: No deletion of input segments.

DEP: No insertion of segments that are not in the input.

IDENT[F]: Maintain features of consonants and vowels, such as voicing and nasality.

Markedness Constraints:

NOCODA: Avoid consonants in syllable codas.

***COMPLEX**: Prohibit complex onsets or codas.

ALIGN-ROOT-L: Align nouns with Kupsabiny noun class prefixes or affixes.

Language-Specific Constraints:

VOWEL-HARMONY: Ensure compatibility of vowels within a word.

MORPHALIGN: Adapt nouns to fit Kupsabiny noun class morphology.

The integration of borrowed nouns from Luganda to Kupsabiny may reveal distinct morphological patterns. This process involves adapting nouns, to necessitate morphological adjustments to align with the Kupsabiny structural norms. To answer the first question, the study identifies and makes discussion on the morphological patterns from the data collected. Subsection 4.1.1 shows the presentation of data on prefix modification from Luganda to Kupsabiny.

4.1.1 Prefix Modification

Prefix refers to a word fragment added to the beginning of a word. It functions to alter the meaning of the word. Its modification is the act of adjusting, altering, or converting it. The given example shows how a prefix is modified when a noun is borrowed from Luganda to Kupsabiny.

(1). Luganda	**Kupsabiny**	**Gloss**
Omusomesa	Musumsit	Teacher

Example (1) indicates that borrowed words from Luganda into Kupsabiny undergo systematic morphological transformations, particularly in the modification of prefixes and restructuring of the word's internal morphology to align with Kupsabiny's linguistic system. Beyond the prefix, borrowed words undergo internal modifications. In *Musumsit*, the Luganda root *-somesa* (meaning "to teach") is adapted morphologically. The segment *-sit* at the end of *Musumsit* is a result of Kupsabiny's morphophonemic constraints, which shape borrowed nouns. Table 1. presents a comparative morphological change to highlight transformations.

Table 1. Comparative morphological prefix modification

Luganda	**Morphemic breakdown**	**Kupsabiny**	**Morphemic breakdown**	**Gloss**	**Morphological Process**
Omusomesa	/o-mu-so-me-sa/	Musumsit	/mu-sum-sit/	Teacher	Prefix modification, root adaptation, suffix modification
Omu- (prefix)	/o-mu-/	Mu-	/mu-/		Prefix reduction & simplification
-somesa	/so-me-sa/	-sumsit	/sum-sit/	Teach	Consonant modification and vowel adaptation

Optimality Theory, a framework in generative phonology, posits that surface forms of words result from the interaction between universal constraints, which are ranked differently in each language. The transformation of *Omusomesa* (Luganda) into *Musumsit* (Kupsabiny) can be analyzed using OT's principles of constraint ranking to explain prefix modification as indicated in table 2.

Table 2 prefix modification

Changes	**Constraint Ranking**	**Faithfulness**
Omission of /o-/.	ALIGN-ROOT-L >> MAX >> *COMPLEX	loss of /o-/)
Addition of *-sit*		

In the context of the Constraint-based tenet of Optimality Theory (OT), we notice from table 1 and 2 the following changes: Omission of the prefix vowel /o-/. There is also an addition of the suffix *-sit* to align with Kupsabiny morphology. Further, there is constraint ranking where faithfulness is compromised through the loss of /o-/ to prioritize morphological alignment.

In Luganda, nouns are prefixed with class markers to indicate noun class and number. The prefix *omu-* in "omusomesa" denotes a singular noun, typically used for human beings. In Kupsabiny, the equivalent noun "musumsit" lacks this initial vowel, suggesting a morphological adaptation where the Luganda prefix is either omitted or altered to fit Kupsabiny phonological and morphological structures. This is in line with Ralli (2012) who examines the morphological patterns exhibited by borrowed

nouns in Modern Greek dialects. Ralli's findings reveal that borrowed nouns undergo modification in terms of gender and inflectional class. For example, nouns borrowed from French change their gender from masculine to feminine in Greek. In our study, we find that Luganda, a Bantu language, employs a noun class system where prefixes denote specific classes, influencing agreement patterns within sentences. For instance, the prefix *omu-* in "omusomesa" (teacher) indicates a common noun. However, Kupsabiny, a Southern Nilotic language, does not utilize a comparable noun class system.

Consequently, when borrowing from Luganda, Kupsabiny often omits these prefixes, retaining the root of the noun. In this instance, the Luganda prefix *omu-* is substituted with the Kupsabiny prefix *mu-*, maintaining the noun's grammatical integrity within Kupsabiny's linguistic framework. Additionally, Kupsabiny often modifies or adds prefixes to borrowed Luganda nouns to fit its morphological system. This adaptation ensures that the borrowed nouns conform to Kupsabiny's noun class system, which is integral to its grammar as shown in the given data.

(2) Luganda	**Kupsabiny**	**Gloss**
Ekanisa	Kusaapa	Church

The Luganda word "ekanisa" (church) becomes "kusaapa" in Kupsabiny. Here, the prefix *eka-* is replaced with *ku-*, aligning the noun with Kupsabiny's noun class system. This indicates that a Luganda noun with a prefix denoting a particular class may be assigned a corresponding Kupsabiny prefix that conveys a similar meaning or function. This process ensures that the borrowed noun integrates seamlessly into

Kupsabiny's grammatical framework. This indicates that morphological alignment with Kupsabiny noun structure overrides segmental faithfulness. Further, there can also be prefix removal and consonant adaptation in the borrowed nouns from Luganda, adapted in Kupsabiny as shown below.

(3) Luganda	**Kupsabiny**	**Gloss**
Olwokusatu	Rukusaatu	Wednesday

In the provided data, the prefix *olwo-* is dropped whereas the consonant [k] is adopted after the addition of the prefix *ru-* to remain with the base, "kusaatu." Both terms share the root "kusatu," meaning "three," indicating the third day of the week. The prefixes *olwoku-* in Luganda and *ru-* in Kupsabiny are used to form the names of the days. In Kupsabiny, the prefix *ru-* is added to the root "kusaatu." Notably, the consonant [k] is retained after the addition of the prefix, resulting in "Rukusaatu." This retention indicates that Kupsabiny have a different morphological structure compared to Luganda, particularly concerning consonant retention and syllable structure.

4.1.2 Suffix Addition

Subsection 4.1.2 presents data on suffix addition as identified in the borrowed nouns. A suffix is a letter or group of letters that goes on the end of a word and sometimes changes the word's meaning. Some suffixes have specific uses. The following is data analyzed to indicate suffix addition in Kupsabiny on borrowed nouns.

(4) Luganda	**Kupsabiny**	**Gloss**
Ekitabo	Kitapuut	Book

Borrowed words from Luganda into Kupsabiny undergo systematic suffix addition and morphological restructuring. Table 3 explains suffix changes and transformations.

Table 3: Comparative morphological prefix modification

Luganda	**Morphemic breakdown**	**Kupsabiny**	**Gloss**	**Morphemic breakdown**	**Morphological Process**
Ekitabo	*Eki-* (prefix) + *tabo* (book)	Kitapuut	Book	*Kita-* (restructured prefix) + *puut* (book)	Prefix simplification, root adaptation, suffix addition
Eki-(prefix)	/e-ki-/	Kita-		/ki-ta-/	Prefix modification
-tabo	/ta-bo/	-puut	book	/puut/	Root adaptation
(No suffix in Luganda)	-	-uut		/-uut/	Suffix addition

This analysis employs constraints- based tenet of Optimality Theory (OT) to explain suffix addition as shown in table 4

Table 4: Analysis of suffix addition

Changes	**Constraint Ranking**	**Faithfulness**
Omission of /e-/.	ALIGN-ROOT-L, NOCODA >> MAX	loss of /o-/)
Addition of /*-puut/*		

Table 3 and 4 reveal that Kupsabiny often appends specific suffixes to borrowed nouns, which can serve various functions, including indicating definiteness, plurality, or other grammatical nuances. This is in support of Evans (2014) who explores the morphological patterns exhibited by borrowed nouns. Evans highlights that English nouns borrowed from other languages often maintain suffixes such as *-able,* which then affect the derivational morphology of the recipient language. In our study, we find that the Kupsabiny suffix *-puut* which is a number marker is added to the Luganda stem "Kita-," adapting the noun to Kupsabiny's morphological rules. Additionally, Kupsabiny incorporates the borrowed noun by adding suffixes. For example, in the given data below.

(5) Luganda	**Kupsabiny**	**Gloss**
Empisa	Mpisanik	Manners

The suffix *-nik,* a common nominalizing or class-indicating suffix in Kupsabiny, is added to the root word in Luganda “mpisa”. This suffixation serves to integrate the noun into Kupsabiny's grammatical system indicating plurality, ensuring it aligns with native morphological patterns. The resulting form, "mpisanik," thus becomes a fully functional noun within Kupsabiny. The agglutinative nature of Kupsabiny allows for such morphological adaptations, enabling the language to expand its lexicon while maintaining structural consistency. The suffixation of *-nik* to the Luganda noun "mpisa" in Kupsabiny illustrates the intricate processes involved in noun borrowing and morphological integration. By modifying borrowed nouns to conform to native grammatical patterns, Kupsabiny preserves its structural norms. Further, Kupsabiny

may add suffixes to borrowed nouns to conform to its morphological rules, often for grammatical agreement. This is clarified with the given data.

(6) Luganda	**Kupsabiny**	**Gloss**
Eladiyo	Reetyet	Radio

The Luganda term for 'radio' is "eladiyo," which fits into Luganda's noun class system with the prefix *e-*. When this term is adapted into Kupsabiny, it becomes "reetyeet." This transformation involves the addition of the suffix *-tyeet*, aligning the noun with Kupsabiny's morphological rules and ensuring it conforms to the language's noun classification system. The addition of the suffix *-tyeet* is intended to fit Kupsabiny's noun class system. The process of adapting "eladiyo" to "reetyeet" illustrates the broader linguistic phenomenon of borrowed noun integration, where borrowed nouns are modified to fit the morphological patterns of the Kupsabiny. In this case, Kupsabiny modifies the Luganda term by adding a suffix, demonstrating its preference for suffixation in noun formation. This contrasts with Luganda's use of prefixes in its noun class system.

4.1.3 Morphological Reduplication

Subsection 4.1.3 presents data on morphological reduplication as observed in the Luganda borrowed nouns to Kupsabiny.

(7) Luganda	**Kupsabiny**	**Gloss**
Omuzikiti	Misikitiit	Mosque

Borrowed nouns from Luganda into Kupsabiny undergo morphological restructuring through prefix modification as indicated in table 5.

Table 5. Comparative morphological process highlighting reduplication

Luganda	**Morphemic breakdown**	**Kupsabiny**	**Morphemic breakdown**	**Gloss**	**Morphological Process**
Omuzikiti	*Omu-* (prefix) +*zikiti*(mosque)	Misikitiit	*Mi-* (plural prefix) + *sikitiit* (mosque)	Mosque	Prefix modification, reduplication of final syllable
Omu- (prefix)	/o-mu-/	Mi-	/mi-/		Prefix replacement (noun class shift)
-zikiti	/zi-ki-ti/	-sikitiit	/si-ki-ti-it/	Mosque	Reduplication of *-it*

This analysis employs Optimality Theory (OT) to explain morphological reduplication changes in borrowed nouns from Luganda into Kupsabiny. OT provides a constraint-based framework for understanding how reduplication emerges as an optimal strategy to satisfy morphological requirements in the recipient language as illustrated in Table 6.

Table 6: Analysis of morphological reduplication

Changes	**Constraint Ranking**	**Faithfulness**
Omission of /o-/.	ALIGN-ROOT-L, NOCODA >> DEP	loss of /o-/)
Addition of /*-it/*		

Table 5 and 6 show that Kupsabiny in some cases employs reduplication as a morphological strategy to adapt borrowed nouns. This involves repeating a syllable or segment of the borrowed noun to fit Kupsabiny's morphological patterns. This is in line with Ayagah (2023) who examines morphophonemic patterns of affixation in Tiv plural formation. The findings indicate that these borrowed nouns display distinct integration patterns that are influenced by the morphological rules of the recipient language. In the current study, we find that reduplication can serve various functions, such as denoting plurality, intensity, or diminutiveness. For example, the Luganda syllable “ti” in the noun “omusikiti” is reduplicated in the reverse in the Kupsabiny word “ misikitiit” and “it” is added to the borrowed syllable “ti.” This is intended to align with Kupsabiny's morphological conventions.

4.2 Phonological Patterns of Borrowed Nouns

The second question the study seeks to answer is, how do the phonological patterns of borrowed nouns from Luganda manifest in Kupsabiny? Phonological patterns are systematic sound changes that simplify speech. The Faithfulness Tenet of Optimality Theory (OT) is used to analyze the phonological patterns exhibited by adapting borrowed nouns from Luganda into Kupsabiny. The Faithfulness Tenet prioritizes the preservation of input features in the output, but due to the ranking of constraints, some features may change to conform to Kupsabiny's phonological system.

Key Constraints used in the Faithfulness Tenet:

MAX: No deletion of input segments.

DEP: No insertion of new segments.

IDENT[F]: Preserve phonological features of consonants and vowels (e.g., voicing, place of articulation, nasality).

NOCODA: Avoid consonants in syllable codas.

ALIGN-MORPH: Adapt borrowed nouns to fit the Kupsabiny morphological structure.

The integration of Luganda nouns into Kupsabiny involves adaptations that align with Kupsabiny's phonological structures. The provided data reveals key patterns in this borrowing process.

