

**GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO
LOCAL LANGUAGE TO SENSITISE BODA-BODA CYCLISTS IN NATEETE-
RUBAGA DIVISION**

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19/U/GMAID/ 20709 /WKD

**A DISSERTATION SUBMITTED TO THE DIRECTORATE OF RESEARCH AND
GRADUATE TRAINING IN PARTIAL FULFILMENT OF THE REQUIREMENT
FOR THE AWARD OF MASTERS DEGREE IN ART AND INDUSTRIAL
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DECLARATION

I declare that this thesis entitled, “GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO LOCAL LANGUAGE TO SENSITISE BODA-BODA CYCLISTS IN NATEETE-RUBAGA DIVISION, is my original work and has not been presented before to any University or Higher Institution of Learning for an academic award.

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APPROVAL

We, the undersigned, affirm that KAWUKI FRANCIS (19/U/GMAID/20709/WKD) conducted this study entitled, “GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO LOCAL LANGUAGE TO SENSITISE BODA-BODA CYCLISTS IN NATEETE-RUBAGA DIVISION, under our supervision and is now ready to be submitted for examination.

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(Second Supervisor)

Date ____/____/____

DEDICATION

I dedicate this research to my family and to all the staff of Kyambogo University, particularly in the School of Art and Industrial Design.

May the Almighty God bless you abundantly!

ACKNOWLEDGEMENT

I would want to thank the Almighty God who has abundantly provided and blessed me throughout the course. I wish also to extend my sincere appreciation to Kyambogo University particularly the School of Art and Industrial Design; the head of department, staff and students, for giving me the opportunity and support needed to conduct my research. I also extend my sincere appreciation to the police officers, medical workers and the boda-boda riders for agreeing to take part in my research by providing me with the needed information. Finally am grateful to my supervisors KEKIMURI Joan, KIMANI Muturi and my family for the support, guidance and dedication they have accorded to me while accomplishing my studies.

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LIST OF ACRONYMS

PEP Pan European Program (PEP)

PVC Polyvinyl Chloride

SAID School of Art and Industrial Design

ABSTRACT

The main purpose of the study was to establish the causes of accidents among the boda-boda riders, highlight their literacy level while identifying possible measures of how to reduce accidents through interpreting English road sign texts in local language particularly Luganda which is used by most of the people staying within Nateete. The study was guided by four objectives: To identify the causes of accidents among the boda-boda riders in Nateete, Rubaga division, Kampala, to investigate their literacy level on the usage of road signs and rules, establish the possible measures to reduce accidents among boda-boda riders and interpret English road sign texts into local language for the boda-boda riders. The research was carried out using a narrative research design and this allowed the researcher to acquire information from different categories of respondents, in order to obtain the needed information, interviews, questionnaire, observations and focus group discussion were the methods of data collection used. The key findings of the study indicate the most of accidents among the boda-boda riders are caused by lack of knowledge on road signs and rules. This is because most of them have not received training from driving schools and the road sign texts are in English which they are not familiar with due to their level of education, although there other causes. Therefore, the study established possible measures to reduce accidents among the boda-boda cyclists through interpretation of English road sign texts into Luganda which is understood by majority of the boda-boda cyclists at Nateete.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter presents the background of the study, statement of the problem, objectives of the study, research questions, purpose and significance of the study, scope of the study, limitations, delimitations and definitions of key terms.

1.1 Background of the study

1.1.1 History of road signs

Traffic signs have been in use since the time of the Roman Empire, designed in pictorial illustrations with some detailed words and roads can be traced back to the Bronze Age, the Romans took the idea and ran with it by building a system of road, tunnels and bridges. By the end of the 19th century, bicycles were manufactured to meet the safety and comfort demands of riders. Due to low technology and poor roads, accidents erupted. The need of signs for bike riders, pedestrians, and other travelers grew. Cycling organizations and local authorities started posting signs to warn cyclists about steep hills and other hazards. In Britain, private individuals under the Romans erected most early signposts. Later in 1684, each parish was required to place guideposts at its crossroad as cited by the Department of for Transport, London (2007).



Plate 1: First signpost to caution road users in Britain.

Source: know your traffic manual, (2007).

The first danger and caution sign erected at the top of steep hills at most dangerous places in Britain by local authorities and cycling organization during the second half of the nineteenth century, (Department for transport, London, 2007).



Plate 2: White lines guide traffic on British roads.

Source: Know your traffic manual, (2007).

In 1896, motoring organizations started improving the signs for cars and local authorities made responsible for placing warning and prohibitory signs in Britain. In 1918, white lines began to appear on British roads,(Department for transport, London (2007)).

Warning signs were introduced by the Roman Empire in the different parts of the world, including northern Africa, western Asia, and Europe around the Mediterranean Sea. Latin and Greek were the official languages of the Roman Empire. The Romans introduced the road signs to her territories interpreted in the languages understood by the states where they operated, for example in Britain where the road signs were first used were in English as shown in plate 3 by the basic types of traffic signs.

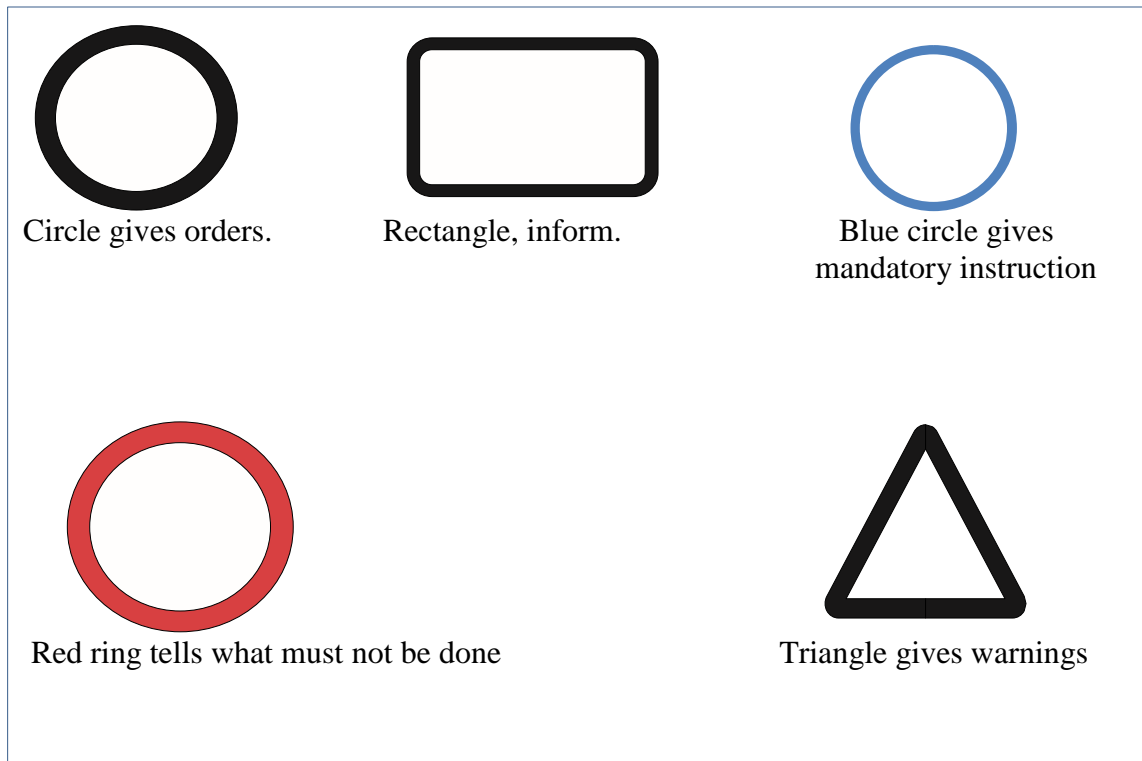


Plate 3: Basic types of traffic signs and their meaning.

Source: Know your traffic sign manual (2007).

