NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

AN INVESTIGATION OF THE EFFICACY OF COMPUTER-ASSISTED LANGUAGE LEARNING IN ENHANCING WRITING COMPREHENSION: A CASE STUDY OF WESTSIDE HIGH SCHOOL IN SWAKOPMUND

BY

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ABSTRACT

This study provides a review on the need to incorporate Computer Assisted Language Learning (CALL) in continuous teaching and learning using in order to enhance writing abilities of students/learners. The study also further argues for the need for consideration of the use of technology in second language (L2) instruction in secondary schools in Namibia. Learning to recognise and use the proper vocabulary is an important part of writing, as it affects consistency between paragraphs and essay writing. CALL has been argued to possess the potential to help improve the writing skills of learners. The study thus interrogates the extent to which CALL can be successful in this. It thus, demonstrates how the amount of research being done in various fields of education has grown in sync with technological advancements and highlights significant variations between the primary and secondary sectors' use of computers and their applications. An extensive analysis of pertinent studies delving into the effectiveness of the use of technology in the teaching of L2 English is then presented. The study interrogates further the nature of technology that has been utilised and the purposes for which it was used, the proof there is such technology that supports language learning, and other conclusions that can be derived from t such an analysis. The study adopted a mixed-methods approach that combined qualitative and quantitative methods in an explanatory research design. Purposive sampling was used to select two English language learners for interviews, and random simple sampling was used to choose 40 students to complete a questionnaire. The results demonstrate that, while there is little and inconclusive evidence that technology has a good impact on linguistic outcomes, it may have an indirect and positive influence on students' attitudes and behavior and even foster collaboration. The study concludes by suggesting that future studies should establish a more direct connection between technological applications, Second Language Acquisition (SLA) theory, and learning results.

CERTIFICATION

The undersigned certify that they have read and hereby recommend the acceptance by the Namibia University of Science and Technology a dissertation titled **An investigation of the efficacy of computer-assisted language learning in enhancing writing comprehension: A case study of Westside High School in Swakopmund** submitted in (partial) fulfilment of the requirements for the master's degree in English and Applied Linguistics (Faculty of Human Science) Department of Communication at the Namibia University of Science and Technology.

Supervisor

Haileleul Zeleke Woldemariam

Date: 28 April 2023

DECLARATION

I, Susana Ndapewa Salom, hereby declare that the work contained in the thesis/mini-thesis, entitled *An investigation of the efficacy of computer-assisted language learning in enhancing writing comprehension: A case study of Westside High School in Swakopmund* is my own original work and that I have not previously in its entirety or in part submitted it at any university or other higher education institution for the award of a degree.

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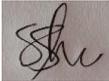
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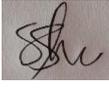
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DEDICATION

I dedicate this thesis to my lovely family especially my lovely husband. He made me who I am today with his words of encouragement and motivation. The strong woman I am today, is because of him. I would like also to dedicate this thesis to everyone that supported me, be it financially or psychologically. I thank you.

ACKNOWLEDGEMENTS

LIST OF ACRONYMS

CALL- Computer Assisted Language Learning

CPD - Continuous Professional Development

ESL - English Second Language

NSSCO - Namibia Secondary School Certificate Ordinary Level

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CHAPTER ONE

GENERAL INTRODUCTION AND BACKGROUND

1.1 Background of the study

Computer Assisted Language Learning (CALL) is an approach to learning, and within which students can use computers and other computer-related software and internet-based activities for language learning, including writing. The aim of CALL is not to replace traditional face-to-face language learning, but to supplement it. CALL has been used since the 1960s. However, studies show that CALL still lacks clear research methods. According to Moras (2001), CALL has developed in three phases. The first phase is the *Behaviourist Approach* which was implemented in the 1960s and 1970s and was characterized by the audio-lingual method. The audio-lingual method was widely used to provide students with drills and practice whereby the computer was used as a tutor which could not provide feedback. The second phase is the *Communicative Approach* which provides programmes with skill practice in a non-drilling format. In this, the computer was still being used as a tutor, but unlike with the behaviourist approach, students were allowed the choices, control, and interaction. In the same phase, the computer was also used as a tool for understanding language, such as word processors, spelling, and grammar checkers. The third and current phase is the *Integrative CALL Approach* which includes multimedia computers and the internet. Multimedia computers and the internet combine texts, graphics, sound animation and video. While there are numerous applications that support the use of CALL in schools, there are no coherent CALL implementation methods for students to follow for English Second Language writing activities in/outside the classrooms. The currently existing corpus of CALL studies does not establish a clear indication of whether the use of technology has an impact on the effective writing skills of learners in Namibian Schools. This is because most schools in Namibia do not own computers or computer laboratories for students to practice the Integrative CALL approach or simply, the learners do not also own computers at home.