4.2.1 Alteration of Consonant Clusters, and Vowel Harmony

Section 4.2.1 presents data indicating phonological changes that occur to make the borrowed nouns conform to Kupsabiny's sound system.

(8) Luganda	**Kupsabiny**	**Gloss**
Olupapula	Papureet	Paper

In this example, the Luganda noun *Olupapula* undergoes several phonological transformations in Kupsabiny. The initial vowel prefix /o-lu-/ is omitted to align with Kupsabiny’s restriction against such noun prefixes. Additionally, consonant clusters are simplified to suit the preferred CV (consonant–vowel) syllable pattern of Kupsabiny. The final vowel sequence also changes through **vowel harmony**, where the [+front] vowel /i/ influences the quality of the final vowel, producing the form *-reet*. Stress placement in Kupsabiny typically falls on the penultimate syllable,

resulting in the stress pattern [paˈpuɾeːt], contrasting with Luganda's prefixal stress [ˈolupapula].

Table 7: Comparative phonological transformation on consonant cluster and vowel harmony

Luganda	**Phonemic Breakdown**	**Kupsabiny**	**Phonemic Breakdown**	**Gloss**	**Phonological Process**
Olupapula	/o-lu-pa-pu-la/	papureet	/pa-pu-reet/	paper	Prefix deletion, consonant cluster simplification, vowel harmony, suffix modification
/o-lu-/ (noun prefix)	[o-lu]		/o-lu-/ deleted		Prefix deletion
/pa-pu-la/	[pa-pu-la]	/pa-pu-reet/	[pa-pu-reet]	paper	Vowel harmony (*-la → -reet*)

The transformation of borrowed words from Luganda into Kupsabiny can be analyzed using faithfulness constraints within the framework of Optimality Theory (OT). These constraints ensure that the adapted words retain key phonological elements of the original Luganda words while conforming to Kupsabiny' phonological structure. Faithfulness constraints preserve the original structure of the borrowed word by minimizing alterations in syllable structure, and segmental composition. Table 8 illustrates these transformations.

Table 8: Analysis of alteration of consonant cluster and vowel harmony

Changes	**Constraint Violation**	**Satisfied constraints**
Omission of /Olu-/.	**MAX** (prefix deletion)	**ALIGN-MORPH** (suffix addition) and **NOCODA** (simplified syllables).
Addition of /-*reet/*		

Table 7 and 8 reveal that borrowed nouns undergo phonological modifications to conform to Kupsabiny's phonetic inventory, where the initial and final vowel sound is dropped, and the consonant sounds are adjusted to fit Kupsabiny's phonological system. The adaptation of the Luganda noun *olupapula* (/o-lu-pa-pu-la/), meaning 'paper', into Kupsabiny as *papureet* (/pa-pu-reet/) offers a clear example of this phenomenon. The comparison highlights several phonological processes such as prefix deletion, consonant cluster simplification, vowel harmony, and suffix modification that collectively illustrate how Kupsabiny reconfigures borrowed material to fit its phonological framework.

In Luganda, the prefix */o-lu-/* functions as a class marker, a typical feature of Bantu noun morphology. However, in Kupsabiny, prefixes of this type are not phonologically or morphologically compatible. As a result, the borrowed form omits the initial /o-lu-/ sequence, resulting in a shorter and more phonetically accessible structure. The removal of the prefix not only simplifies the morphological composition but also affects the rhythmic and stress pattern of the word. In *olupapula*, the penultimate syllable [pu] typically bears primary stress, producing a rhythm that rises and falls toward the end of the word. When transformed into *papureet*, stress naturally

shifts to the initial syllable [pa], aligning with Kupsabiny's prosodic preference for front-loaded stress patterns. This restructuring reduces the number of syllables and creates a smoother transition between phonemes, contributing to a word form that is more in tune with Kupsabiny's syllable-timed rhythm.

The consonantal adjustments observed between the two forms further illustrate Kupsabiny's adherence to a strict consonant-vowel (CV) syllable pattern. While Luganda tolerates more flexible consonant distributions, Kupsabiny avoids consonant clusters and closed syllables, leading to a process of consonant cluster simplification. The resulting repetition of the bilabial stop /p/ in *papureet* not only reflects phonotactic regularity but also contributes to rhythmic balance, ensuring that each consonant is followed by a vowel. This process can be understood within the framework of Optimality Theory, where the NOCODA constraint, which prohibits syllables ending in consonants, is ranked higher than faithfulness constraints such as MAX, which discourage deletion or alteration of segments. The simplification thus represents a strategic violation of faithfulness to satisfy markedness constraints that preserve the phonological integrity of the borrowing language.

Vowel harmony emerges as another salient feature in this adaptation. In *olupapula*, the vowel sequence alternates between low and high vowels, creating a harmonic alternation characteristic of Luganda's vowel system. Kupsabiny, however, prefers fronted and tense vowels that maintain internal harmony across syllables. This results in the substitution of the final /-la/ with /-reet/, a change that simultaneously introduces a front vowel and modifies the suffix to conform to native morphological

patterns. The vowel /ee/ in /-reet/ represents a shift toward front vowel harmony, smoothing the acoustic flow and aligning with Kupsabiny's phonetic tendencies. This transformation also influences stress placement, as the fronted and tense quality of /ee/ attracts greater prominence in speech, subtly redistributing stress toward the word's final segment.

From an Optimality Theory perspective, these modifications can be understood as interactions between faithfulness and markedness constraints. The deletion of /o-lu-/ constitutes a violation of the MAX constraint, yet this violation is tolerated because it satisfies higher-ranked constraints such as ALIGN-MORPH and NOCODA, which favor morphological alignment and open syllable structures. Similarly, the replacement of /-la/ with /-reet/ preserves morphological balance by aligning the borrowed word with native Kupsabiny nominal endings. In this way, the adaptation of *olupapula* into *papureet* exemplifies the resolution of competing phonological pressures through a hierarchy of constraints that prioritize phonotactic well-formedness over strict segmental fidelity.

The broader implications of this transformation resonate with findings from cross-linguistic studies on phonological borrowing. This finding is in line with Stephen (2023), who documents comparable processes among Syrian speakers of Arabic in the United States, where borrowed English nouns are reshaped to fit Arabic phonological rules. In those cases, consonant clusters are simplified, vowels are inserted to maintain open syllables, and stress patterns are reallocated to conform to Arabic prosody. These parallels suggest that phonological adaptation is not merely a local phenomenon but a

universal linguistic response to structural incompatibility between source and recipient languages.

The case of *olupapula* and *papureet* demonstrates that borrowing involves more than the mere substitution of sounds; it reflects an active negotiation between two phonological systems. Kupsabiny speakers, in adapting a Luganda word, preserve the semantic identity of the original while systematically reshaping its form to match their own phonological expectations. Prefix deletion reduces morphological complexity, consonant simplification aligns with preferred syllable structures, vowel harmony ensures phonemic consistency, and suffix modification integrates the loanword into the recipient language's morphological paradigm.

These findings highlight the adaptability and creativity inherent in linguistic systems. Phonological borrowing, far from being random or mechanical, is guided by deep-seated principles that govern sound organization and prosodic balance. Through the interaction of constraint hierarchies, Kupsabiny successfully integrates foreign lexical material without compromising its phonological coherence. The transformation from *olupapula* to *papureet* therefore encapsulates the delicate equilibrium between faithfulness to source forms and conformity to native phonotactics, a process that lies at the heart of language contact and evolution.

The borrowed nouns sometimes undergo consonant simplification and vowel substitution for easy pronunciation as shown in the provided data.

(9) Luganda	**Kupsabiny**	**Gloss**
Omubiira	Mpiireet	Ball

Prefix *omu-* is replaced with /mp-/ as the suffix *-reet* is added. The transformation from "Omubiira" to "Mpiireet" involves changing the consonant [b] to [p]. These substitutions reflect phonological differences between the two languages, possibly due to variations in phonemic inventories or phonotactic constraints. Such consonant changes can be attributed to the distinct phonological systems inherent to each language. The Luganda noun "omubiira" contains long vowels, which are shortened in the Kupsabiny equivalent "mpiireet." This alteration suggests differing phonological rules regarding vowel length in the two languages. There is also consonant substitution and vowel shortening as shown in the given data.

(10) Luganda	**Kupsabiny**	**Gloss**
Etaala	Taarit	Light

The transformation of the Luganda noun "etaala" to the Kupsabiny equivalent "taarit" illustrates notable differences in the phonological system of these two languages, particularly due to their use of prefixes and suffixes. The prefix *e-* is dropped in the above data, whereas the suffix *-rit* is added. The Luganda noun "etaala" loses its initial vowel prefix *e-* when transformed into Kupsabiny's "taarit." This suggests that Kupsabiny may not utilize the same prefix system as Luganda, or it applies different

rules for prefix usage. the noun "etaala" (light) comprises the prefix *e-* and the root "taala." This prefix is integral to the noun's meaning and grammatical function.

The noun class system influences not only nouns but also their modifiers, ensuring agreement across adjectives, numbers, and demonstratives. In contrast, Kupsabiny exhibits a different phonological pattern. Kupsabiny is an agglutinating language that utilizes both prefixes and suffixes, with some morphemes serving as portmanteaux. This means that while prefixes and suffixes are present, their application and function differ from those in Luganda.

4.2.2 Reduplication and Lengthening of the vowel

Section 4.2.2 presents data indicating how some borrowed nouns undergo reduplication or lengthening of the vowels, which may be a strategy to fit the prosodic patterns of Kupsabiny or to distinguish the loanword from native words.

(11) Luganda	**Kupsabiny**	**Gloss**
Essowaani	Saaniit	Plate

Example (11) is presented in table 9 indicating the phonological process borrowed nouns undergo in Kupsabiny to adopt to its phonological system.

Table 9: Comparative phonological process on reduplication and lengthening of the vowel.

Luganda	**Phonemic Break down**	**Kupsabiny**	**Phonemic break Down**	**Phonological Process**	**Faithfulness Constraint Affected**
Essowaani	/e.sɔ.wáː.ni/	**Saaniit**	/sáː.niːt/	Reduplication Reduction + Vowel Lengthening	MAX-IO violated (loss of /e.sɔ/) + IDENT-IO(V) (lengthening of /áː/ and /iː/)

In Optimality Theory (OT), faithfulness constraints ensure that borrowed words retain phonological similarities to their source forms. These constraints, such as MAX-IO (Maximal Input-Output Correspondence) and IDENT-IO (Identity between Input and Output Features), preserve segmental structure and phonemic identity during borrowing. However, due to phonotactic differences between Luganda and Kupsabiny, modifications occur to align borrowed words with Kupsabiny's phonological system, as illustrated in Table 10.

Table 10: Analysis of reduplication and lengthening of the vowel

Changes	**Constraint Violation**	**Satisfied constraints**
Omission of /Esso-/.	**MAX** (prefix deletion)	**NOCODA** (simplified syllables).
Simplification of syllable structure.		

This section examines how certain Luganda loanwords undergo vowel reduplication or lengthening when borrowed into Kupsabiny. These phonological modifications appear to function as strategies that help the borrowed items conform to the prosodic and rhythmic patterns of Kupsabiny or to create phonological distinctions between loanwords and existing native lexical items.

Data from the current study demonstrate that the Luganda word *essowaani* (/e.sɔ.wáː.ni/), meaning “plate,” is adapted in Kupsabiny as *saaniit* (/sáː.niː.t/). As illustrated in Table 9, this transformation involves the deletion of the initial prefix /e.sɔ-/, the reduction of reduplication, and the lengthening of vowels in the remaining syllables.

In the source language, Luganda, *essowaani* begins with a reduplicated morpheme /e-sso-/, which is a characteristic nominal prefix structure used to indicate noun class. Kupsabiny, however, lacks an equivalent morphological category and generally avoids initial vowel-consonant clusters of this nature. Consequently, the prefix is deleted, leaving behind a simpler and more phonotactically natural structure. This omission marks a clear violation of the MAX-IO constraint in Optimality Theory (OT), which requires all input segments to be preserved in the output. Despite this violation, the deletion satisfies the NOCODA and ALIGN-MORPH constraints, both of which prioritize open syllables and morphological alignment within the Kupsabiny system.

The resulting Kupsabiny form *saaniit* shows both vowel lengthening and reduplication reduction. The long vowels /áː/ and /iː/ are not present in the original Luganda form but emerge in the adapted version. This lengthening serves multiple phonological

functions. First, it maintains the rhythmic balance of the word after the prefix deletion, compensating for the reduced syllable count. Second, it enhances perceptual salience, distinguishing the loanword from existing native forms that may share similar segmental patterns. Third, it conforms to Kupsabiny's prosodic preference for elongated vowels in stressed syllables, ensuring a natural distribution of stress and rhythm.

Phonetically, the transformation from /e.sɔ.wáː.ni/ to /sáː.niːt/ results in a more compact structure with clear syllabic boundaries. Kupsabiny generally favors disyllabic or trisyllabic word forms that maintain a balanced alternation between consonants and vowels. The Luganda form, by contrast, exhibits a heavier syllable onset and internal reduplication that would disrupt Kupsabiny's preferred prosodic flow. By dropping the prefix and lengthening the remaining vowels, the borrowing achieves smoother sonority sequencing and preserves lexical prominence through vowel duration rather than syllable repetition.