Interpretation of road signs in different international languages has been done to help road users understand them better in their mother tongue. In England there is an introduction of the different languages in the signage system for foreign drivers using the automatic number plate reader at the side of roads sending a message to the electronic sign being approached which spell the words in Dutch, Spanish, Lithuanian, Slovak and Hungarian helping foreign drivers get safety warnings.

African countries have adapted to the use of pictorial signs, which have been simplified and standardized to facilitate international travelers, where language differences can create barriers in communication. In South Africa, road signage has been addressed by the use of symbols in the place of words following international standards; such signs were first developed in Europe and

adopted by most countries (Road traffic Management Corporation, 2020). The illustrations plate 4 shows some of the signs that were adopted in Africa from Europe.



Plate 4: Some European road signs adopted in African.

Source: Know your traffic sign manual (2007).

In East Africa, the English language on road signs was adopted from colonial governments yet the natives understand local languages. However, Amani and Chrispina, (2018) challenged this by suggesting, that road signs should be in English and Swahili since Tanzania is a multilingual state. In Uganda, the use of English road sign texts was adopted since it was the official language used amidst many local languages from the different tribes.

1.1.2 History of boda-boda road accidents

Internationally, road accidents are major concern among most countries, which caused several deaths, injuries and social suffering, nearly 1.25 million people worldwide are killed and up to 50 million people are injured on the world roads every year, despite the United Nations' program target to reduce deaths and injuries caused by accidents 50% by 2020 (Aggrey, 2019).

In Africa road accidents are increasing, leading to deaths and injuries, the 2015 global status report on road safety by world health organization, recognizes that the African region had the highest rate of fatalities from roads. Most developing countries in Africa have adopted the use of motorcycles as a mode of transport in both rural and urban centers, Kennedy (2020), noted that motorcycles known as “okada” have increased due to rising unemployment despite of their illegal operation by the laws of Ghana.

In Kenya where the commercial motorcycles first operated before coming to Uganda, accidents increased due to motorcycle crashes, a total of 580 cases were registered in 2011, the number of cases increased were public hospitals have dedicated some wards to victims of boda-boda accidents, (Hezron, 2015). Due to the increasing advancement in the transport sector, the use of motorcycles (boda-bodas) has increased, attracting many people to join boda-boda business, transporting people as their way of earning a living. In the past, motorcycles were used to transport illegal items across Uganda-Kenya borders (Busia-Malaba) and these were first in form of bicycles and later motorcycles, which were speedy and cheap. However, currently these have invaded city centers and they do not observe traffic rules thus causing many accidents (Bradley, 2014).

Motorcyclists made up the largest road user category killed and injured in accidents in 2012 and 2013 in Kampala, these also involve deaths of passengers and pedestrians being knocked. In India existing traffic rules without enforcement yield poor results, little enforcement done to the cyclists on maintaining the traffic rules by the traffic officers due to over whelming number of motor cycles in urban centers, (Bradley, 2014). The increasing number of commercialized motorcycles also referred to as boda-bodas in Uganda as a means of transport has led to more road safety challenges (Annual Traffic Report, 2011).

The chances of a motorcyclist getting involved in accidents has greatly increased as compared to that of car users. Besides satisfying the transport demands of people in the city, boda-boda industry creates jobs opportunities for people. Although these cyclists ride on the roads, they seem to be ignorant about road signs written in English. The lack of regulations on boda-boda causes problems for both pedestrians and riders. Many are young and not required to go through training, they lack basic knowledge of traffic laws or bluntly disregard them, these violate a number of traffic rules for example, riding in a weaving manner through traffic, ridding on sidewalks and riding against the flow of traffic. In Uganda there is a good number of people that have learned how to drive without going to driving schools, the boda-boda cyclists inclusive in this category, so they know little about road signs and cannot interpret many of them (Bradley, 2014).

1.2 Statement of the problem

Road signs are very important to every road user, including pedestrians, cyclists and motorists. Every road user should be able to interpret road signs for safe use of roads. Cyclists including the boda-boda riders and bikers who play a very big role in transporting people contribute the highest rate of accidents in Uganda, reports made from police and hospital casualties indicate that many people have lost their lives and others injured in boda-boda accidents, Silver (2017). In Uganda, the government encourages all motorcycle riders to go for training to have knowledge about road signs and traffic rules. The training has not been successful since English is used as the medium of instruction on the road sign texts thus making it hard for boda-boda riders to understand them due to their low literacy level. For this matter, if the problem is not addressed more death and injuries are likely to occur thus the need to carry out a study on graphical

interpretation of English road sign texts to local language for boda-boda cyclists to reduce accidents.

1.3 Purpose of the study

The purpose of this study was to establish the cause of accidents among boda-boda cyclists and highlight their low literacy levels while identifying possible measures of how to reduce accidents through interpreting English road sign texts to local language.

1.4 Research Objectives

- To identify the cause of accidents among boda-boda cyclists at Nattete, Rubaga division, Kampala city.
- To investigate the literacy level of boda-boda cyclists about usage of road signs and rules.
- To establish possible measures to reduce accidents caused by boda-boda cyclists.
- To interpret English road sign texts into local language (Luganda).

1.5 Research Questions

The study was guided by the following research questions:-

- (i) What are the causes of accidents among the boda-boda cyclists?
- (ii) What is the literacy level of boda-boda cyclists at Nateete in Lubaga division?
- (iii) What possible measures can be employed to reduce accidents caused by boda-boda cyclists?
- (iv) How effective is the use of local languages in communication?

1.6. Scope of the study

The scope covered the Geographical, Content and time scope.

1.6.1 Geographical scope

The study was carried out in Nateete, Rubaga division, Kampala city, the capital city of Uganda. The location was identified because it had a big number of boda-boda cyclists and had big category of people using Luganda as their local language, both residing and working within.

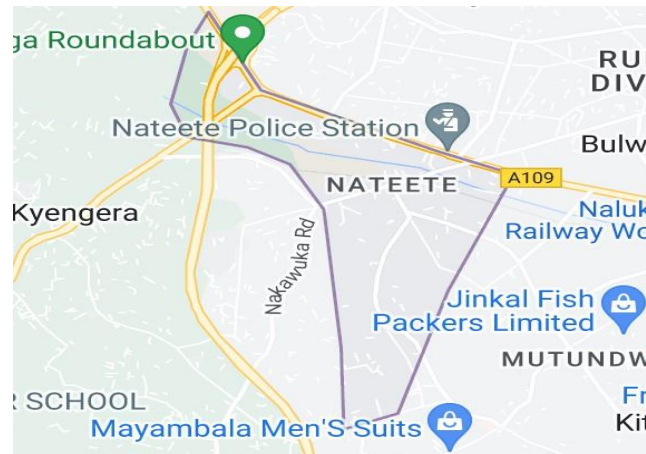


Plate 5: Map showing Nateete in Rubaga division.

Source: <https://mapcarta.com>

1.6.2 Content scope

The content scope of the study was limited to: identifying the cause of accidents by boda-boda cyclists, investigating the literacy level of boda-boda cyclists about usage of road signs and rules, establish measures of reducing accidents caused by boda-boda cyclists and interpreting English road sign texts into local language (Luganda).

1.6.3 Time Scope

The study was carried out between 2019- 2022, the researcher chose this period because all required data would have been collected from experienced boda-boda cyclists who have been in the boda-boda industry for a period four years to fully achieve the objectives of the study.

1.7 Significance of the study

The study will help the boda-boda riders to interpret and understand the different road signs, which will help to reduce accidents since the study, has focused on interpreting of English road sign texts in local language (Luganda).

Government and Local authorities will be able to know and understand the magnitude of accidents caused by boda-boda cyclists to enforce the rules governing them.

The study will help to outline various ways of sensitizing boda-boda cyclists and other road users to have basic trainings about road signs hence, reduction of accidents.

Other researchers will use the study as reference material while making their studies and graphical artists will also use the study while interpreting the English road sign texts to other local languages.