From an Optimality Theory standpoint, this adaptation exemplifies how faithfulness constraints interact with markedness constraints in the borrowing process. The deletion of /e.sɔ-/ violates MAX-IO, as segments are lost in the output. However, this deletion simultaneously satisfies NOCODA, preventing complex syllable structures, and DEP-V, ensuring no additional vowels are inserted. The vowel lengthening, on the other hand, partially violates IDENT-IO(V), since the original vowel quantity is altered. Yet, this modification is tolerated because it enhances prosodic alignment and

maintains lexical distinctiveness, satisfying higher-ranked prosodic constraints in Kupsabiny.

These findings are consistent with cross-linguistic evidence from other borrowing contexts. Nnko (2023), for instance, observes similar phonological adaptations in his study of Swahili words borrowed into the Meru language of northeastern Tanzania. In that study, Swahili forms such as *mkono* (“hand”) become *kono* in Meru, reflecting a tendency to simplify initial consonant clusters and adjust vowels to match the target language’s phonological constraints. The parallel between *mkono* → *kono* in Meru and *essowaani* → *saaniit* in Kupsabiny underscores a shared pattern among contact languages: borrowed nouns are restructured to fit the phonotactic template and prosodic expectations of the recipient language, even when this entails significant segmental and structural modifications.

In the specific case of *essowaani* becoming *saaniit*, the process of vowel lengthening and reduplication reduction ensures phonological integration into the Kupsabiny sound system. The deletion of the prefix aligns with morphological simplicity, while the lengthened vowels preserve the word’s rhythmic balance and enhance its perceptual weight. The end result is a word that retains its semantic core ‘plate’ but resonates with the sound structure and prosodic rhythm characteristic of native Kupsabiny nouns.

This adaptation demonstrates that borrowing is not a passive linguistic process but an active reorganization of phonological material to achieve naturalness and conformity within the recipient language. The evidence from vowel lengthening and reduplication

reduction reveals that Kupsabiny employs prosodic modification not merely as a means of accommodation but as a mechanism for integrating foreign elements into its phonological identity.

Further, there is prefix removal and vowel shortening as indicated in the given data.

(12) Luganda	**Kupsabiny**	**Gloss**
Olwokutaano	Rukutano	Friday

Prefix *olwo-* is replaced with *ru-* making the final word have a simplified structure. This process involves substituting the initial vowel of a prefix to align with phonological rules or to simplify pronunciation. For instance, the prefix *olwo-* is replaced with *ru-*, resulting in a more streamlined noun form. This substitution is evident in the transformation of "olwokutaano" to "rukutano," both meaning Friday. Such changes are not arbitrary; they adhere to the phonotactic constraints of Kupsabiny, ensuring that vowel sequences are harmonious and conform to the language's syllable structure. This process also reflects the language's tendency towards vowel harmony and ease of articulation.

When Kupsabiny incorporates borrowed nouns, it often modifies these words to fit its own phonotactic rules. A prevalent adjustment is the shortening of long vowels, particularly in final positions. This final vowel shortening is a means to conform borrowed nouns to Kupsabiny's prosodic patterns, ensuring that they align with native word structures. For example, a borrowed noun with a long final vowel may undergo shortening to match the typical Kupsabiny noun endings, which often feature short

vowels. This adaptation facilitates smoother integration of foreign terms into the language, maintaining phonological coherence and ease of pronunciation. Borrowed nouns also undergo prefix removal and vowel length adjustment as shown in the given data.

(13) Luganda	**Kupsabiny**	**Gloss**
Olwokuna	Rukunaa	Thursday

In Luganda, Thursday is "Olwokuna," where *Olw-* is a noun class prefix, and "-okuna" is derived from the word four, indicating the fourth day of the week. In Kupsabiny, Thursday is "Rukunaa," which also reflects the numeral four. The Luganda form includes the noun class prefix *Olw-*, while the Kupsabiny form does not, highlighting the prefix removal process during borrowing. Additionally, vowel length [aa] adjustment occurs to ensure the borrowed noun fits the phonotactic constraints of Kupsabiny. Kupsabiny exhibits sensitivity to vowel length in its phonological system. When borrowing nouns, vowel length is adjusted to fit the language's prosodic patterns, ensuring that the borrowed term is phonologically harmonious with native vocabulary. This adjustment aids in maintaining the rhythmic and melodic aspects of the language, which is essential for intelligibility and naturalness in speech.

4.2.3 Vowel Substitution

Section 4.2.3 Provides data to illustrate how borrowed nouns from Luganda undergo vowel substitution in Kupsabiny.

(14) Luganda	Kupsabiny	Gloss
Eddúuka	Tukaniit	Shop

The transformation of *Eddúuka* (Luganda) into *Tukaniit* (Kupsabiny) demonstrates significant phonological modifications, particularly vowel substitution and syllable restructuring. In this case, vowels from Luganda are replaced with phonetically or articulatorily similar vowels in Kupsabiny to maintain phonemic harmony and ease of articulation as illustrated in table 11.

Table 11. A comparative phonological process on vowel substitution

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Phonological Process**	**Faithfulness Constraint Affected**
Eddúuka	/e.dú:.ka/	**Tukaniit**	/tu.ká.ni:t/	Vowel Substitution + Epenthesis + Lengthening	IDENT-IO(V) (replacement of /ú:/ → /u/), DEP-IO (insertion of /ni:t/), MAX-IO (deletion of /e.d/)

Faithfulness constraints of Optimality Theory ensure that borrowed words retain phonological similarities to the source language while conforming to the phonotactic requirements of the borrowing language. However, due to phonotactic constraints in the Kupsabiny language, vowel substitution occurs as an adaptation strategy.

This process involves replacing vowels from Luganda (the source language) in Kupsabiny (the borrowing language) to achieve phonemic harmony and maintain ease of articulation. The comparative analysis highlights how vowel substitution systematically modifies borrowed words to fit the phonological framework of the Kupsabiny language.

Table 12. Analysis of vowel substitution

Changes	**Constraint Violation**	**Satisfied constraints**
Replacement of initial /Eddu-/ with /Tu-/.	**IDENT[F]** (prefix modification).	**ALIGN-MORPH**.
Addition of suffix /-niit/.		

The data presented in table 12 reveal that Luganda loanwords undergo systematic vowel substitution when incorporated into Kupsabiny. This phonological process enables the borrowed words to align with Kupsabiny's vowel inventory and prosodic structure, ensuring both articulatory ease and phonemic harmony. The adaptation of the Luganda noun *eddúuka* (/e.dú:.ka/), meaning *shop*, into the Kupsabiny form *tukaniit* (/tu.ká.ni:t/) exemplifies how vowels are strategically replaced, syllables

restructured, and stress patterns reorganized to fit the phonotactic and prosodic rules of the borrowing language.

In Luganda, *eddúuka* begins with the prefix /e-dd-/, a morphological element marking noun class affiliation. This initial cluster is phonotactically complex and not permissible in Kupsabiny, which favors open syllables and simple consonant-vowel (CV) structures. As a result, the prefix /e.d-/ is deleted and replaced with /tu-/, a more natural onset for Kupsabiny phonology. This replacement marks a clear violation of the MAX-IO constraint, which prohibits deletion of input segments, yet it satisfies higher-ranked markedness constraints such as NOCODA, which prefers open syllables, and ALIGN-MORPH, which ensures morphological alignment. The substitution also contributes to prosodic reorganization, as the deletion of the heavy prefix allows the initial syllable of *tukaniit* to carry the primary stress, consistent with Kupsabiny's tendency toward initial stress.

The most prominent modification lies in the vowel system. The high back vowel /úː/ in Luganda *eddúuka* is replaced with /u/ in Kupsabiny. Although these vowels are phonetically similar, the substitution reflects a shift toward the Kupsabiny vowel space, which lacks certain degrees of rounding and length present in Luganda's vowel inventory. The substitution of /úː/ with a shorter /u/ reduces articulatory tension and facilitates smoother transitions between syllables, supporting Kupsabiny's preference for more evenly distributed vowel durations. The change results in a violation of the IDENT-IO(V) constraint, which preserves vowel quality between input and output, but it aligns with the need for internal phonemic harmony in the borrowing language.

Further adaptation occurs through epenthesis and suffixation, as seen in the addition of the final segment /-niit/ in *tukaniit*. This insertion not only ensures morphological integration but also re-establishes the rhythmic and prosodic balance lost after prefix deletion. The epenthetic vowel /iː/ contributes to the language's prosodic contour by lengthening the final syllable, creating a pattern of alternating strong and weak syllables typical of Kupsabiny's phonological rhythm. While this violates the DEP-IO constraint (which prohibits insertion of new segments), it satisfies ALIGN-MORPH and NOCODA, both of which promote morphological and syllabic regularity. The final lengthened vowel /iː/ also influences stress distribution: where *eddúuka* places stress on the penultimate syllable [dúː], *tukaniit* shifts prominence to the initial syllable [ká], demonstrating a reorganization of stress assignment in line with Kupsabiny's prosodic tendencies.

The transformation from *eddúuka* to *tukaniit* thus represents a complex interaction of deletion, substitution, and vowel lengthening. Each of these processes contributes to the phonological naturalization of the borrowed word. The vowel substitution simplifies articulation while preserving the overall vowel height and backness of the original; the addition of a suffix ensures morphological compatibility; and the adjustment of stress restores rhythmic balance. Collectively, these processes result in a form that is phonetically accessible, rhythmically coherent, and morphologically integrated within Kupsabiny's linguistic framework.

From the perspective of Optimality Theory, the adaptation can be viewed as a negotiation between faithfulness and markedness constraints. Kupsabiny prioritizes

constraints that ensure phonological well-formedness, such as NOCODA and ALIGN-MORPH, over faithfulness constraints like MAX-IO and IDENT-IO(V). The outcome, *tukaniit*, therefore, represents an optimal compromise: it maintains semantic equivalence with the source word while adhering to the structural limitations of the recipient language.

These findings are consistent with cross-linguistic evidence on vowel adaptation in loanword phonology. Mose (2021), in his study of Swahili loanwords in Ekegusii, observed that vowels are frequently substituted with the closest available equivalents from the borrowing language's inventory. This substitution not only ensures phonological harmony but also prevents violations of native phonotactic constraints. The parallel between the Luganda–Kupsabiny and Swahili–Ekegusii adaptations highlights the universality of phonological accommodation strategies in contact languages: borrowed words are reshaped through vowel substitution and syllable restructuring to achieve articulatory simplicity and prosodic balance.

4.2.4 Consonant Modification

Section 4.2.4 provides data on consonant modification of the borrowed Luganda nouns.

(15) Luganda	**Kupsabiny**	**Gloss**
Esabiiti	Supiiti	Sunday

Example (15) illustrates how certain consonants from the source language (Luganda) are replaced or altered to fit the phonemic inventory of the borrowing language

(Kupsabiny). In Optimality Theory (OT), faithfulness constraints require that borrowed words retain phonological properties of the source language (Luganda) while adapting to the phonotactic constraints of the borrowing language (Kupsabiny) as shown in table 13.

Table 13. A comparative phonological process on consonant modification

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Phonological Process**	**Faithfulness Constraint Affected**
Esabiiti	/e.sa.bíː.ti/	**Supiiti**	/su.píː.ti/	Consonant Modification b →p + Vowel Change + Syllable Structure Adaptation	IDENT-IO(C) modification of /s/ to /ʃ/ and /b/ to /p/), DEP-IO (insertion of /u/), MAX-IO (loss of /e/).

The adaptation of *Esabiiti* → *Supiiti* in Kupsabiny demonstrates consonant modification, vowel insertion, and syllable restructuring as key processes in phonological borrowing. The consonantal changes (/s/ → /ʃ/, /b/ → /p/) illustrate how Kupsabiny accommodates Luganda words while ensuring they fit its phonotactic rules. These modifications highlight the interaction between faithfulness and markedness

constraints, where the need for linguistic adaptation overrides the preservation of original phonemes as illustrated in table 14.

Table 14. Analysis of consonant modification

Changes	**Constraint Violation**	**Satisfied constraints**
Omission of /e-/	**IDENT[F]** (Consonant modification).	**ALIGN-MORPH**.
Retention of /ti-/		

The data provided indicates that certain Luganda consonants that are absent in Kupsabiny are substituted with the closest available consonants. E.g. [b] is replaced with [p]. When Luganda nouns containing the consonant [b] are borrowed into Kupsabiny, the [b] is often replaced with [p]. This substitution occurs because Kupsabiny lacks the voiced bilabial plosive /b/ present in Luganda. For example, the Luganda word "Esabiiti" (Sunday) is adapted into Kupsabiny as "Supiiti," where /b/ is replaced by /p/. The adaptation process is influenced by phonological constraints that govern permissible sound patterns in the borrowing language.

In Optimality Theory, constraints such as IDENT[F] (which requires feature identity between input and output) and ALIGN-MORPH (which ensures morphological alignment) play a role. In the given example, the omission of the Luganda prefix *e-* in Kupsabiny can be seen as a violation of IDENT[F] but satisfies ALIGN-MORPH by aligning the borrowed noun with Kupsabiny's morphological structure for phonological agreement. Additionally, vowel insertion and consonant cluster adaptation are strategies employed to accommodate borrowed nouns into the

phonotactic constraints of the recipient language. This is in agreement with Njagi (2016) who examines the borrowing of lexical items between English and Gikuyu, focusing on the characteristics of both languages. In our study, we find that borrowed nouns can undergo consonant cluster adaptation and vowel insertion as indicated in the given data.

(16) Luganda	**Kupsabiny**	**Gloss**
Endagano	Ntaakaneet	Agreement

In this instance, the Luganda word "endagano" is adapted into Kupsabiny as "ntaakaneet." The initial vowel [e] in Luganda is omitted in Kupsabiny, aligning with Kupsabiny's phonotactic preference for consonant-initial words. Additionally, the Luganda voiced alveolar nasal [n] is retained, while the following consonants are modified to fit Kupsabiny's phonological rules. The final consonant cluster in "endagano" is simplified to [t] in "ntaakaneet," adhering to Kupsabiny's permissible consonant endings. This results in consonant substitution which involves replacing consonants from Luganda with those in Kupsabiny to accommodate differences in phonemic inventories.

Consonant substitution is a linguistic phenomenon where sounds from a source language are replaced with those from a recipient language during processes like borrowing. This occurs when the recipient language lacks certain phonemes present in the source language, leading to the substitution of these sounds with the closest available equivalents. In the context of Kupsabiny, a Southern Nilotic language

spoken in Uganda, consonant substitution plays a significant role in the adaptation of loanwords and the evolution of native vocabulary as illustrated in the given data.

(17) Luganda	**Kupsabiny**	**Gloss**
Ebendera	Peenteeret	Flag

Here, the Luganda voiced bilabial plosive [b] is replaced with the voiceless bilabial plosive [p] in Kupsabiny. This substitution reflects Kupsabiny's preference for voiceless plosives in certain phonological environments. The process of consonant substitution between Luganda and Kupsabiny exemplifies the dynamic nature of language interaction and adaptation. By modifying borrowed words to fit their phonemic inventories and phonotactic rules, languages like Kupsabiny maintain phonological coherence while expanding their lexicon. This linguistic flexibility highlights the intricate mechanisms languages employ to accommodate external influences while preserving their unique sound patterns. The vowel structure is also adjusted to match Kupsabiny's phonotactic patterns. This substitution is not evident in the Luganda voiceless bilabials and interdentals as indicated in the given data.

(18) Luganda	**Kupsabiny**	**Gloss**
Emmotoka	Matakeet	Car

The Luganda consonant [m] is retained and the following [t] is adapted to fit Kupsabiny's phonotactic rules. Phonotactics refers to the allowable combinations of sounds in a particular language. When borrowing words, Kupsabiny modifies the phonological structure of the source nouns to conform to its own phonotactic rules,

ensuring that the adapted nouns are pronounceable and fit seamlessly into the language's sound system. These substitutions reflect the need to align with Kupsabiny's consonant system and phonological rules. In this case, the retention of Luganda consonant [m] is in Kupsabiny, indicating a shared phoneme between the two languages. The vowel harmony and syllable structure are also modified to align with Kupsabiny's linguistic patterns.

4.2.5 Syllable Structure Adjustment

Luganda's syllable patterns may be altered to fit Kupsabiny's preferred structures, often by adding or removing vowels to achieve consonant-vowel harmony as shown in the given data.

(19) Luganda	**Kupsabiny**	**Gloss**
Emmééza	Meseet	Table

Example (19) indicates that borrowed nouns maintain phonological similarities to the source language (Luganda) while adapting to the phonotactic constraints of the borrowing language (Kupsabiny). One common adaptation process is syllable structure adjustment, where the syllable patterns of the borrowed words are modified to conform to the permissible syllable structures of the borrowing language as illustrated in table 15.

Table 15. A comparative phonological process on syllable structure adjustment

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Phonological Process**	**Faithfulness Constraint Affected**
Emmééz	/e.mé:z/	**Meseet**	/me.sé:t/	Syllable Structure Adjustment (Deletion of Initial Vowel + Vowel Insertion + Final Consonant Modification)	MAX-IO (loss of /e/), DEP-IO (insertion of vowel), NOCODA (adjustment of final /z/ to /t/).

The transformation of *Emmééz* → *Meseet* in Kupsabiny highlights how syllable structure constraints affect borrowed words. The deletion of the initial vowel, insertion of a vowel for ease of pronunciation, and modification of the final consonant demonstrate how markedness constraints interact with faithfulness constraints in OT. While the borrowing process aims to retain the original structure, language-specific phonotactic rules dictate necessary adjustments to fit Kupsabiny's preferred syllable structure. The changes are illustrated in table

Table 16: Analysis of syllable structure adjustment

Changes	**Constraint Violation**	**Satisfied constraints**
Shortening of vowels	**IDENT[F]** (vowel length modification).	**ALIGN-MORPH**.
Addition of suffix /-teet/.		

The adaptation of Luganda loanwords into Kupsabiny reveals significant changes in syllable structure, driven by the need to conform to Kupsabiny's phonotactic and prosodic preferences. Luganda syllable patterns, which frequently allow complex vowel sequences and final voiced consonants, are systematically restructured in Kupsabiny to fit its simpler and more balanced consonant–vowel (CV) configurations. These adjustments often involve the deletion or insertion of vowels and the modification of final consonants to maintain consonant-vowel harmony and prosodic regularity.

The transformation of the Luganda word *emmééza* (/e.mé:.za/), meaning *table,* into the Kupsabiny form *meseet* (/me.sé:t/) provides a clear example of this process. The adaptation involves three main phonological operations: deletion of the initial vowel, insertion of a medial vowel for ease of articulation, and modification of the final consonant. Together, these processes demonstrate how markedness constraints in Kupsabiny interact with faithfulness constraints in the borrowing process.

In the original Luganda form, *emmééza* begins with a vowel-initial syllable /e-/, a structure that Kupsabiny typically avoids. The language shows a strong preference for

words beginning with consonant-vowel onsets, likely due to its prosodic rhythm and syllable symmetry. Consequently, the initial vowel /e-/ is deleted, resulting in the form /me-/, which creates a more natural syllable onset. This deletion constitutes a violation of the MAX-IO constraint in Optimality Theory, which requires all segments in the input to appear in the output. However, this violation is tolerated because it satisfies the higher-ranked ONSET constraint, which ensures that syllables begin with consonants, as well as NOCODA, which favors open, balanced syllable structures.

A further adaptation involves the insertion of a vowel within the word to maintain syllable harmony and smooth transitions between consonants. This epenthetic process, captured by the DEP-IO constraint (which penalizes inserted segments), occurs to preserve the rhythmic alternation of consonants and vowels that characterizes Kupsabiny phonotactics. The inserted vowel contributes to the melodic contour of the word, producing a prosodic rhythm that alternates between strong and weak syllables. As a result, *meseet* achieves a balanced disyllabic structure with stress typically placed on the penultimate syllable [sé:], consistent with Kupsabiny's stress patterning.

The modification of the final consonant also reflects the influence of syllable structure constraints. In Luganda, the final consonant /z/ in *emmééza* represents a voiced fricative, which is rare in Kupsabiny, particularly in word-final position. Kupsabiny replaces it with a voiceless stop /t/, simplifying articulation and eliminating a marked sound from the coda position. This change satisfies the NOCODA and AGREE-VOICE constraints, which prefer voiceless codas and discourage mismatched voicing

features within syllables. Phonetically, the substitution of /z/ with /t/ sharpens the syllable boundary and enhances the closure effect typical of Kupsabiny word endings.

From a prosodic perspective, the suffix provides final vowel lengthening that rebalances the word's stress and rhythm. The penultimate vowel /é:/ carries primary stress, while the final consonant closure creates a stable disyllabic structure that conforms to Kupsabiny's phonological expectations. These patterns illustrate how Kupsabiny systematically reorganizes borrowed words to maintain both phonological and prosodic coherence. The combination of vowel deletion, insertion, and final consonant modification ensures that the borrowed form aligns with native syllable templates. Importantly, while such changes alter the surface structure of the word, the underlying semantic and rhythmic integrity of the source form remains intact. The transformation of *emmééza* to *meseet* thus demonstrates a compromise between faithfulness constraints, which seek to preserve the original form, and markedness constraints, which prioritize well-formed structures in the recipient language.

These findings are consistent with Lusekelo (2018), who observes similar syllable restructuring processes in the borrowing of Bantu words into other African languages. His analysis shows that loanwords often undergo vowel insertion, consonant substitution, and syllable reduction to meet the phonotactic demands of the borrowing language. In both cases, language contact triggers a series of phonological adaptations guided by universal markedness hierarchies and prosodic preferences.

In the case of *emmééza* → *meseet*, the deletion of the initial vowel eliminates a dispreferred syllable onset, vowel insertion restores rhythmic balance, and the

substitution of /z/ with /t/ resolves a voicing conflict in the final position. The cumulative effect of these modifications produces a word that is rhythmically balanced, phonotactically natural, and morphologically integrated into Kupsabiny. Such transformations underscore the dynamic nature of loanword adaptation as a process of phonological negotiation, where the recipient language reshapes foreign forms to fit its unique sound and stress patterns while maintaining intelligibility and lexical meaning.

(20) Luganda	**Kupsabiny**	**Gloss**
Omugaati	Mukatyaanteet	Bread

The adaptation of the Luganda noun *omugaati* (/o.mu.gáː.ti/), meaning *bread*, into the Kupsabiny form *mukatyaanteet* (/mu.ká.tyáːn.teːt/) offers a rich illustration of how phonological rules and systems govern pronunciation and sound combination during lexical borrowing. The interaction between Luganda and Kupsabiny, particularly in Uganda's Kapchorwa District where the two languages are in close contact, demonstrates the systematic reshaping of foreign phonological structures to conform to Kupsabiny's sound system.

At the phonemic level, one of the most noticeable transformations involves the prefix substitution from Luganda *omu-* to Kupsabiny *mu-*. This change reflects Kupsabiny's preference for simple, open syllables (CV structures) and its tendency to avoid redundant vowels in consecutive syllables. In Luganda, the prefix *omu-* carries a nominal class marker, but in Kupsabiny, where the noun class system functions differently, the initial /o/ is dropped to simplify articulation. This deletion conforms to

the ONSET and NOCODA constraints, which prioritize syllables beginning with consonants and discourage complex vowel onsets. The process also involves the MAX-IO violation (loss of the /o-/ prefix), tolerated because it enhances syllabic harmony in the borrowing language.

The root segment *-gaati-* in *omugaati* undergoes both segmental and prosodic modification in Kupsabiny. The high back vowel /u/ in Luganda is retained as /u/ in *mukatyaanteet*, preserving a degree of phonetic similarity. However, the medial voiced velar /g/ is replaced by the voiceless alveolar stop /t/, indicating a shift toward less marked, more articulatorily neutral consonants in Kupsabiny's phoneme inventory. This substitution simplifies the consonant environment and aligns with Kupsabiny's phonotactic restriction against voiced stops in intervocalic or pre-nasal contexts. The change satisfies the AGREE-VOICE and IDENT-PLACE constraints by ensuring consistent voicing and permissible place of articulation within the word.

A more complex process is observed in the addition of the suffix *-yaanteet*, which demonstrates Kupsabiny's morphological and prosodic strategy for integrating loanwords. This suffix functions as both a morphological marker and a phonological stabilizer. Its insertion increases the syllable count, allowing for a more rhythmic distribution of stress across the word. Kupsabiny typically exhibits trochaic stress patterns, where stress falls on alternating syllables starting from the left. The syllabic expansion created by *-yaanteet* enables the word *mukatyaanteet* to achieve a balanced prosodic contour with primary stress on the syllable [ká] and secondary stress on

[tyáːn]. This rhythmic restructuring exemplifies how loanwords are adapted not only segmentally but also prosodically to match Kupsabiny's phonological rhythm.

Phonetically, the suffix *-yaanteet* contributes additional vowel lengthening, as indicated by the long vowels /áː/ and /eː/. These lengthened vowels are consistent with Kupsabiny's tendency to preserve or create vowel duration contrasts for prosodic and morphological purposes. Vowel lengthening serves as a compensatory strategy following prefix deletion, maintaining the overall moraic balance of the word. The presence of /y/ within the suffix also introduces palatality, producing a smoother transition between the alveolar /t/ and the following front vowel /aː/. This satisfies the SONORITY SEQUENCING PRINCIPLE (SSP), ensuring that sonority rises toward the nucleus of each syllable and falls toward the margins.

In addition to vowel and consonant adjustments, the transformation reveals Kupsabiny's phonotactic restrictions on consonant clusters. Whereas Luganda allows sequences like /gáːt/, Kupsabiny breaks these through vowel insertion or substitution, maintaining a strict CV structure. The resulting sequence /ká.tyáːn.teːt/ displays alternating consonant and vowel units, demonstrating the language's strong adherence to open, sonorous syllables. This restructuring eliminates marked coda consonants and enhances the word's phonological well-formedness.

From an Optimality Theory (OT) perspective, the adaptation of *omugaati* to *mukatyaanteet* can be explained by the dominance of markedness constraints over faithfulness constraints. Constraints such as NOCODA, ONSET, and SONORITY outrank MAX-IO and IDENT-IO, indicating that Kupsabiny prioritizes well-formed,

natural syllables and rhythmic prosody over strict preservation of the source segments. The result is an output that is both phonologically natural and functionally integrated into the Kupsabiny lexicon.

Comparatively, this process parallels patterns observed in other contact languages within East Africa. As noted by Lusekelo (2018) and Mose (2021), borrowed nouns in African languages often undergo systematic restructuring to align with the phonotactic templates of the borrowing language. Such adaptation involves deletion of complex onsets, substitution of marked consonants, and suffixation to balance prosodic weight, processes that are also evident in the Kupsabiny-Luganda interaction.

4.3 Morphophonological Processes in the Adaptation of Borrowed Nouns

The study seeks to answer the third question: what are the specific morphophonological processes involved in adapting nouns borrowed from Luganda to Kupsabiny? Morphophonological processes examine how morphemes, the smallest units of meaning in a language, undergo phonological changes when modified (Spencer, 2017). The Markedness constraint of Optimality Theory is used to analyze restrictions Kupsabiny may have on certain phonological and morphological patterns or syllable structures.