1.8 Limitations and Delimitations

1.8.1 Limitations

The researcher found a challenge of low number of respondents since they had negative attitude towards responding to the set questions due to the limited time, fear to disclose their facts of life and the pressure at work.

The allocated time for the study was delayed, this was due to the delay to receive the permission letter from the research and ethics office of Mulago hospital, this letter was meant to be presented to the medical workers to ask them take part in the study.

1.8.2 Delimitation

The researcher translated the interview guide and group discussion template for boda-boda riders to Luganda, understood by the majority of them. The anticipated low number of respondents was

addressed by assuring the respondents about their confidentiality; focus on the purpose of the study and a compensation for the time given was assured to the respondents.

1.9 Definition of operational terms

- **Boda-boda cyclist:** A Person riding a commercial motorcycle.
- **boda-boda:** The commercial motorcycle used to carry passengers and luggage.
- **Road signs:** Symbols, either pictorial or in words that guide road users on how to use the roads.
- **Graphical:** This is a representation of image or texts while communicating.
- **Interpretation:** The action of explaining the meaning of something clearly.
- **Literacy:** The ability to communicate through language which includes the ability to listen, speak, read and write.
- **Sensitizing:** Making people sensitive/ aware about an issue.
- **Luggage:** It's a bag or suitcase that contains ones possessions on travel.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter consists of the theoretical framework and reviewed literature of scholars who carried out studies related to causes of road accidents by boda-boda riders, possible measures of reducing accidents among the Boda-bodas, literacy level of boda-boda riders and interpreting of English road sign text into local language.

2.1 Theoretical framework

The theory informing this study is based on the Gestalt perception theory of visual communication.

This theory is based on the observation of German psychologists, namely; Max Wertheimer, Kohler Wolfgang and Kurt Koffka. (Jovin, 2019). According to the gestalt theory, commonly known as the law of simplicity, humans perceive every stimulus in its most simple form. Road signs are simplified to the boda-boda cyclists when interpreted to a language they understand better, this is one of the measures that can be employed to reduce accidents among the boda-boda cyclists. The primary goal of the gestalt theory is to encourage the brain to view not just the whole but also the parts that make up that whole, Road sign texts are very important while understanding road signs, they can be used when sensitizing the cyclists since they inform the meaning of the pictorial signs on the roads. In the learning environment the gestalt theory applies to problem solving and perception, the eye merely takes in all the visual stimuli, whereas the brain arranges the sensation into coherent images. A sign is simply anything that stands for something else, anything for example word or physical presentation from a yelled comment to an arranged jacket that is a sign if it has meaning.

The impact of color and contrast play a key role in visual perception and the strategic use of these can contribute to the effectiveness of visual communication design. Zeno (2013) examined the role of color and contrast within the context of Gestalt theory of perception providing additional insight into ways, which design elements, can be harnessed to improve the effectiveness of visual communication design, while sensitizing the boda-boda cyclists there is need to disseminating the information among them in the most effective way of communication through use of materials selected in the most attractive colors to match the pictures and words. However, symbolic signs and those written in the English language are abstract. They have no representational connection between them and the things they represent to the boda-boda cyclists who cannot read or write English fluently. Therefore road signs have to be interpreted into luganda making them simple to understand for effective communication, which influences social and cultural consideration which builds up a bond between road signs and the boda-boda cyclists. The meaning of the signs becoming highly personalized and respected by the cyclists, sensitizing them through trainings using materials produced such as stickers, manual books and life jackets bearing road sign symbols against luganda texts hence reducing accidents.

2.2 Causes of road accidents among the boda-boda cyclists

The increasing numbers of accidents on the road can be attributed to increasing numbers of vehicles and inappropriate road safety measures, the number of deaths as a result of road traffic accidents in Uganda has risen from 660 in 1991 to 2954 in 2010 (Annual Crime and Traffic Road Safety Report, 2011).

Accidents at times occur between motor cycles colliding with motor vehicles due to little knowledge they have about rules governing the traffic, some of the drivers and riders can give way to others as permitted. The most common motorcycle accidents involves motor vehicles,

causing collision by violating the rights of way of the motorcycles at the cross roads usually by turning in front of the oncoming motorcycle by the car driver or rider, causing accidents because of inexperienced , untrained ,unlicensed and unskilled (Nazarius, 2016).

People driving under the influence of alcohol have also caused many accidents; although measures have been put and penalties given to those driving when drunk, the enforcement cannot reach to all places at the same time. There are three times greater chances of accidents over weekends caused by motorcyclists who ride under the influence of alcohol. In India, it was reported that the influence of alcohol has caused motorcycle accidents on weekends compared to other days of the week (Konlon, 2022).

A number of boda-boda riders join this industry when they are under age as there no strict laws to prohibit them (Bradley, 2014). In Uganda, majority of the boda-boda riders are young and seem not to have gone through training, this is associated with lack of knowledge about road signs and rules and they drive on sidewalks and go against the flow of traffic causing accidents to other road users.

Motorcyclists learnt to ride informally from friends, relatives or trained themselves (Simwogerere, 2018) and training and opportunities to be supervised on roads are limited, motorcycle riders involved in accidents are essentially without training, 92% self-taught or learning from family and friends who also have less knowledge of road safety rules since not formal training received.

Most of the Boda-bodas join the industry when they are under the age permitted to ride, so they have no axis to get permits and no formal training received. Majority of boda- boda operators operate without valid licenses, 35.6% of the operators were licensed, Licensed operators who

have undergone training in the driving schools were aware of the risk and hazards involved while riding the boda- boda hence observed the road safety measures (Joyce, 2015).

Traffic rules have been put in place but are hard to be enforced due to the small number of traffic officers who take charge and cannot be everywhere to monitor and enforce the rules, Bradley, (2014) indicated that existing traffic rules without enforcement yield poor results, leading to increased accidents by cyclists.

2.3 The literacy level of boda-boda cyclists on usage of road signs

The Pan European program (PEP) organized a workshop in Batumi, Georgia (2010), dedicated to promote the use of active transport, walking and cycling; they shared the knowledge of signs and signals for those two modes. They proposed to develop an inventory of existing or planned rules and regulations as well as of best practices on signs and signals for cyclists and pedestrians covering countries in the European region. These regulations determine the requirements for the movements of vehicles, whether motorized or not, especially cyclists and provide instructions to pedestrians and it is applied to everybody in the member countries.

Traffic signs play the role of guiding road users as well as controlling their behaviors while ensuring everyone's safety on the roads. Thus, all road users both experienced or new drivers and riders be aware of traffic signs (Department of transport, London, 2015). Traffic signs awaken the road users about the new changes in the society and technology in the way we travel, new road signs conveying new message and in new formats introduced from time to time. The department of transport, London (2015) observed the fact that drivers or riders, who passed driving tests a few years ago, need to keep up to date or run the risk of failing to understand or comply with the recently introduced signs.

A percentage of cyclists have received some education in schools at different levels however, this does not qualify them to drive. A case in point is in the West Africa state of Ghana where most s cyclists had basic education and few had formal education, 51% had basic education, 35% had secondary education, 5% had tertiary education, 9% had no any form of education (Kennedy, 2020). However, in Uganda there is no formalized motorcycle training system, driving schools register low demand for motorcycle training service, most riders are self or peer trained, many are injured or in the process of learning and self-trained riders usually do not appreciate the learning process (Ministry of works and transport, 2015).

Many did not receive formal training for the job, essentially for commercial motorcycling; hence, they lack adequate knowledge and practice of road safety measures since they lack formal education (Terimo, 2013). They cannot interpret and understand the road signs since the available resources such as charts are in English which they are not familiar to, hence increased rate of accidents

2.4 Measures of reducing accidents among boda-boda cyclists.

There is need to sensitize the boda-boda cyclists trained, many youth have dropped out of school to take up boda-boda business, so there is need to have them trained, Kampala city council authority had started registering the boda-boda cyclists with the aim of training them, giving them security code jackets and gazette stages(Daily monitor, 2022). The trainings will help check the behaviors of boda-boda cyclists such as violating the traffic rules.

Fadaei. (2021), stated that, always a very important role is a played from infrastructures; he argued that making of separate motorcycle lanes, pedestrian lanes, bicycle lanes and building pedestrian bridges and under passes. So it is important for road maintenance for the safety of the roads.

A reduction of mistakes committed by road users through education in the area of traffic safety, for example, promotion campaigns, education programs, training skills for pedestrians and motorists, improvement courses for old drivers, may contribute to the change of behaviors and increase road safety awareness (Krzyzt, 2015).

A broad framework comprising both travel behavior and risk factors is important because governments often have goals for both cyclists and other road users, though putting the law frame works and action in place to reduce death and injuries among cyclists (World health organization awareness, 2022) The time shortage for drivers to react due to high speed which makes them loose control which causes accidents can be overcome by giving the drivers and cyclists an early warning signals to help them have enough time to react in a simple and clear way(Hussein, 2013).

Classifying roads and setting speed limits by their function, implementing specific intervention to prevent road traffic injuries. Many roads have a range of functions and used by vehicles, pedestrians and cyclists with large difference in speed, mass and degree of protection in both urban and rural areas this often leads to conflict between the road users, so classifying roads functionally in form of road hierarchy is important in reducing road accidents (Hussein, 2013).

Road accidents are reducible by setting and securing compliance with road safety rules. Setting road safety rules is an important aspect of preventing road traffic injury and setting rules should not be an end itself. It is important to ensure compliance through enforcement, information and education, which needs to be continuous for a long period and perceived by the road users through imposing very strict penalties in terms of fines and prison sentences to the offenders (Fred, 2013).

2.5 Effectiveness of using local language to communicate

Language is an identity to many groups of people; it is a means of communication that is either oral or written. Varied societies have their own language called mother tongue or local language, taught to children right from birth, this makes communication effective since people have love for their language and understand it better than other languages introduced to them at a later stage.

Joyce (2013) stated that the ability to communicate to others and express ourselves is a basic human need as we develop understanding based on our upbringing, developing a shared language is an ongoing process that require intention and time which results into better understanding. Language is one of the most important feature in a society and the use of the same language is the most certain proof of the historical continuity of the community of people. Language is influenced by the very society where it functions being the most significant tool of communication, the need to communicate triggers both occurrence and the development of the language and this becomes stronger when one has someone to communicate with and this brings self-awareness in the society

Language is the major tool for interaction; a tool for transmitting specific knowledge for learning how to construct problem-solving activities, teaching in local language is so interesting, the local language creates good relation between the implementers and boda-boda riders since they are more knowledgeable in the local language (Tumwesigye, 2016). Language is an important component of identity and culture for many groups, it is a crucial factor in teaching and learning and the language could be mother tongue, foreign or local language. The use of local language facilitated interviews conducted with the boda-boda cyclists (Nguyen, 2016). The local language simplified the concept making it easy to understand the signage system for boda-boda riders. The

standardization of the norms of road signage with illustrations, however, until now many countries are using different traffic signs including letters or words from local language (Ghodhan, 2018).

The use of local language is effective and efficient in communication, since people of different levels of education commonly understand it. Eluha (2014) cited that communicating in the local languages is very important during the training of boda boda cyclists since it ensures that all the information is clearly understood by them. The training of the boda-boda riders in local language simplifies the knowledge about road signs, the use of local language for road signs and rules leads to understanding of instructions by the road users since language is the channel used to communicate effectively (Akintola, 2014).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents research design, study area, Sampling procedure, Data collection procedure and Data analysis.

3.1 Research Design

The study adopted a Narrative research design which aimed at exploring and conceptualizing human experiences as represented in textual form. According to Peterson (2019), a narrative research design is a term that subsumes a group of approaches that in turn rely on the written or spoken words or visual representation of individuals focusing on their lives as told through their own stories. This was done with an aim of obtaining an in depth exploration of the meanings boda boda cyclists assign to their experiences. This design was preferred because the study sample was not big thus was suitable for this study. The Narrative research method since this is built on story telling which provides rich and thicker information from respondents (Antonio, D.2018) allowed the researcher capture the detailed life experiences of the boda-boda cyclists.

3.2 Study Area

The study area was Nateete, Rubaga division, Kampala city. The area was ideal because it has a high number of boda-boda cyclists who use Luganda as their main language of communication.

3.3 Population Sample

A population sample is a specific group that a researcher will collect data from, chosen from the large population (Pritha, 2020). In the study various sample categories were used including, five (5) Boda-boda cyclists were selected from each of the four (4) stages, they have been in the

business for more than four (4) years making a total of twenty (20) respondents. They took part in this study given their broad experience in boda-boda riding and therefore, the researcher managed to get significant information about the topic under study.

Other respondents who took part in the study include two (2) Medical workers from referral hospitals who had been at the job for at least two years working on accident casualties. Three (3) traffic officers from three stations with a working experience of three years who have witnessed a number of cases of accidents caused by the boda-boda cyclists. This helped the research to achieve objectives of the study.

3.4 Sampling Techniques

The respondents were selected using purposive sampling technique. Purposive sampling is deliberate choice of an informant due to the qualities the informant possess; a non-random technique does not need underlying theories or asset number of informants, the researcher uses his expertise to select a sample that is most useful to the purposes of the research (Shona, 2022). This technique was applicable because there various techniques that are possible through the purposive approach that allowed the research designs to be more adaptive, allowing for the use of specific techniques needed to work towards achieving the result; the researcher relied on his judgment when choosing members of the population to participant in the study.

3.5 Data Collection Methods and Tools

3.5.1 Focus group Discussion

Focus group Discussion is a way of gathering together people from a similar background or experience to discuss a specific topic of interest guided by the moderator. It is helpful for gaining in-depth understanding of social issues through obtaining data from a purposely-selected group of individual (Tobias et al, 2018). This helped the researcher to acquire more about issues that

could not be covered in the survey questionnaire, focus groups with five cyclists in each group participated depending on their experience in the boda-boda industry, 20-30 minutes were used at each sitting to avoid inconveniencing them at work. A focus group schedule, was used while collecting data, it had guiding questions which the researcher used to acquire information about the causes of accidents, the literacy level, possible measures to reduce accidents among boda-boda riders from different groups of boda-boda cyclists.

3.5.2 Participant observation

Participant observation is a process that enables the researcher to learn about the activity of the people under study in the nature setting through observing and participating in those activities, (Barbara, 2015). Observation was done throughout the data collection period, participate observation was done during working hours at stages and on roads. The data was recorded in writing and photographs taken to keep record, this helped the researcher find out more about the behavior of the boda-boda cyclists and all the activity, observations were done around walk ways, road junctions, along traffic lights, informal conversations with cyclists, pedestrians, and all other stake holders in the industry. The researcher carried out participant observation in order to observe respondents' (boda-boda cyclists') behaviours on the road.

3.5.3 Oral Interviews

The research utilized oral interviews as a significant part of the data collection process. Oral interview is a meeting between a researcher and participants that takes place in a professional setting, it is designed to obtain information from a person or group of people through oral responses from oral inquiries, (Totempool, 2015), the interviewer seeks replies from the interviewee. The interviews conducted on specific days covered different categories of respondents; health workers from different government hospitals attending to people involved in

accidents and twenty boda-boda cyclists from four stages with a working experience of four years. This helped to devise measures on road safety regulations that can be implemented effectively, how harmful accidents have contributed to different road users and the impact of using local language to communicate effectively.

An interview guide was the tool used to collect data. An interview guide is a tool used to collect data from one person, it can be administered formally or informally, they can be carried out face to face or through media such as telephone and skype, they can also be conducted through written questions via letter or email (Paul, 2008). This was helpful in collecting data from health workers and boda-boda riders, the guide featured questions about causes of accidents among boda-boda riders, challenges boda-boda riders find with interpretation of road signs. Their understanding of English text on signs, the impact of accidents among the boda-boda riders and possible measures to reduce accidents among the boda-boda riders in order to ensure that all the questions were comprehensible in an efficient and timely manner.