The adaptation of Luganda nouns into Kupsabiny involves morphophonological processes that facilitate the integration of borrowed terms into the phonological and morphological systems of Kupsabiny. These processes ensure that borrowed Luganda nouns conform to the phonotactic constraints and grammatical structures of the

recipient Kupsabiny language. These processes also ensure that the borrowed nouns are seamlessly integrated and easily pronounceable by native Kupsabiny speakers.

Optimality Theory (OT) explains how surface forms of language arise from the interaction between conflicting constraints. These constraints are categorized into two main types: markedness constraints, which favor the simpler and more universally preferred structures, and faithfulness constraints, which ensure that the output remains faithful to the input. The specific ranking of these constraints leads to diverse phonological and morphological patterns. In OT, markedness constraints influence permissible syllable structures.

4.3.1 Syllable Structure Constraints

Kupsabiny favors open syllables (CV) and avoids complex consonant clusters. When borrowing from Luganda, which may permit more complex syllable structures, Kupsabiny employs strategies to conform to its phonotactic rules. This adaptation aligns with the markedness constraint *NOCODA*, which prohibits syllables ending in consonants, and *COMPLEXONSET*, which disallows multiple consonants in syllable onsets. Luganda typically employs a (C)V syllable structure, favoring open syllables. However, Kupsabiny exhibits a preference for closed syllables as shown in the given data. This shared preference influences how borrowed words are adapted to fit the phonotactic constraints of Kupsabiny.

(21) Luganda	**Kupsabiny**	**Gloss**
Ekirabo	Kiraput	Gift

When Luganda words are borrowed into Kupsabiny, their syllable structures are adjusted to fit Kupsabiny's phonotactic rules as illustrated in table 17.

Table 17. A comparative morphophonological process on syllable structure adjustment

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Morphopho-nological Process**	**Markedness Constraint Affected**
Ekirabo	/e.ki.ra.bo/	**Kiraput**	/ki.ra.put/	Initial Vowel Deletion	ONSET, MAX-IO (loss of /e/).
				Final Consonant Modification (/bo/ → /put/)	NOCODA IDENT-IO(C) (modification of /b/ → /p/ and addition of /t/).

The adaptation of Luganda nouns into Kupsabiny reflects a complex interplay between morphophonological rules and the etymological restructuring of borrowed forms. When lexical items move from Luganda into Kupsabiny, their syllable structures are systematically reshaped to conform to the recipient language's phonotactic and prosodic system. This process is guided by both markedness constraints, which govern

permissible sound combinations, and faithfulness constraints, which aim to preserve the source word's identity.

The transformation of *Ekirabo* (/e.ki.ra.bo/), meaning gift in Luganda, into *Kiraput* (/ki.ra.put/) in Kupsabiny illustrates how syllable structure constraints and morphophonological adaptation operate concurrently. Luganda typically employs an open syllable structure (C)V, yet the Kupsabiny version shows a reconfiguration that aligns with its phonological system, favoring clear syllabic onsets and controlled coda consonants. The process involves initial vowel deletion, consonant modification, and final segment substitution, each serving to optimize the borrowed word for Kupsabiny's sound structure and morphological requirements.

The initial vowel deletion of /e-/ in *Ekirabo* is a common morphophonological adjustment when words are borrowed from Luganda into Kupsabiny. In Luganda, the prefix *e-* serves as a noun class marker, but Kupsabiny's morphological system does not require an equivalent vowel-initial prefix for nominal classification. Consequently, the deletion satisfies the ONSET constraint, which prohibits syllables from beginning with a vowel. While this deletion violates the MAX-IO constraint (which requires all input segments to be preserved in the output), it enhances articulatory economy and aligns the word with Kupsabiny's preference for consonant-initial syllables. The resulting form *kirabo* (/ki.ra.bo/) reflects the first stage of phonological adaptation, in which morphological redundancy is eliminated, and syllable onset regularity is restored.

The more substantial shift occurs in the final syllable, where Luganda's *-bo* becomes *-put* in Kupsabiny. This change demonstrates both segmental substitution and morphological integration. The voiced bilabial /b/ in Luganda is replaced with the voiceless bilabial /p/, a change governed by the AGREE-VOICE and IDENT-IO(C) constraints, which regulate voicing harmony and consonantal identity. The addition of /t/ creates a closed syllable—*put*—that deviates from Luganda's open vowel-final syllable pattern. This suggests that while Kupsabiny generally favors open syllables, it also tolerates and even introduces final consonants in certain morphological environments, particularly where the coda contributes to morphological marking or rhythmic balance. Thus, *Kiraput* ends with a consonant cluster /t/, representing a case of morphophonological extension, where an additional consonant is appended for structural and prosodic stabilization.

Phonologically, the transition from /bo/ to /put/ also involves a shift in place of articulation and manner, indicating that Kupsabiny reinterprets the final syllable not merely as a phonetic substitution but as a morphologically meaningful restructuring. The insertion of /p/ and /t/ introduces a rhythmic cadence that mirrors native noun endings in Kupsabiny, where final plosives are often associated with nominal forms. This suggests that the adaptation of *Ekirabo* → *Kiraput* is both phonotactically motivated and morphologically patterned, representing a deeper level of integration beyond sound substitution.

Stress placement and syllable timing further demonstrate the prosodic adjustment that occurs during borrowing. In Luganda, primary stress falls on the penultimate syllable

[rá], consistent with the Bantu stress rule. In *Kiraput*, however, Kupsabiny reassigns stress to the first syllable [kí], maintaining its typical trochaic stress pattern (strong-weak rhythm). This stress shift is a prosodic adaptation that reinforces Kupsabiny's rhythmic regularity, aligning the loanword with native prosodic contours.

From a morphophonological standpoint, this adaptation reveals that the borrowed noun undergoes re-segmentation and morphological reinterpretation. The Kupsabiny suffix *-put* may not directly derive from Luganda but instead reflects an analogical process in which the borrowed word is remodeled using familiar Kupsabiny morphemes or phoneme combinations. This aligns with the Emergence of the Unmarked principle in Optimality Theory, where languages favor unmarked, frequent, and morphologically transparent forms over complex or foreign structures. The result is a borrowed form that is not only pronounceable within Kupsabiny phonotactics but also semantically and morphologically assimilated.

Etymologically, the transition from *Ekirabo* to *Kiraput* demonstrates how contact between Luganda and Kupsabiny yields both structural simplification and morphological innovation. The process does not merely involve phonological accommodation but also reflects the grammatical reanalysis of the loanword within the receiving language's system. Similar phenomena have been observed in other African languages undergoing lexical borrowing. Yeboah and Ansah (2022), for instance, identify vowel epenthesis and final consonant modification in Lete loanwords from English, showing that morphophonological adaptation frequently involves both insertion and deletion to achieve phonotactic conformity.

Thus, the morphophonological changes observed in *Ekirabo* → *Kiraput* highlight a systematic process of restructuring governed by sound combination rules, syllable constraints, and morphological reinterpretation. Initial vowel deletion ensures compliance with the ONSET constraint, final consonant modification satisfies NOCODA and IDENT-IO(C) constraints, and the resulting rhythmic and morphological structure aligns the loanword with native Kupsabiny phonology. Through these changes, the borrowed form becomes fully integrated into the Kupsabiny lexicon, reflecting both the phonological limitations and the morphological creativity that characterize language contact dynamics in the region. Example 22 is used for further illustration.

(22) Luganda	**Kupsabiny**	**Gloss**
Emmwanyi	Mwaanyiinak	Coffee

The Luganda noun *emmwany* includes a nasal geminate [mm], which is simplified to a single [m] in Kupsabiny, resulting in *mwaanyiinak*. The addition of suffix -*inak* at the end in Kupsabiny serves to conform to morphological and phonological requirements, such as avoiding a final vowel and ensuring a consonant-final word. To resolve impermissible consonant clusters or to break up complex clusters, Kupsabiny insert vowels in the Luganda borrowed nouns. This process, known as vowel epenthesis, ensures that the syllable structure adheres to the language's phonotactic constraints. For instance, the Luganda word *emmwanyi* (coffee) becomes *mwaanyiinak* in Kupsabiny, where additional vowels are inserted to accommodate Kupsabiny's syllable structure. This is in line with Naika (2021) who investigates

morphophonological analysis of Oluwanga loanwords. The findings reveal that loanwords change their phonological structure to match the phonological constraints of Oluwanga. This includes modifications to phonemes, syllable structures, and stress patterns.

Further, there is an introduction of coda consonants on the borrowed nouns from Luganda to Kupsabiny as indicated in the given data.

(23) Luganda	**Kupsabiny**	**Gloss**
Ekisaawe	kisaaweet	field

The Luganda prefix *e-* is dropped in Kupsabiny, yielding "kisaaweet." The addition of *-et* at the end introduces a coda consonant, aligning with Kupsabiny's phonotactic constraints. This modification introduces a coda consonant, which is permissible in Kupsabiny's syllable structure. This finding is in support of Musa (2022) who examines the morphophonological adaptation of English loanwords in Hausa. The findings indicate that some loanwords undergo consonant additions to align with the phonological constraints of Hausa. In our study, the adaptations of Luganda borrowed nouns make Kupsabiny to prioritize markedness constraints to maintain its preferred syllable structures, even at the expense of faithfulness to the Luganda forms. This results in modifications such as vowel deletion, consonant insertion, and syllable restructuring to align with Kupsabiny's phonotactic rules.

Kupsabiny alter the syllable structure of Luganda borrowed nouns to fit its morphophonological system. This involves changing the syllable boundaries or

modifying consonant-vowel sequences. For example, the Luganda word *ekisaawe* (field) becomes *kisaaweet* in Kupsabiny, where the syllable structure is adjusted to conform to Kupsabiny's phonotactic rules. This is further illustrated by the data below.

(24) Luganda	**Kupsabiny**	**Gloss**
Eladiyo	Reetyeet	Radio

The adaptation of the Luganda noun *eladiyo* (/e.la.dí.jo/), meaning *radio*, into Kupsabiny *reetyeet* (/reː.tʲeːt/) illustrates the complex morphophonological transformations that occur when borrowed words are restructured to fit the recipient language's phonological and morphological system. This process reveals the interplay between universal phonological constraints such as the avoidance of complex syllable margins and language-specific phonotactic preferences, which guide the reshaping of foreign lexical material.

In Luganda, the word *eladiyo* conforms to a (C)V syllable pattern typical of Bantu languages, though it contains liquid and palatal sequences (/l/, /j/) that increase its sonority complexity. When borrowed into Kupsabiny, this form undergoes significant restructuring to align with the language's preference for simple consonant-vowel (CV) syllables and its strict avoidance of coda consonants or complex clusters. The resultant form *reetyeet* demonstrates both segmental substitution and morphological remodeling, producing a word that is phonotactically natural and morphologically coherent within the Kupsabiny system.

The first morphophonological process evident in this adaptation is prefix deletion. The initial vowel /e-/ in *eladiyo* is removed in *reetyeet*, reflecting Kupsabiny's restriction against vowel-initial syllables. This conforms to the ONSET constraint, which mandates that all syllables begin with a consonant. The deletion of the initial vowel also reflects the redundancy of the Luganda noun prefix *e-*, which carries class-marking functions not required in Kupsabiny morphology. This results in a more streamlined word structure that prioritizes phonological economy. While this deletion violates the MAX-IO constraint (which preserves input segments), it is permitted because ONSET is ranked higher in Kupsabiny's constraint hierarchy.

The second major transformation involves vowel substitution and lengthening. The Luganda mid-front vowel /a/ and high-front glide /j/ are replaced by long vowels /eː/ and /eː/ in Kupsabiny, producing the sequence /reː.tʲeːt/. This vowel substitution aligns the borrowed word with Kupsabiny's vowel harmony and prosodic tendencies. The long vowels contribute to rhythmic balance and maintain moraic equivalence after prefix deletion. The substitution of /a/ → /eː/ also reflects a shift in vowel quality toward a fronted, higher vowel, indicating an attempt to preserve the perceptual brightness and sonority of the original sound while fitting within Kupsabiny's vowel inventory. The IDENT-IO(V) constraint is thus minimally violated, as the substitution preserves both vowel height and frontness while adjusting duration to meet prosodic requirements.

A further notable process is consonant substitution and palatalization. The Luganda voiced lateral /l/ is replaced by the alveolar trill or approximant /r/, a common

alternation in East African Bantu and Nilotic contact zones. This change satisfies Kupsabiny's articulatory preference for rhotics over laterals in initial syllables. Additionally, the Luganda palatal glide /j/ is realized as the palatalized stop /tʲ/ in Kupsabiny. This transformation enhances syllable symmetry by converting the glide into a full consonantal onset, thereby preserving the CV pattern and avoiding sequences that would yield high sonority plateaus. The palatalized consonant also ensures smoother transitions between high vowels and preceding consonants, aligning with the SONORITY SEQUENCING PRINCIPLE (SSP).

The suffixal addition of *-yeet* represents a morphological adaptation that integrates the loanword into Kupsabiny's noun formation system. The reduplicated vowel /eː/ and the final consonant /t/ create a disyllabic structure that maintains Kupsabiny's rhythmic trochaic stress pattern. Stress typically falls on the penultimate syllable [tʲéː], reinforcing the preferred strong–weak syllable alternation. The morphological element *-teet* or *-yeet* appears recurrently in other loanwords (as in *mukatyaanteet*, "bread"), suggesting its function as a nominalizing or class-assimilating suffix that marks the noun's adaptation into Kupsabiny's morphological system.