3.5.4 Questionnaire

A questionnaire is asset of standardized questions often called items, which follow a fixed scheme in order to collect individual data about one or more specific topics (Paul, 2008). This facilitated the collection of information from traffic officers. The questionnaire contained question items for response. The respondents provided data about the causes of accidents among the boda-boda riders, boda-boda cyclists' understanding of the English road sign texts, possible measures to reduce accidents among boda-boda cyclists and boda-boda cyclists' interpretation of road signs.

3.5.5 Photography

The researcher used photography as another method of collecting data. Photography refers to the art, application and practice of creating durable images by recording light, either electronically by means of an image sensor or chemically by means of a light sensitive material such as photographic film (Jellis, 2021). This is an important method of data collection especially for visual artists and there is reality expressed in images. The researcher used a camera as the tool to capture photos of the boda-boda cyclists on the roads, on roundabouts, traffic lights and on their stages showing the different behaviors of the boda-boda and other road users in respect to the road rules and signs.

3.5.6 Documentary analysis

This is a method of data collection, which involves analysis of content from written documents in order to make certain deductions based on the study parameters (Glenn, 2009). The scholarly work of different scholars was essential for reviewing literature about the causes of road accidents among the boda-boda cyclists, their literacy level about usage of road signs and rules, possible measures to reduce accidents and the effectiveness of using local language to communicate.

3.6 Data Collection Procedure

The researcher obtained an introductory letter (Appendix 5) from Kyambogo University, presented it to traffic officers, boda-boda riders and to the office of research and ethics of Mulago hospital, for permission to collect data. The researcher went to the field and approached the respondents in person to explain to them the aim of the study. This assured them that all the information they gave was kept confidential. Questionnaires were given to the respondents who were required to respond to them in a one hour period of duration. By such an administration of the instrument, the researcher hopes to explain or clarify any ambiguities. This enabled the

researcher ensured a high chance of return rate of the questionnaires as well as treatment of respondents' information in strict confidence.

The researcher conducted interviews with the medical workers after getting permission from Mulago hospital research and ethics committee to carry out research in the hospital. An acceptance letter (Appendix 6) received introduced the researcher to the respondents, one by one at a time and after that, the researcher held interviews with the 20 boda-boda riders one by one from four stages.

Thereafter data collected was analysed, after that; focus group discussions held with the boda-boda cyclists provided relevant data for analysis.

3.7 Data analysis and presentation

The data analysis helps in the interpretation of data, take decision or answer the research questions. Data analysis was done using various data processing tools, software and various data processing methods, processed data helped in obtaining information from its raw form. Presentation requires skills and understanding of data and make use of it as raw data (Kikonyongo, 2020). Data collected was presented and analyzed using the data collected from the different respondents. The data which was gathered using questionnaires and interview guide provided findings on the cause of accidents, literacy level of the boda-boda cyclists, possible solutions to reduce accidents and the impact of English and local language among the boda-boda cyclists.

3.8 Ethical considerations

Ethical considerations are principles that guide the research design and practice, scientists and researchers must always adhere to a certain code of conduct when collecting data from people

(Pritha, 2022). The researcher ensured honesty and integrity by respecting participants' views as well as assuring them that all the data they provided would be kept confidential and that it would only be accessed by the researcher and the respondents. The researcher also obtained consent from the participants who willingly participated in the study without being coerced against their will. Objectivity to avoid bias was also considered through standardization of testing procedure.

3.9 Validity of Instruments.

Validity refers to appropriateness of the instrument to measure what it intends to measure and to ascertain whether they would capture the required data (Hamed, T. 2016), Instruments would then be revised accordingly basing on the comments focused on competences and relevance of questions in relation to the study. The Questionnaire and Interview guides were tested to obtain relevant information in the most reliable and valid manner. This was achieved using the following formula:

$$CVI = n/N,$$

Where, n = Number of relevant items.

N = Total number of item in the instrument.

The CVI for the questionnaire and interview guides was valid at 0.72, which is the minimum level in the survey (Shirali, 2018), this ensured accuracy of the instrument hence data collected was valid.

Content Validity Indices for Interview guide for Boda-bodas.

Items	Number of items	A
1	11	0.72
2	9	0.77
3	5	0.80
4	7	0.85

Content Validity Indices for interview guide for medical workers.

Item	Number of Items	A
1	5	0.80
2	4	1.00
3	2	1.00
4	7	0.85

Content Validity Indices for Questionnaires for Traffic Police officers.

Items	Number of items	A
1	4	0.70
2	5	0.80
3	5	0.80
4	2	1.00

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents the findings of the study following the set objectives. The objectives sought to identify the causes of accidents among the boda-boda riders at Nateete, Lubaga division, Kampala, to investigate their literacy level about usage of road signs and rules, their understanding of the English language, establish possible measures to reduce accidents among the Boda-bodas and the effectiveness of using local language to communicate among the boda-boda cyclists.

According to the recent boda- boda registration in Kampala it was estimated that they are over 200,000 boda-boda cyclist operating in and around city, in the bid to ban all unregistered boda-boda cyclists, about 35,000 had been registered however the exercise flopped during the first week (Daily monitor, 2022)

4.1 Causes of accidents among the boda-boda cyclists

In the process of finding out the causes of accidents among the Boda-bodas cyclists, the researcher carried out interviews using the interview guide, the target group was 22 respondents including 20 boda-boda cyclists and 2 medical workers. The questionnaire was used on 2 respondents who were traffic officers. In relation to the interview guide and the questionnaire, question 1 sought to find the causes of accidents among the boda-boda cyclists, and how other road users cause accidents to the Boda-bodas.

It was noted that there several causes of accidents among the boda-boda cyclists caused by themselves, other road users and the nature of the infrastructures however all are attributed to lack of knowledge and violation of traffic rules and signs and below were the responses given by the different respondents. Lack of knowledge and training about traffic rules and signs, which

makes it hard for the boda-boda cyclists to interpret and understand the different pictures and English texts on the road signs, it was noted that most of the boda-boda cyclists had received very little education making it hard for them to read and understand the road signage system.

Riding motorcycles with poor mechanical conditions was problematic; some motorcycles have non-functional breaks while others have no driving mirrors, no lights yet they rode at night. This made them land into accidents as the boda-boda may knock on the motor vehicles once the breaks fail, at time there many chances of being knocked down when dodging potholes in the road without focusing on what is coming behind as the motorcycle has no side mirrors to see behind. Riding under the influence of alcohol and drugs which makes them loose focus as they are riding, these drugs changes their emotions and ride without any fear of either death or any injury, they ride carelessly without considering other road users hence causing accidents. Overloading of motorcycles (plate 6) causing imbalance and carrying more than one passengers, which makes the rider unstable, this can make the cyclist lose control or the big luggage can grab into another boda-boda or car causing accidents.



Plate 6: Boda-Boda cyclists carrying wide loads without any warning sign.

Source: Field data.

Over speeding by the some boda-boda cyclists under the instruction of passengers or their need to ride more passers or luggage to accumulate more money. This leads to lack of control at some spots for example where there sharp corners or humps and any mistake done by another road user may be difficult to avoid or defend themselves, this increasing the chances of getting involved in accidents. Reckless riding by the Boda-bodas without considering other road users, they over take in places where the road is narrow, causing clashes with motor vehicles, they also ride through traffic lights without stopping (plate 7) in respect of them hence colliding with other motorcycle cyclists and other road users causing more accidents among them.



Plate 7: Boda-boda cyclists violating traffic light signals.

Source: Field data.