From an Optimality Theory perspective, this transformation illustrates the dominance of markedness constraints such as NOCODA, COMPLEXONSET, and ONSET over faithfulness constraints like MAX-IO and IDENT-IO. Kupsabiny prioritizes phonotactic well-formedness, ensuring that each syllable adheres to its simple CV structure and that word-level prosody remains balanced. The adaptation can be represented as an optimal candidate selected through constraint ranking: /eladiyo/ →

[reetyeet] satisfies ONSET, NOCODA, and SONORITY, while minimally violating MAX-IO and IDENT-IO(V, C).

Etymologically, the transformation of *eladiyo* into *reetyeet* reflects both phonological naturalization and morphological domestication. The original Luganda form derives from the English word *radio*, borrowed into Luganda during the colonial period. The successive adaptation, English → Luganda → Kupsabiny, demonstrates a chain of linguistic mediation in which each borrowing stage reinterprets the foreign phonological structure according to local sound systems. In Luganda, *radio* was nativized as *eladiyo*, following Bantu nominal class morphology and vowel epenthesis. Kupsabiny further remodels this borrowed form by removing redundant prefixes, adjusting vowels to match its phonemic inventory, and adding a native-like suffix to ensure morphological integration.

This layered etymological process exemplifies how loanwords evolve through multiple phonological systems, each contributing unique adaptations shaped by constraint hierarchies and prosodic preferences. The final Kupsabiny form, *reetyeet*, is thus the outcome of cumulative morphophonological restructuring—one that balances faithfulness to the original referent with conformity to the recipient language's phonological grammar.

4.3.2 Tone Adaptation

Kawachi (2018) describes the Kupsabiny language phonologically as highly tonal. When Luganda borrowed nouns are integrated in Kupsabiny, the tonal pattern is

adjusted to align with Kupsabiny's tonal rules, adhering to markedness constraints that govern permissible tonal sequences as illustrated in the given data.

(25) Luganda	**Kupsabiny**	**Gloss**
Ensímbi	Nsímbíneek	Money

When Luganda words are borrowed into Kupsabiny, their tone patterns and syllable structures are adapted to align with Kupsabiny's phonotactic and prosodic system. In Optimality Theory (OT), markedness constraints penalize structures that are disfavored in the target language, influencing how borrowed words are modified.

The transformation of Luganda: *Ensímbi* → Kupsabiny: *Nsímbíneek* demonstrates how tone adaptation and syllable structure constraints shape borrowed words as illustrated in table 18.

Table 18. A comparative morphophonological process on tone adaptation

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Morphophon-ological Process**	**Markedness Constraint Affected**
Ensímbi	/eⁿ.síː.mbi/	**Nsímbíneek**	/n.siːm.bi.neːk/	Initial Vowel Deletion (/e/)	ONSET MAX-IO (loss of /e/).
				Syllable Addition → /bi.neek/)	NOCODA /neek/).

The adaptation of Ensímbi → Nsímbíneek in Kupsabiny highlights the influence of markedness constraints on tone and syllable structure in borrowed words. The ONSET constraint drives the deletion of the initial vowel, while NOCODA motivates the final vowel addition. Furthermore, ALIGN-TONE-R/L explains the shift in high tone, reflecting Kupsabiny's tonal preference. These modifications ensure that borrowed words conform to the prosodic and phonotactic rules of Kupsabiny while still maintaining some degree of faithfulness to the original Luganda form.

Both Luganda and Kupsabiny are tonal languages, but they utilize tone differently. When borrowing, Kupsabiny adapts the tonal patterns of Luganda words to fit its tonal system, ensuring that the resulting word is acceptable in the morphophonological system of Kupsabiny. In OT, the adaptation process can be viewed as an interaction between markedness constraints (which enforce language-specific phonotactic rules) and faithfulness constraints (which strive to preserve aspects of the original Luganda nouns). In the case of Kupsabiny, markedness constraints often take precedence, leading to modifications that ensure compliance with its morphophonological system, therefore the suffix *-neek* is added after dropping the prefix *e-* to fit the high pitch in Kupsabiny. The adaptation involves changes in syllable structure and possibly segmental features to satisfy Kupsabiny's markedness constraints, even if it means deviating from the original form as illustrated in the data below.

(26) Luganda	**Kupsabiny**	**Gloss**
Omuyembe	Muyeemcoonteet	Mango

This illustrates the dominance of markedness over faithfulness in this context. The first syllable with the sound /o/ and the syllable *embe* in Luganda noun is dropped before adding the Kupsabiny syllables *con.teet* This analysis demonstrates that Kupsabiny's adaptation of Luganda borrowed noun is heavily influenced by markedness constraints within its phonological system, ensuring that borrowed terms conform to native morphological patterns. This finding is in support of Larrimore *et al*. (2011), claiming that lending languages, which often have extensive vocabularies, influence the languages they come into contact with.

The analysis of the morphophonological adaptation of Luganda borrowed nouns into Kupsabiny, particularly focusing on tone and stress patterns through the lens of Optimality Theory (OT) and its markedness constraints, provides insight into how the two languages manage morphological and phonological integration as illustrated in the given data.

(27) Luganda	**Kupsabiny**	**Gloss**
Esukaali	Sukaaruuk	Sugar

The stem in the Luganda noun "sukaa" is retained whereas the bound morpheme *e-* and *-li* get deleted in Kupsabiny due to phonological constraint, before adding the kupsabiny bound morpheme *-ruuk* to form the last syllable which is stressed during pronunciation. Luganda employs a tonal system where pitch variations distinguish meaning. Kupsabiny on the other hand utilizes both tone and stress, with stress often falling on specific syllables to convey prominence. When Luganda nouns are

borrowed into Kupsabiny, their tonal and stress patterns undergo adjustments to align with Kupsabiny's morphophonological system.

The two languages differ in how they prioritize markedness constraints, leading to variations in morphophonological adaptations. For instance, the Luganda noun "esukaali" changes to "sukaaruuk" in Kupsabiny. The initial vowel [e] in Luganda is dropped in Kupsabiny, simplifying the syllable structure, which aligns with markedness constraints favoring simpler onsets. The suffix *-ruuk* is appended in Kupsabiny, this is due to morphological requirements or to fit Kupsabiny's prosodic structure, ensuring the noun conforms to permissible stress patterns. Kupsabiny places stress on the penultimate syllable. Thus, 'sukaaruuk' has stress on 'ruuk', aligning with Kupsabiny's stress assignment rules. This can be illustrated further using the given data.

(28) Luganda	**Kupsabiny**	**Gloss**
Enyanja	Nyanjet	Lake

The transformation of the Luganda noun "Enyanja" (lake) into the Kupsabiny form "nyanjet" due to morphophonological adaptation to align with Kupsabiny's phonotactic constraints and stress patterns. In Luganda, nouns often begin with a vowel prefix whereas Kupsabiny prefers consonant-initial words, leading to the deletion of this initial vowel to produce "nyanja." This adjustment favors consonant-initial structures in Kupsabiny. The initial vowel [e] is removed, simplifying the word's onset, and adhering to markedness constraints that prefer consonant-initial words in Kupsabiny.

The addition of the consonant [t] at the end serves to fit Kupsabiny's morphological or phonotactic requirements. This is in line with Musa (2022) who posits that consonant sounds are added in specific positions to fit the syllable structure of the borrowing language. With the adapted form "nyanjet," stress falls on the penultimate syllable "je," consistent with Kupsabiny's stress rules. Such modifications are essential for maintaining the phonotactic integrity and natural prosody of the language. Additionally, the data below illustrates the stress assignment rule in Kupsabiny through terminal consonants.

(29) Luganda	**Kupsabiny**	**Gloss**
Ekalaamu	Kalamut	Pen

The initial vowel [e] is omitted, resulting in a consonant-initial word, which is more acceptable in Kupsabiny's morphological and phonotactic constraints. The terminal consonant [t] is added, to meet Kupsabiny's morphological or phonotactic norms, ensuring the word ends in a consonant. In 'kalamut', stress is placed on the penultimate syllable "mu," aligning with the common stress assignment in Kupsabiny. This adaptation process involves aligning tonal patterns with stress and high tone is mutually attracted, with stressed syllables favoring higher tones. Kupsabiny adjusts the tonal patterns to ensure that stressed syllables carry appropriate tones, maintaining prosodic harmony. This indicates that the morphophonological adaptation of Luganda nouns into Kupsabiny involves a complex interplay of markedness and faithfulness constraints within Optimality Theory. By prioritizing certain constraints, Kupsabiny modifies syllable structures, tones, and stress patterns to integrate the Luganda

borrowed nouns into its phonological system seamlessly. This process reflects the dynamic nature of the two languages interacting and the mechanisms Kupsabiny employs to maintain phonological coherence.

Advertently, certain vowels in Luganda may not exist in Kupsabiny. In such cases, Kupsabiny substitutes these segments with the closest phonetic equivalents available in its inventory as illustrated in the data below.

(30) Luganda	**Kupsabiny**	**Gloss**
Mwauro	Mwaureet	Priest

Kupsabiny has a distinct vowel system that influences how vowels from Luganda are adapted. The Luganda noun "mwauro" (priest) becomes "mwaureet" in Kupsabiny, where the final vowel is substituted with the suffix *-teet* to match Kupsabiny's phonological system. This change involves adjusting the final vowel to match Kupsabiny's vowel harmony and phonotactic rules. Further some consonants also in Luganda do not exist in Kupsabiny's phonemic inventory. In such cases, Kupsabiny substitutes these consonants with the closest phonetic equivalents, a process influenced by markedness constraints that favor native phonemes over foreign ones. This process, known as phoneme substitution, ensures that the borrowed nouns are pronounceable within the constraints of Kupsabiny's sound system. For example, if Luganda contains a consonant that Kupsabiny lacks, it will replace it with a phonetically similar consonant from its inventory as illustrated in the data below.

(31) Luganda	**Kupsabiny**	**Gloss**
Ebendera	*Peenteeret*	Flag

Kupsabiny has specific phonotactic rules that dictate how sounds can be arranged. When borrowing words from Luganda, Kupsabiny modifies the structure of these words to fit its syllable patterns. For instance, the Luganda [b] is replaced with the Kupsabiny [p] reflecting a preference for native consonant sounds, guided by markedness constraints that minimize phonemic complexity. This is in agreement with Mose (2021) who claims that phonetic segments of the loanwords are modified or substituted to conform to the phonological inventory and phonotactic constraints of the borrowing language. The adaptation process reflects the interaction between markedness and faithfulness constraints. Kupsabiny prioritizes markedness constraints to maintain its preferred syllable structures, even if it means violating faithfulness constraints by altering the original Luganda forms. This hierarchy ensures that borrowed nouns conform to Kupsabiny's phonotactic rules.

4.3.3. Vowel Harmony and Epenthesis

Vowel harmony is a phonological process where vowels within a word harmonize to share certain features, such as frontness, backness, or height. In the context of Kupsabiny, vowel harmony plays a significant role, especially when integrating Luganda borrowed nouns. Analyzing this process through the lens of Optimality Theory (OT), particularly focusing on markedness constraints, provides insights into the morphophonological adaptations occurring during borrowing. Markedness constraints favor simpler, more universal structures, while faithfulness constraints aim

to preserve the original form of a word. In the context of vowel harmony, markedness constraints would enforce uniform vowel features within a word, promoting harmony. Faithfulness constraints would resist changes to the original vowel qualities of the borrowed Luganda nouns.

Kupsabiny exhibits vowel harmony, a process ensuring that vowels within a word harmonize in certain features. To maintain this harmony, especially when incorporating Luganda borrowed nouns, Kupsabiny insert vowels (epenthesis) or alter existing ones to achieve a harmonious vowel pattern as illustrated by the given data.

(32) Luganda	**Kupsabiny**	**Gloss**
Ennanansi	Naanaasyaanteet	Pineapple

When Luganda words are borrowed into Kupsabiny, they undergo phonological and morphological modifications to conform to Kupsabiny's morphological structure and phonotactic rules. Two key processes observed in this adaptation are vowel harmony and Epenthesis. In Optimality Theory (OT), markedness constraints influence how borrowed words are modified. The transformation of Luganda: *Ennanansi* → Kupsabiny: *Naanaasyaanteet* demonstrates how these constraints shape borrowed words as shown in table 19.

Table 19. A comparative morphophonological process on vowel harmony and epenthesis

Luganda Input	**Phone-mic Break down**	**Kupsabiny Output**	**Phonemic Break down**	**Morphophonol -ogical Process**	**Markedn-ess Constraint Affected**
Ennana-nsi	/e.nːa.náː.nsi/	**Naanaasya anteet /**	naː.naː.syaː n.teːt/	Initial Vowel Deletion (/e/ → Ø)	ONSET MAX-IO (loss of /e/).
				Vowel Harmony (Front vowels adjusted to back vowels /i/ → /e/)	ALIGN-V
				Epenthesis	DEP-IO

The adaptation of Ennanansi → Naanaasyaanteet in Kupsabiny is driven by markedness constraints favoring vowel harmony and epenthesis. The ONSET constraint leads to vowel deletion, ALIGN-V ensures uniform vowel harmony, and DEP-IO allows for epenthesis to fit Kupsabiny's syllable structure. These phonological changes ensure that borrowed words conform to the prosodic and morphophonemic rules of Kupsabiny while maintaining a degree of resemblance to the original Luganda form.