Poverty among the boda-boda cyclists and their increasing number, which creates anxiety and too much demand for money, they work under pressure for long hours, night and day without rest. This causes fatigue, which makes them sleep as they are riding which causes them loose control and cause accidents. The poor nature of roads, they are narrow yet used by many motor vehicles and motor cyclists making it difficult to avoid accidents in case of any mechanical problem, the roads are full of wide potholes (plate 8) that can lead the Boda-boda cyclist to fall off the motorcycle in an attempt to dodge them thereby causing fatal accidents.



Plant 8: Poor state of the roads for Boda-boda cyclists.

Source: Field data.

Law enforcement officers, traffic officers and boda-boda enforcement teams always arrest the boda-boda cyclists in traffic jams and on traffic lights as they try to stop in respect of the prohibiting road signs, forcing them to ride through the traffic lights without stopping in disregard of other road users with the right of way. As a results, causing accidents due to reckless driving.

4.2 Literacy level of boda-boda cyclists on the meaning of road signs

The objective two of the study, the researcher was interested in finding out the academic level of the boda-boda cyclists, their literacy level about the usage of road sign and rules. Question 2 of the interview guides and questionnaire addressed the above and the findings were analyzed. The findings indicate that boda-boda cyclists at Nateete in Lubaga division had received very little education; most of them did not complete primary level making it hard for them to interpret the road signs in English language. No formal trainings were organized for them to learn the signs given the fact that there were no schools set for cyclists.

Some had some knowledge on the road signs and rules, these have received training from boda-boda companies that give out motorcycles on loans for example, Tugende and other cycling associations such as Safe boda and very few accidents have been witnessed among the riders in these companies, hence the need for training them more effectively. According to the findings few road signs were interpreted by some boda-boda cyclists for example, the traffic lights, humps a head, zebra crossings and animal crossing however few of the riders respected them, it was observed that very few stop on traffic lights, most of them have no patience they just ride without respecting there order.

According to the information collected some had some knowledge and can interpret a few pictures on the road signs however they cannot understand the English written signs, this is

because of the background where many did not receive enough formal education and all the training manuals images with English language text. It was noted by the researcher that most of the respondents did not have driving permits, implying that these boda-boda cyclists have never been trained or tested to drive, they ride using their experience of the years spent on the jobs.

4.3 Possible measures to reduce accidents among the boda-boda cyclists

Under objective three, the study was interested in getting the measures employable to reduce accidents among the boda-boda cyclists at Nateete and question 3 of the questionnaire and interview guide focused on finding out the above measures, the responses obtained from the respondents were analyzed based on the findings. It is necessary to train those that are interested in joining the boda-boda business before they ride in the busy city environment. Whoever got a chance of riding a motorcycle would start carrying passengers the next day without any knowledge about road signs. It was suggested that anyone to be given a stage where to operate from should first produce evidence their training. Most accidents occurred among the boda-boda cyclists because they lacked the knowledge about traffic rules and signs.

There is also need to train regularly those already in the business because most of them have little knowledge about traffic rules and signs, many of these boda-boda riders have never received any training except a few from boda-boda associations such as Tugende and safe-boda. They need behavior and character trainings such as patience on the roads, limited speed while riding, sensitizing them not to use drugs or alcohol and ride and they should always have time to rest much as they need to accumulate more money.



Plate 9: Poor state of the roads for Boda-boda cyclists.

Source: Field data.

After the training, strict measures to enforce the traffic rules, penalties should be set and fulfilled as the law states to the extent of subjecting the culprits to the courts of law, sentenced to serve their prison terms or made to pay a reasonable amount of money in form of fines. This will help reduce the high incidences of road accidents, since the boda-boda riders will try to observe and follow the traffic rules and signs (plate 9). Boda-boda motorcycles ought to be checked regularly to ascertain whether they are in good mechanical condition or not, this should be a responsibility of both the rider and the law enforcement, and traffic police should impound those in dangerous mechanical conditions and the owner works on want is needed to repair. It was found out that

some boda-boda cyclists use motorcycle, which are not breaking well, and some have no side mirrors, which is very dangerous on the road.

4.4 Interpretation of English road sign text into local language

The research aimed at finding out how effective is the use of local language by the Boda- boda riders, can they read, write and understand English and Luganda, which language do they understand better. The information from the respondents indicated that most of the Boda-bodas cannot interpret well the English text messages on traffic signs, many have received very little formal education and the most common language used and understood is Luganda.

It was noted by the researcher that the Boda-boda cyclists at Nateete understood better Luganda, most of them were able to read and write well in Luganda since it is the language used within the community and the little education they received helped them read and understand Luganda texts. The interpretation of the road signs into Luganda will help the Boda-boda cyclists to understand better the road signs and rules. The English texts on signs requires interpretation into Luganda with their meanings to produce road signs, create prints on reflector jackets, stickers and manual books as pretested samples.

Samples of some road signs translated from English to Luganda text were printed (Figure 10) on PVC material. With the help of an expert in Luganda language, Boda-boda cyclists and other road users who shared their opinions on the new signpost texts. Other materials on road safety include Luganda texts stickers produced through computer graphics, reflector jackets where to be printed out since they are used by many Boda-boda cyclists, this could help to transfer the message hence effective communication.



Plate 10: English texts with Luganda texts on signs being pretested.

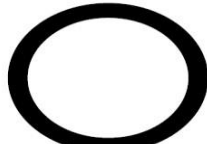
Source: Field data.

The following results were discussed to the researcher by the respondents, the first respondents were boda-boda cyclists who shown interest in the Luganda road sign texts, these could be read and understood well than the English texts, it was noted that people who are learnt and understand English can also read and understand Luganda. The other respondents were traffic officers, who informed the researcher that majority of the boda-boda could not understand English well; it was preferred to use the Luganda texts on road signs because all boda-boda understood and could read Luganda well since it was the language used always.

After pretesting, it was noted by the researcher that interpreting English texts on road signs to Luganda was to be effective since even the few boda-boda cyclists who understood English could also read and understand Luganda, interpretation was done for the selected signs and edited by a Luganda teacher who is a specialist in the language. The signs with Luganda texts, designed

with the aid of the computer, printed and produced manuals, stickers, reflector jackets using the screening method and printing paste. The translated texts are indicated against symbols as indicated in the following illustrations.

Okutegeeza kw'Obubonero



Ebiragiro



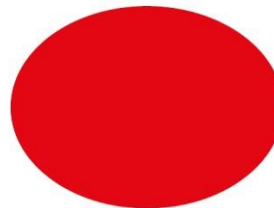
Okulabula



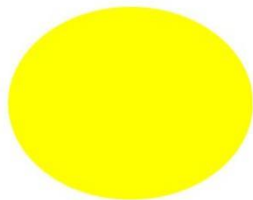
Okutegeeza



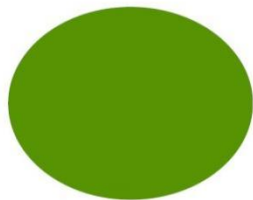
Ogenda Ku bitaala



Yimirira



Wetegeke



Genda



**Ppikipiki
tezikirizibwa**



**Toweta
ku kkono**



Tokyukirawano



**Abebigere
tebakirizibwa**



**Toweta
ku Ddvo**



**Tokirizibwa
Kuyisa**



**Ebidduka
Tebikirizibwa**



Enkulungo



**Emmotoka
tezikiribwa**



Amasanganzira



**Ekkubo
erivaako**



**Amakkoona
agadingana**



Amasanganzira



**Ekkubo eri vaako
mu kkoona**



Abaana b'Essomero



Awasalirwa



Ekkubo liserera



Ekkoono ku ddyo

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.0 Introduction

The study aimed at finding out the causes of accidents, the literacy level of the boda-boda cyclists, the possible measures employed to reduce accidents and interpretation of English road signs texts to Luganda.

5.1 Discussion

In chapter four, the analysis was done on the data collected from the respondents, comparison was made to the literature studied and the following observations were made in line with the objectives of the study.

5.1.1 Causes of accidents among the Boda-boda cyclists

In relation to objective one, it was noted that most of the causes of accidents among the boda-boda cyclists were associated to lack of knowledge about road signs and rules, however some have some knowledge although they violate them. The participants were knowledgeable and gave reliable information about the causes of accidents among the boda-boda cyclists, most of them associated to lack of knowledge about road signs and rules, this is because most of the boda-boda have never received trainings before and during the time of work .

Riding motorcycles in poor mechanical condition, some are not breaking well, some have no driving mirrors. Riding under the influence of alcohol and drugs, over loading of motor cycles, over speeding and reckless riding.

Other factors are associated to the poor nature of roads, which are narrow yet used by many road users, the law enforcement officers have also contributed to the cause of accidents in the way

they do their duties wrongly, pedestrians who are absent minded while crossing road, these cause accidents after being knocked down by cyclists.

The causes of accidents in the findings had some similarities with the scholarly work studied during the literature review, however these were also attributed to lack of know about the signage system which is not understood by the boda-boda cyclists since they have not been sensitized well.

5.1.2 Literacy level of boda-boda cyclists on road signs

The result of the study also showed that most of the boda-boda cyclists are semi illiterate and many are primary level leavers who did not even complete this level, this makes a barrier to effective communication since all text messages on road signs are in English which is not understood by the majority, so there was need to interpret the traffic rules and signs into local language which is understood by many of the boda-boda cyclists.

It was noted that most of the boda-boda cyclists did not have driving permits implying that they have never attended trainings or tested, some road signs such as zebra crossing, traffic lights, humps ahead were interpreted by some, however the English texts on the road signs could not be understood, this was not given priority by other scholars, not much has been written on the boda-boda cyclists' ability to interpretation and understand the meaning of road signs with English texts.

5.1.3 Measures to reduce Boda-boda accidents

In relation to objective three, the study addressed the measures that can be taken to reduce the causes of accidents. Data was analyzed and results showed that the boda-boda cyclists should be trained before joining the business and regular trainings should be done always to help them

acquire the knowledge about road signs and rules, the government has always tried to put up measures to help the boda-boda cyclists through its governing bodies such as police, ministry of works and transport, KCCA, These organized workshops, trainings, publishing videos of accident scenes, sensitizing through television programs such as twedeko, however monitoring is hard since the number of boda-boda cyclists is too big compared to these monitoring.

It was noted that the few boda-boda cyclists who have received training from associations such as Tugende and safe boda, have not been involved in many accidents because they have been trained about how to behave while on the road. However, assessment of motor cycles should be done to ensure that they are in good mechanical condition, then, strict measures should be taken to enforce the traffic rules, however there is need to sensitize the boda-boda cyclists to train, interpret and understand the road signage system carried out in the language they understand better as one of the measures that can help reduce accidents among the boda-boda cyclists.

5.1.4 Interpretation of road signs texts into local language

Following objective four of the study, it was noted that boda-boda cyclists could not interpret and understand English text messages on road signs because they had little formal education, The boda-boda cyclists in Nateete understood Luganda more than English, they could read, understand and interpret Luganda very well.

During the pretest of the road sign texts, almost all the boda-boda cyclists were able to read and understand the Luganda text while very few could read and understand the English texts, therefore manual books, stickers and reflector jackets have been printed with texts in luganda against pictorial signs to be given to the boda-boda cyclists while sensitizing them to have the basic knowledge on road traffic signs.

5.2 Conclusion

Most of the boda-boda accidents are associated to their lack of knowledge about road signs and this is because they have not had trainings, the manuals and charts which they can access to learn from are in English which they could not understand although there other causes.

The study showed that most of the boda-boda cyclists are semi illiterates, who did not even complete the primary level of education, they could not read, interpret all understand English text messages.

There are measures that could be taken to reduce accidents among the boda-boda and this could be through training that should be given to the boda-boda cyclists before joining the business and regularly on the job. These training would help them acquire knowledge about road signs and rules, which will help to reduce accidents.

The English texts on road sign manuals and charts should be interpreted into Luganda which is understood by the majority of the boda-boda cyclists at Nateete and trainings should be in the language understood best while sensitizing them using the interpreted materials such as stickers, manual books, and reflector jackets with pictorial signs against luganda texts (Plate 11.)



Plate 11: Reflector jackets, stickers and manual books printed with luganda texts against pictorial signs.

Source: Field data.

5.3 Recommendations

The study established that there are a number of causes of accidents among the boda-boda riders, where most of them are caused due to lack of knowledge about road signs and rules, however these accidents can be reduced with a collective effort of all the road users and the government as recommended below:

The ministry of transport through the traffic police and the boda-boda companies should always organize trainings for the boda-boda cyclists to train them how to behave while riding on the road and impart them with the knowledge the with the knowledge about road signs and rules.

The boda-boda cyclists should be given regular trainings to help them understand the road signage system and how to behave while riding as they are encouraged to take responsibility of maintaining and repairing their motorcycles such that they are in good condition and revise their behaviors on the roads as well as respecting the traffic rules and signs.

The government should embark on maintaining and construction of standard roads which are wide enough to accommodate all the road users with enough space, making it safer while driving. Also there is need to repair the damaged roads.

The researcher recommends the government to finance the project to interpret the road signs in all local languages which are understood by the majority of the people, this will not only help the boda-boda riders but also other road users.

5.4 Areas for further research

In conclusion, the study found out that there were various cause of accidents among the boda-boda cyclists, it was also found out that majority of the boda – cyclists were semi-iliterates who did not have enough knowledge about usage of road signs and rules. The study further concluded

that there were various measures being used to reduce accidents amongst boda-boda cyclists especially sensitizing boda-boda cyclists about road usage rules and regulations through interpreting English road sign texts for them into local language (Luganda). The researcher therefore suggests further studies should be carried out on interpreting road sign texts into different local languages. Also further study should be carried out to investigate why boda-boda cyclists continue to violate road signage system .

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APPENDICES

Appendix 1: Interview Guide for Medical Workers

Dear Respondent,

I am, KAWUKI FRANCIS, a Masters student of Kyambogo University specializing in Art and Industrial Design carrying out a study titled, “GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO LOCAL LANGUAGE TO SENSITISE BODA-BODA CYCLISTS AT NATEETE, RUBAGA DIVISION”

The information provided will be confidential.

Section A: Bio data.

Sex:

Working experience:.....

Section B: Research Questions

1.
 - a) What do you think are the causes of accidents among the boda-boda riders?
 - b) Do other road users cause accidents to boda-boda riders?
 - c) How do other road users cause accidents to the boda-boda?
2.
 - a) Do the boda-boda riders have the knowledge about road signs and rules?
 - b) If yes, what are the indicators that reflect their knowledge about road signs and rules?
If No, what are the indicators that reflect their lack of knowledge about road signs and rules?
 - c) Which age group among boda-boda riders is mostly involved in accidents?
15-24 years----- 25-34years----- 35-44years----- 45-54years-----
3.
 - a) What do you think are the possible measures to reduce accidents among boda-boda riders?
4.
 - a) Which language do the boda-boda riders understand best?
 - b) Can the boda-boda riders communicate in local language?
 - c) Do they listen and understand English?

Thank you.

Appendix 2: Questionnaire for Traffic Officers

Dear Respondent,

I am KAWUKI FRANCIS, a Masters student of Kyambogo University specializing in Art and Industrial Design carrying out a study titled, “GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO LOCAL LANGUAGE TO SENSITISE BODA-BODA CYCLISTS AT NATEETE, RUBAGA DIVISSION’.

The information provided will be confidential.

Section A: Bio data.

Sex

Section B: Research Questions

A) What do you think are the causes of accidents among the boda-boda riders in Rubaga division?

----- b) Do other road users cause road accidents to boda-boda riders?

Yes ----- No -----

C) How are those road users involved in the cause of accidents to the boda-boda?

2. a) What is the literacy level of the boda-boda riders in Lubaga division?

Illiterates ----- Semi-literates ----- Literates -----

b) Do the boda-boda riders have the knowledge about road signs and rules?

c) If yes, what are the indicators that reflect their knowledge about road signs and rules?