Kupsabiny exhibits a vowel harmony system where vowels within a noun must share certain features, such as tongue position or lip rounding. This system ensures that all vowels in a noun belong to a single class. The adaptation involves vowel insertion and modification to ensure vowel harmony, aligning with the markedness constraint that

enforces uniformity in vowel features within a word. The Luganda noun "ennanansi" changes to "Naanaasyaanteet" by adopting the second last syllable *nan* and modifying it through the addition of vowel [a] to become *naan.* The final vowel is modified from [i] to semi-vowel [y] then [aa] is added before the addition of the final syllable *teet*. This is in line with Okoroji and Uchechukwu (2023), who examine aspects of morphophonology in Igbo Language. They delve into the morphophonemic processes inherent in the Igbo language and find that different phonological realizations of morpheme allomorphs are influenced by factors such as vowel harmony and tonal variations. In our study, the adaptation of Luganda nouns into Kupsabiny through vowel insertion and modification underscores the complexity of morphological and phonological systems. When Luganda nouns are borrowed into Kupsabiny, they undergo vowel adjustments to align with Kupsabiny's harmonic patterns. This is further illustrated in the given data

(33) Luganda	**Kupsabiny**	**Gloss**
Omuluka	Murukyantiit	Parish

The given data indicates that the Luganda vowels are altered in Kupsabiny to conform to its vowel harmony system. For instance, the Luganda noun "omuluka" becomes "murukyantiit" in Kupsabiny, where the vowels are adjusted by deleting the initial vowel [o] and adding semi vowel [y] to the final vowel [a] before adding [ii] in the final syllable. This is intended to harmonize the vowels according to Kupsabiny's phonological rules. As envisaged in OT, this is an adaptation process for resolving conflicts between markedness and faithfulness constraints. Markedness constraints in

Kupsabiny enforce vowel harmony, leading to the modification of the original Luganda vowels. Faithfulness constraints prefer to retain the original vowel qualities. The dominance of markedness constraints in this scenario results in the observed vowel changes, ensuring that the borrowed nouns adhere to Kupsabiny's phonotactic rules.

Further, epenthesis allows Kupsabiny to modify these structures, facilitating smoother integration of the borrowed nouns. This is illustrated in the given data.

(34) Luganda	**Kupsabiny**	**Gloss**
Ekikapo	Kikaput	Basket

In adapting the Luganda word "ekikapo" (basket) into Kupsabiny as "kikaput," initial vowel [e] and final vowel [o] are deleted. A vowel [u] is then inserted to break up consonant clusters that are not permissible in Kupsabiny's phonology. This is in support of Mudogo *et al*. (2024) on an analysis of Lukabaras borrowed verbs from English. The authors find that the English verbs with complex consonant clusters are simplified to fit the CV (consonant-vowel) syllable structure of Lukabaras. This often involves the insertion of vowels to break up clusters, ensuring compliance with Lukabaras phonotactic constraints.

Optimality Theory posits that surface forms of words result from the interaction between conflicting constraints. Therefore, markedness constraints favor simpler, more universal phonological structures, often disallowing complex consonant clusters or certain syllable types. These constraints aim to preserve the original features of the

input word, resisting changes such as the insertion or deletion of segments. In the adaptation of Luganda borrowed nouns, markedness constraints often dominate, leading to modifications like epenthesis to achieve permissible structures in the Kupsabiny language. This dominance reflects a preference for unmarked, simpler forms that align with the language's phonotactic rules. This is further illustrated in the given data.

(35) Luganda	**Kupsabiny**	**Gloss**
Ekikopo	Cikoompeet	cup

Luganda noun *ekikopo* is adopted in Kupsabiny as *cikoompeet*, vowel insertion and lengthening occur at the final syllable *peet* to conform to Kupsabiny's syllable structure preferences. This is also noticed in the initial syllable *cik.* The adaptation avoids complex clusters and ensures appropriate syllable structures by inserting vowels and adjusting consonant sequences, thereby satisfying the *COMPLEX constraint. The process of epenthesis in adapting Luganda loanwords into Kupsabiny illustrates the dynamic interplay between markedness and faithfulness constraints within Optimality Theory. By prioritizing unmarked permissible structures, Kupsabiny modifies borrowed nouns to fit its phonological system.

4.3.4. Consonant Substitution and Adaptation

Certain Luganda consonants may not have direct equivalents in Kupsabiny or may not fit comfortably within its phonological system. In such cases, Kupsabiny substitutes these consonants with phonetically similar one as indicated in the given data.

(36) Luganda	**Kupsabiny**	**Gloss**
Essimu	Siimut	Phone

When Luganda words are borrowed into Kupsabiny, they undergo consonant substitution and adaptation to align with Kupsabiny's phonotactic and phonological constraints. The transformation of Luganda: *Essimu* → Kupsabiny: *Siimut* illustrates how markedness constraints influence consonant modification in borrowed nouns as illustrated in table 20.

Table 20. A comparative morphophonological process on consonant substitution and Adaptation

Luganda Input	**Phonemic Breakdown**	**Kupsabiny Output**	**Phonemic Breakdown**	**Morphophonological Process**	**Markedness Constraint Affected**
Essimu	/e.sːi.mu/	**Siimut**	/siː.mut/	Deletion of the initial vowel (/e/ → Ø)	ONSET, MAX-IO (loss of /e/).
				Degemination (Reduction of geminate /sː/ → /s/)	IDENT-IO (emphatic positions).
				Final Consonant Substitution (/mu/ → /mut/)	AGREE-VOICE IDENT-IO (Place shift in final consonant).

The adaptation of Essimu → Siimut in Kupsabiny is primarily influenced by markedness constraints that drive consonant substitution and adaptation. The ONSET constraint leads to vowel deletion, IDENT-IO (Voice and Place) explains the consonant changes, and AGREE-VOICE ensures final consonant harmonization. These modifications enable borrowed words to conform to Kupsabiny's morphophonemic system while maintaining a recognizable resemblance to their Luganda origins.

Luganda "essimu" (phone) becomes Kupsabiny "siimut," where the initial vowel [e] is deleted, and consonant substitution occurs by making the consonant [s] be at the initial to match Kupsabiny phonology. Following the vowel deletion, the consonant cluster "ss" in "ssimu" undergoes substitution to align with Kupsabiny's phonemic inventory. The geminate "ss" is replaced with a single "s," and an epenthetic vowel "i" is introduced to break up consonant clusters that are disallowed in Kupsabiny phonotactics, resulting in "siimu." Additionally, the final vowel "u" in Luganda is substituted with "t" in Kupsabiny, possibly due to differences in permissible word-final sounds or morphological patterns between the two languages. This leads to the final form "siimut." This is in agreement with Nnko (2023) who postulates that there is a tendency for consonant clusters to be simplified or adjusted in the phonological constraints of the borrowing language. This is further illustrated with the data below.

(37) Luganda	**Kupsabiny**	**Gloss**
Omubiira	Mpiireet	Ball

Luganda noun "omubiira" (ball) is adapted to Kupsabiny as "mpiireet," involving consonant substitution and vowel adaptation. The initial vowel [o] is dropped for the noun to begin with a consonant [m]. The geminate vowel [ii] is retained before the addition of the suffix *-reet.* When Luganda nouns are borrowed into Kupsabiny, consonant substitution occurs to align with Kupsabiny's phonological system. This process is influenced by markedness constraints that either prohibit certain consonant clusters or favor specific syllable structures as illustrated with the data below.

(38) Luganda	**Kupsabiny**	**Gloss**
Essawa	Saawet	Watch

The Luganda word "essaawa" (watch) becomes "saawet" in Kupsabiny. Here, the initial vowel [e] is dropped, and a final 't' is added, possibly to conform to Kupsabiny's preference for certain syllable endings. This indicates that Luganda may permit certain syllable structures whereas Kupsabiny might have restrictions that necessitate alterations to borrowed terms. The Luganda word "essaawa" begins with the vowel [e]. In adapting this word, Kupsabiny drops the initial [e] resulting in "saawa." This deletion may align with Kupsabiny's phonotactic preference for avoiding certain vowel-initial syllables. Kupsabiny adds a terminal consonant [t] producing "saawet." This addition could be due to Kupsabiny's preference to meet its syllable structure requirements. This is in support of Musa (2022) who claims that consonant sounds are

added in specific positions to fit the syllable structure of the borrowing language. This is further clarified with the given data.

(39) Luganda	**Kupsabiny**	**Gloss**
Ebbasi	Paasiit	Bus

The Luganda "ebbaasi" (bus) transforms into "paasiit," in Kubsabiny where the initial vowel [e] is omitted, and the consonant [b] is substituted with [p] reflecting a shift to a voiceless bilabial plosive, which may be less marked in Kupsabiny. Markedness constraints play a pivotal role in these adaptations. They evaluate the well-formedness of output representations, penalizing structures that are complex or disfavored in the borrowing language. For example, the constraint *VOICEDOBSTRUENT might penalize voiced obstruent like [b] leading to their substitution with voiceless counterparts like [P] in the output form. Additionally, constraints like NOCODA, which prohibits syllable-final consonants, or *COMPLEX, which disallows complex consonant clusters, can influence the adaptation process by necessitating the simplification of syllable structures. While markedness constraints drive the adaptation towards unmarked structures, faithfulness constraints strive to preserve the features of the original word. The interaction between these constraints determines the optimal output as illustrated in the data below.

(40) Luganda	**Kupsabiny**	**Gloss**
Eggombolola	Komporyantiit	Subcounty

The Luganda noun "eggombolola" (Subcounty) changes into "komporyantiit," in Kupsabiny. The initial vowel [e] is dropped and the complex voiced consonant [gg] is substituted with the voiceless consonant [k]. It is also evident that the consonants [b] and [l] are rare in Kupsabiny hence get replaced with [p] and [l]. This significant transformation suggests that markedness constraints outweigh faithfulness constraints, leading to substantial modifications to fit Kupsabiny's phonotactic rules. This interplay is central to OT, where the ranking of constraints dictates the permissible adaptations in a language. The adaptation of Luganda borrowed nouns into Kupsabiny exemplifies how Kupsabiny employs constraint rankings to integrate foreign lexical items. The prominence of markedness constraints in this process highlights the tendency of languages to favor phonological simplicity and conformity to native patterns over the exact preservation of foreign sounds as illustrated in the given data.

(41) Luganda	**Kupsabiny**	**Gloss**
Obutunda	Mutuntanik	Fruit

The initial vowel in the Luganda noun [o] is deleted, and the voiced consonant [b] is replaced with the voiceless consonant [m] before adding the suffix *-nik* in Kupsabiny. This modifies the syllable structure of borrowed nouns to fit Kupsabiny's preferred syllable patterns, typically by adding or altering syllables. The consonant substitutions observed in the borrowing of Luganda nouns into Kupsabiny underscore the influence of markedness constraints within Optimality Theory. These constraints drive adaptations that align with the phonological preferences of Kupsabiny, often at the expense of faithfulness to the original form. Optimality Theory (OT) provides a

framework for understanding these adaptations. This is in support of Siame *et al.* (2023) who suggest that phonological modifications align with the native phonotactic constraints of the borrowing language. For example, the English-voiced dental fricatives /ð/ and /θ/ may be substituted with /t/ or /f/, and /z/ may be replaced with /s/. in Lungu, Mambwe, and Namwanga languages.

In OT, markedness constraints evaluate output representations, penalizing certain configurations that are less preferred within a language. For example, a constraint like NOCODA forbids syllables ending in a consonant. The deletion of the initial vowel [o] may be motivated by a markedness constraint that disfavors certain vowel-initial syllables in Kupsabiny. The replacement of [b] with [m] can be seen as a response to a markedness constraint that prefers voiceless or nasal consonants over voiced plosives in specific positions. The addition of the suffix *-nik* adjusts the syllable structure to meet Kupsabiny's phonotactic requirements, driven by markedness constraints favoring particular syllable patterns. These markedness constraints often take precedence over faithfulness constraints, which aim to preserve the original form. The result is a borrowed noun that aligns with Kupsabiny's morphological and phonological system, even at the expense of exact correspondence to the Luganda source.

4.4 Summary

The integration of Luganda nouns into Kupsabiny involves complex morphological, phonological, and morphophonological adaptations. This study examined these processes, focusing on the patterns and mechanisms employed in the assimilation of

borrowed nouns. Kupsabiny modifies borrowed nouns to align with its native morphological structures. This often involves assigning the loanwords to existing noun classes and applying appropriate prefixes or suffixes. Phonological adaptation involves modifying the sound structure of borrowed nouns to fit the phonotactic constraints of Kupsabiny. Further, the intersection of morphological and phonological adaptations, or morphophonological processes, plays a significant role in the integration of borrowed nouns. These processes ensure that the borrowed elements are seamlessly incorporated into the language, maintaining both morphological integrity and phonological harmony.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The integration of Luganda borrowed nouns into Kupsabiny involves intricate morphophonological processes that adapt these borrowings to fit the phonetic and morphological frameworks of Kupsabiny. Chapter five outlines a summary of the key findings, conclusions, and recommendations regarding these adaptation mechanisms.

5.1 Summary

The study identified key linguistic issues emerging from the interaction between Kupsabiny and Luganda, particularly in the adaptation of borrowed nouns. Regarding the first objective, the findings indicate that morphological integration plays a crucial role, as borrowed nouns from Luganda are systematically modified to fit within Kupsabiny's noun class system. This adaptation often involves the addition of noun class prefixes or suffixes and the use of morphological reduplication, reflecting the need for grammatical and semantic coherence.