If No, what are the indicators that reflect their lack of knowledge about road signs and rules?

----- Do

the boda-boda riders in Lubaga division have valid permits?

Yes ----- No ----- Any other response -----

3 a) What other possible measures can be employed to reduce accidents caused by boda-boda riders?

b) Have you been organizing trainings for them?

Yes ----- No -----

c) If yes, do they have the interest in the knowledge given in the training?

If no, what do you think hinders their interest?

d) What indicates that the knowledge has been applied by the boda-boda rider?

4 a) Do the boda-boda riders understand English?

Yes ----- No ----- Any other response -----

b) Which language do the boda-boda riders understand best?

Thank you

Appendix 3: Interview Guide for Boda-Boda Riders

Dear

Respondent,

I am KAWUKI FRANCIS, a Masters student of Kyambogo University specializing in Art and Industrial Design carrying out a study titled, “GRAPHICAL INTERPRETATION OF ENGLISH ROAD SIGN TEXTS INTO LOCAL LANGUAGE FOR BODA-BODA CYCLISTS AT NATEETE, RUBAGA DIVISION’.

You are required to use only assigned numbers for identification without mentioning your name for purposes of this study. The information provided will be confidential.

Section A: Bio data.

Sex:

Working experience:

Section B: Research Questions

1.
 - a) How long have you been doing this job?
 - b) Have you ever been involved in an accident?
 - c) If yes, in b above, narrate to us how it happened?
 - d) Explain a scenario where you ever witnesses an accident happening involving Boda-boda?
 - e) Briefly explain who majorly caused the accident in (d) above?
 - f) Do you think other road users make you cause accident?
 - g) If yes in (f) above, explain how other road users’ course you make road accidents?
 - h) What do you think are other causes of accidents among the boda-boda riders?
2.
 - a) What is the level of your education?
 - b) Do you have any knowledge about road signs and rules?
 - c) Have you received training from a driving school?
 - d) Do you have a driving permit?
 - e) How did you get your driving permit?
3.
 - a) What possible measures can be employed to reduce accidents among Boda-bodas?
 - b) What have you done to avoid getting involved in accidents?
 - c) Have the road signs helped you in avoiding accidents?
 - d) If yes, how have they helped you?

If not, why have they not helped you?

4. a) Can you interpret and understand the images on road signs?
- b) Do you understand English textual messages on road signs?
- c) Can you read and write Luganda?
- d) Which language do you understand best?

Thank you.

Appendix 4: Interview Guide for Boda- Boda Riders (Luganda)

Ssebo,

Nze KAWUKI FRANCIS omuyizi e Kyambogo University nga nkola digiri yange eyokubiri mu bifananyi (okuvunula obubonero bwo ku ngudo ku lwa ba bodaboda)

Ekitundu A:

Enkula y'obutonde? -----

Ekitundu ekyokubiri

1. a) Omulimu guno ogukoledde banga ki?
 - b) Wali ofunye ku kukabegye?
 - c) .Bwoba wali okafunye, nyonyola nga bwekali?
 - d) .Nyonyolako ku kabegye ka boda-boda kona kewali olabyeko nga kagwawo?
 - e) Mubufuze ani eyavako akabegye ako mu (d) wagulu?
 - f) .Olowoza abakozesa ekubo abalala, babaletera okola obubegye?
 - g) .Oba kitufu, nyonyola bwe babavilako okola obubegye?
 - h) .Biki ebirala ebivirako okukola obubegye?
2. a) Wasomako, wasoma kyekanaki?
 - b) Omanyi ku obubonero namateka ngo kugudo?
 - c) Wafuna okutedekedwa okuva musomero eriyigiriza okuvunga ebidduka?
 - d) Oyina pamiti ekukiriza okuvugga ekidduka?
 - e) Pamiti ekukiriza okuvugga ekidduka wajjifuna otya?
3. a) Biki ebiyinzira okukolebwa okukendeza obubegye mu bavuzi ba boda boda?
 - b) Nga gwe, biki byokoze okwewala obubenje ku nguddo?

c) Obubonelo bwokungudo bukuyabyeko okwewala obubejje?

d) Bwe buba bukuyabyeko, bukuyabye butya?

Bwebuba tebukuyabye, lwaki tebukuyabye?

4. a) Osobola okuvunula no kutegera obufananyi bwo kuguddo?

b) Otegera ebigambo byo olulimi oluzungu ebiwadikidwa kubupande bwo kuguddo?

c) Osobola okusoma n'okuwadika olulimi oluganda?

d) Lulimi ki lwosinga okutegera?

Webalenyo.

Appendix 5: Introductory Letter

KYAMBOGO UNIVERSITY
P. O. Box 1 Kyambogo, Phone: 041-285001/2 Fax: 041-220464
www.kyambogo.ac.ug
SCHOOL OF ART AND INDUSTRIAL DESIGN
DEPARTMENT OF INDUSTRIAL & COMMERCIAL ART
Masters in Art and Industrial Design

31.1.01/2022

THE OFFICER IN CHARGE
TRAFFIC

Dear Sir,

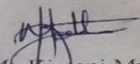
TO WHOM IT MAY CONCERN

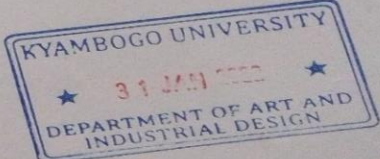
This letter introduces KAWUKI, FRANCIS a final student of Masters in Art and Industrial Design (MAID) Programme at Kyambogo University.
Registered under number 19/4/9MAID/20709/WKD

In partial fulfillment for the award of a MAID Programme at Kyambogo University, he/she is expected to conduct a research study in a specialized area as approved by the school graduate board.

The purpose of this letter therefore, is to request you to allow him / her to conduct Research at/inand accord him/her the necessary support for the study.

Looking forward to your kind cooperation.

Yours Sincerely,

Mr. Kimani Muturi
Head of Department, Industrial and Commercial Art



Appendix 6: Acceptance Letter

TELEPHONE: +256-41554008/1
FAX: +256-414-5325591
E-mail: admin@mulago.or.ug
Website: www.mulago.or.ug

MULAGO NATIONAL REFERRAL HOSPITAL
P. O. Box 7051
KAMPALA, UGANDA

IN ANY CORRESPONDENCE ON THIS SUBJECT PLEASE QUOTE NO.....

18th February 2022.

Mr. Kawuki Francis
Principal Investigator
Department of Industrial and Commercial Art
Kyambogo University

Dear Kawuki,

Re: Approval of Protocol MHREC 2212: "Graphical Interpretation of Road Signs to Local Languages for Boda-Boda Cyclists at Nateete- Rubaga Division, Kampala City".

The Mulago Hospital Research and Ethics Committee reviewed your proposal referenced above and granted approval of this study on 17th February 2022. The conduct of this study will therefore run for a period of one (1) year from 17th February 2022 to 16th February 2023.


This approval covers the protocol and the accompanying documents listed below;

- Consent Form
- Questionnaires

This approval is subjected to the following conditions:

1. That the study site may be monitored by the Mulago Hospital Research and Ethics Committee at any time.
2. That you will abide by the regulations governing research in the country as set by the Ugandan National Council for Science and Technology including abiding to all reporting requirements for serious adverse events, unanticipated events and protocol violations.
3. That no changes to the protocol and study documents will be implemented until they are reviewed and approved by the Mulago Hospital Research and Ethics Committee.
4. That you provide quarterly progressive reports and request for renewal of approval at least 60 days before expiry of the current approval.
5. That you provide an end of study report upon completion of the study including a summary of the results and any publications.
6. That you will include Mulago Hospital in your acknowledgements in all your publications.

I wish you the best in this Endeavour.



DR. NAKWAGALA FREDERICK NELSON
CHAIRMAN- MULAGO HOSPITAL RESEARCH & ETHICS COMMITTEE

Vision: "To be the leading centre of Health Care Services"