The second objective revealed significant phonological adjustments, showing that borrowed nouns undergo sound modifications to conform to Kupsabiny's phonotactic rules. These include alterations in syllable structures, vowel harmony, vowel substitution, consonant modification, and syllable restructuring. Such changes ensure that the borrowed words align with the native sound patterns of Kupsabiny, enhancing ease of pronunciation and linguistic integration.

Finally, the third objective highlighted the morphophonological processes that mediate the adaptation of Luganda nouns into Kupsabiny. These processes such as tone

adaptation, vowel harmony, epenthesis, and consonant substitution demonstrate the intricate interplay between phonology and morphology in language contact situations. Collectively, these findings underscore the dynamic nature of linguistic borrowing, emphasizing its significance in understanding language evolution, interaction, and adaptation in multilingual settings.

5.2 Conclusions

The study concludes that the integration of Luganda borrowed nouns into Kupsabiny is a systematic linguistic process governed by morphological, phonological, and morphophonological adaptations. First, morphological modification is a key feature in this integration, as borrowed nouns are adjusted to fit into Kupsabiny's noun class system through the addition of appropriate prefixes or suffixes. Morphological reduplication also serves as an important mechanism, helping the borrowed forms blend naturally into Kupsabiny's grammatical framework.

Secondly, phonological adaptation ensures that the borrowed nouns conform to Kupsabiny's phonotactic rules. Complex syllable structures from Luganda are simplified, consonant clusters unfamiliar to Kupsabiny are altered, and vowel harmony is applied to align with native vowel patterns. These changes guarantee that the borrowed forms sound natural and are easily articulated by Kupsabiny speakers.

Finally, morphophonological processes such as tone adjustment, syllable restructuring, and vowel or consonant substitution play a crucial role in maintaining linguistic coherence and intelligibility. The interplay between morphology and phonology during the borrowing process reflects the adaptability of Kupsabiny and highlights

how language contact fosters structural and functional harmony between interacting linguistic systems.

5.3 Recommendations

Based on the findings, the following recommendations are proposed: First, there is a need to maintain detailed records of all borrowed nouns and their integration processes by Kupsabiny specialists. This documentation can serve as a reference for linguists and educators, ensuring consistency in usage and teaching. Secondly, there is a need to develop standardized guidelines for borrowing and integrating foreign nouns into Kupsabiny by responsible stakeholders. Standardization promotes uniformity and aids in the preservation of linguistic integrity.

lastly, the government should provide policies to implement educational initiatives to teach the adapted forms of borrowed nouns, emphasizing correct pronunciation, usage, and grammatical integration. Such programs enhance linguistic competence among speakers. By following these recommendations, the integration of Luganda borrowed nouns into Kupsabiny can be achieved effectively, preserving linguistic coherence and enhancing the language's adaptability in a multilingual context.

5.4 Suggestions for Further Research

To further understand and document the morphophonological adaptation of loanwords in Kupsabiny, the following steps are recommended: Studies on the phonemic inventories of both Luganda and Kupsabiny to identify specific phonological changes during the borrowing process. Analyze the morphological structures of borrowed nouns to understand how Kupsabiny's noun class system influences the integration of

loanwords. Investigate the tonal adjustments applied to loanwords to ensure an accurate representation of Kupsabiny's tonal system.

Examine the phonotactic constraints of Kupsabiny and how they influence the adaptation of Luganda nouns. Understanding the permissible sound patterns in Kupsabiny can explain the specific phonological modifications applied to borrowed nouns. Examine the sociolinguistic factors that drive the borrowing process, including the domains of language use and the sociocultural relationships between Luganda and Kupsabiny speakers. Compile a comprehensive lexicon of borrowed terms to aid in the preservation and study of Kupsabiny, contributing to the broader field of linguistics and language preservation. By undertaking these initiatives, linguists and researchers can gain deeper insights into the morphophonological processes that facilitate language adaptation and evolution in multilingual settings.

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APPENDIXES

Appendix A1: Demographic Information

Demographic Category	Description
Total Number of Participants	50
Age Range	18–50 years
Gender Distribution	Male and Female
Language Proficiency	Native Kupsabiny speakers with exposure to Luganda
Education Level	Varied (No formal education to tertiary level)
Location	Kapchorwa District, Eastern Uganda

Appendix A2: Consent Form for Research Participants

Research Title: A Morphophonological Analysis of Borrowed Nouns from Luganda to Kupsabiny

Principal Investigator: Charles Cherop, Kenyatta University

Purpose of the Research

The aim of this study is to examine the morphophonological processes involved when nouns are borrowed from Luganda into Kupsabiny. Specifically, the study will focus on the morphological and phonological changes these borrowed nouns undergo and their adaptation in Kupsabiny.

Participant Involvement

You are invited to participate in this study due to your native fluency in Kupsabiny and familiarity with Luganda borrowings. Your insights will help in analyzing the structural patterns and pronunciation variations of borrowed nouns in Kupsabiny.

Participation Details

- **Duration**: Your participation will involve a single interview lasting approximately 10 minutes.
- **Activities**: During the interview, you will discuss your understanding and usage of certain borrowed nouns in Kupsabiny.
- **Confidentiality**: All information provided will be confidential. Your identity will not be disclosed in any published results or findings.

- **Right to Withdraw**: You may withdraw from the study at any time without any consequences.

Consent Statement

By signing this form, you confirm that:

1. You understand the purpose and nature of this research.
2. You agree to participate voluntarily.
3. You understand that you can withdraw at any point without repercussions.

Participant's Signature: _____

Date: _____

Researcher's Signature: _____

Date: _____

Appendix A3: Interview Guide

A MORPHO-PHONOLOGICAL ANALYSIS OF BORROWED NOUNS FROM LUGANDA TO KUPSABINY

Introduction:

Greeting and Introduction:

My name is Charles Cherop from Kenyatta University researching borrowed nouns from

Luganda to Kupsabiny.

- I am interested in examining morphological patterns exhibited by these borrowed nouns.
- I assure you of confidentiality in this interview and your name will not be disclosed
- Allow me to record our conversation to assist me in obtaining data for my study.

Research Question 1: Examining Morphological Patterns

- What changes, if any, occur in the structure of Luganda nouns when they are used in Kupsabiny?
- Can you provide examples of borrowed nouns that have changed structurally? How do they differ from their original form in Luganda?

- Are there specific prefixes or suffixes added to these borrowed nouns in Kupsabiny? If so, which ones?
- Do borrowed nouns in Kupsabiny follow the same noun classes as native Kupsabiny nouns?
- How do gender or number markings in Kupsabiny affect borrowed nouns from Luganda?

Research Question 2: Exploring Phonological Patterns

- Are there any sounds in Luganda borrowed nouns that are difficult to pronounce in Kupsabiny? If so, how are these sounds adapted?
- How do Kupsabiny speakers typically modify Luganda nouns to fit the sound patterns of Kupsabiny?
- Are there patterns of vowel harmony or consonant adaptation that appear when Luganda nouns are used in Kupsabiny?
- Can you identify any consistent stress or tone changes that occur in borrowed Luganda nouns when they are spoken in Kupsabiny?
-

Research Question 3: Determining Morphophonological Processes

- What changes occur in both sound and structure when a Luganda noun is adapted for use in Kupsabiny?

- Are there specific rules that apply to borrowed nouns to make them fit within the Kupsabiny language system?
- How are borrowed nouns modified to match Kupsabiny pronunciation considering vowel lengthening, consonant assimilation, or syllable structure adjustments?
- How do sound changes affect the structure of borrowed nouns?

Conclusion:

Additional Insights:

Thank You and Follow-Up:

- Thanks for participating and spending your time to engage with me.
- If you are interested in accessing the study results, give me a call after three months.
- Are you willing to be contacted for follow-up questions if needed?

Appendix A4: Focus Group Discussion Guide

Examining Morphological Patterns of Borrowed Nouns in Kupsabiny

Introduction

- Greeting participants and introducing the purpose of the discussion: exploring how Luganda nouns adapt morphologically when used in Kupsabiny.
- Establishing ground rules for respectful and constructive discussion and ensuring participants feel comfortable sharing their thoughts.

Discussion guide

1. Structural Changes in Borrowed Nouns

- Changes observed in the structure of Luganda nouns when they are incorporated into Kupsabiny.
- Examples of borrowed nouns and noticeable changes.
- How the changes are perceived by Kupsabiny speakers.

2. Prefixes and Suffixes in Borrowed Nouns

- Prefixes or suffixes added to Luganda nouns when they are adapted into Kupsabiny.
- Prefixes or suffixes commonly added to borrowed nouns.

3. Alignment with Kupsabiny Noun Classes

- How borrowed nouns from Luganda follow the same noun class system as native Kupsabiny nouns.
- Unique cases where borrowed nouns do not fit well into existing Kupsabiny noun classes.

4. Gender and Number Markings

- How Kupsabiny handle gender and number markings for nouns borrowed from Luganda
- Examples that highlight how gender or number affects the meaning or usage of borrowed nouns.

Wrap-Up

- Final thoughts or observations on how Luganda nouns are adapted in Kupsabiny.
- Thanks for your valuable insights and contributions to the research.

Appendix A5: Research Authorization (Kenyatta University)

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: C50EA/CE/NKU/21337/2021 **DATE:** 8th October, 2024

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR CHEROP KAPKWOMU CHARLES - REG. NO. C50EA/CE/NKU/21337/2021

I write to introduce **Cherop Kapkwomu Charles** who is a Postgraduate Student of this University. The student is registered for M.A degree programme in the **Department of Literature, Linguistics & Foreign Languages.**

Cherop intends to conduct research for a M.A Project Proposal entitled, **"A Morphophonological Analysis of Borrowed Nouns from Luganda to Kupsabiny."**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELIUD NJAGI
EXECUTIVE DEAN, GRADUATE SCHOOL

EM/mo

Appendix A6: Research Approval (Kenyatta University)

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Executive Dean, Graduate School **DATE:** 8th October, 2024

TO: **Cherop Kapkwomu Charles**
C/o Literature, Linguistics & Foreign Languages Department

REF: **C50EA/CE/NKU/21337/2021**

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 19th September, 2024 approved your Research Project Proposal for the M.A Degree Entitled, **"A Morphophonological Analysis of Borrowed Nouns from Luganda to Kupsabiny."**

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision tracking and progress report forms per semester. The forms are available at the university's website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ELIJAH MUTUA
FOR: EXECUTIVE DEAN, GRADUATE SCHOOL

c.c. Chairman, Literature, Linguistics & Foreign Languages Department
Supervisors:

1. Dr. Joshua Itumo
C/o Department of Literature, Linguistics & Foreign Languages
Kenyatta University

EM/mo

Appendix A7: Research Approval (Uganda Christian university)

UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

Office of the Vice Chancellor
Research Ethics Committee UG-026

22nd November, 2024

CHEROP KAPKWOMU CHARLES
Kenyatta University
+256 774345626
Email: cheropcharles05@gmail.com

UG-REC-026 APPROVAL NOTICE

To: Cherop Kapkwomu Charles, Principal Investigator

Re: UCU-REC Application titled: *A Morphophonological Analysis of Borrowed Nouns from Luganda to Kupsabiny*

Application Number: UCUREC-2024-949-1

Version: 4.1

UGANDA CHRISTIAN UNIVERSITY APPROVED 22 NOV 2025 RESEARCH ETHICS COMMITTEE

Type: [ ] INITIAL REVIEW
[ ] Protocol Amendment
[ ] Letter of Amendment (Loa)
[ ] Continuing Review
[ ] Material Transfer Agreement
[ ] Other, Specify:

I am pleased to inform you that the UG-REC-026; UCUREC approved the above referenced application.

Approval of the research is for the period from 22nd November, 2024, to 22nd November, 2025
This research is considered minimal risk category.
As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.

1 of 2

Good afternoon

Research and Ethics
P.O. Box [illegible], Uganda, Plot 67-173, Bishop Tucker Road, Mukono Hill
Tel: +256 (0) 312 350 885 Fax: +256 (0) 4142 90 800 Email: rec@ucu.ac.ug Web: www.ucu.ac.ug
UCUREC is accredited by Uganda National Council for Science & Technology, FDA, and National Institutes for Health of the United States of America

Appendix A8: Ethics Committee (Uganda Christian university)

UGANDA CHRISTIAN UNIVERSITY
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Office of the Vice Chancellor
Research Ethics Committee UG-026

3. Reports of unanticipated problems involving risks to participants or other must be submitted to the REC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for REC review.

4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by subjects and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Regulations require review of an approved study not less than once per 12-month period. **Therefore, a continuing review application must be submitted to the REC eight weeks prior to the above expiration date of 22nd November, 2025 in order to continue the study beyond the approved period.** Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study, at which point new participants may not be enrolled and currently enrolled participants must be taken off the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. Your research details have been shared with the Executive secretary of Uganda National Council for Science and Technology (UNCST) and you are **not** required to get clearance since you are a Master's Degree research. Refer to UNCST Research registration and clearance Policy and guidelines (July 2016) in Uganda section 6(e).

The following is the list of all documents approved in this application by **UG-REC _026:**

	Document Title	Language	Version	Version Date
1.	Protocol	English	1.0	2024-11-20
2	Informed consent form	English	1.0	2024-11-20
3	Interview Guide	English	1.0	2024-11-20
4	FGD Interview Guide	English	1.0	2024-11-20

Signed and Stamped
.....
Prof. Peter Waiswa.
UCUREC Chairperson,
pwaiswa@musph.ac.ug

UGANDA CHRISTIAN UNIVERSITY
APPROVED
22 NOV 2025
RESEARCH ETHICS COMMITTEE