There is a higher number of current Grade 11 learners transitioning to higher education institutions. These institutions have initiatives that require students to be competent in the English language, which language is used as the medium of instruction in all Namibian institutions of higher learning. It is necessary to consider the English language needs of the students in order for them to succeed in their studies and in future employment. Needs analysis, according to Hyland (2006), is a strategy for "collecting and evaluating information important to course design" (p. 73). Therefore, one of the basic tools that one can use in order to determine the language needs of students in aid of course planning and development is the needs analysis. The needs analysis is further discussed in detail in chapter two.

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For this reason, the study further provides insights on the first stage of developing a computer-enhanced ESP program for Grade 11 learners in Swakopmund, which is the needs analysis. According to Richards and Schmidt (2010) "need analysis is the process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities" (p. 389). The research focused on the target needs of the learners, specifically, their necessities, lacks as well as their wants. The approach employed in the successful accomplishment of the objectives of the research is an integration of gap analysis and target-situation linguistic analysis.

1.2 Statement of the problem

Grade 11 in Namibia can be a transition from basic education to higher education, or employment. Learners graduating from this grade are expected to possess good writing skills which are needed to accomplish their educational and employment requirements. However, some of these learners lack the art of good writing, which is essential in order to excel at both academic and professional levels. When an individual fails to develop proficiency in writing, his or her ability to demonstrate knowledge, positions, and philosophies in and outside of the school setting is restricted, leading to reduced educational attainment, employment status and quality of life. The learners' inability to recognise and utilise the proper vocabulary while putting together written work is one of the issues that learners struggle with daily, in so far as writing is concerned. Learners struggle to write clear sentences (as demonstrated in their writing), which eventually affects the consistency between paragraphs. Additionally, when learners struggle to choose the appropriate vocabulary or write coherent sentences and paragraphs, essay writing becomes difficult. Some educators utilise computers in language learning to improve the writing skills of learners. But how successful is CALL in improving writing and solving writing issues? In attempting to responds to that question, the current study sought to investigate the effectiveness of the implementation of CALL in language learning in Namibian Secondary schools.

1.3 Research objectives

The main objective of this study was to investigate the efficacy of Computer-Assisted Language Learning in enhancing writing comprehension at Westside High School. The following are the specific objectives that anchored this study:

- To investigate how CALL enhances the vocabulary of grade 11 learners;
- to explore the ways of bringing coherence in paragraph writing through CALL; and
- to evaluate the effect of computer-assisted language learning on essay writing.

1.4 The significance of the research

It is envisaged that the study could help stakeholders in education, teachers and learners by providing the, with exposure to information regarding how to improve the writing skills of learners through the use of technology. The present research also has the potential to contribute towards the enhancement of the writing abilities of learners at a self-paced rate. The research, therefore, also possesses the potential to facilitate improved composition aptitude among learners by providing guidance and empowering them to take ownership of their education. The aforementioned knowledge can be applied within practical settings. The digital education platform facilitates an avenue for reticent learners for voicing their thoughts during collaborative discourse. Individuals who may struggle with their writing abilities are invited to participate in the instructional sessions. The instructional materials would be intentionally fashioned to mitigate the potential stress of the learning experience, while simultaneously affording ample opportunity for modification and adaptation. Utilising computers and related tools can assist educators in enhancing the efficacy of their instruction and preparation thereof. This intervention provides substantial benefit to the respective individuals. Computers are utilised for the purpose of generating and preserving written assignments, as well as maintaining a comprehensive record of academic grades for future reference.

It is thus, further envisaged that the outcomes of the investigation will be disseminated among fellow language educators. The recommendations can be implemented by educators to enhance the quality of their in-person instructional delivery. Moreover, CALL tools have the potential to facilitate a more accurate evaluation of written assignments. Furthermore, possessing an awareness of the writing proficiency of learners facilitates educators in strategising appropriate instructional plans and assignments for their academic development. The findings of the study have the potential to assist educators in making informed and effective pedagogical choices pertaining to the instruction of writing. The acquired advantages will be employed to enhance their pedagogical strategies. The results of this study are poised to benefit both instructors and learners at various educational levels, including but not limited to primary, secondary, and tertiary institutions.

1.5 Limitations of the research

The advancement of the research was hindered by various constraints such as managing research permissions while ensuring timely data gathering, analysis and presenting the first draft to the supervisor. The researcher faced an extra limitation regarding the degree to which people were open to getting aid at the specified research site. The individuals selected to partake in the inquiry expressed resistance. The ethical guidelines for research state that the researcher is not allowed to coerce individuals into participating in the study. Instead, the researcher should provide participants with the choice to willingly decide whether or not to take part in the research. As a result, there were a few

obstacles that arose from obtaining the necessary data and permission document, which I was required to present to the regional directorate for approval to enter the school premises.

1.6 Delimitation of the research

Although the research topic can be applied in a broader context, there are boundaries to it. The study was delimited to only one secondary school. It also solely targeted grade 11 learners in particular. This delimitation was done in order to allow for easy accessibility and to reduce the population. It is also much convenient for someone to carry out research in an environment that has the potential to provide the information needed to complete the research. The school that was targeted is Westside High School situated in Erongo Region and in the town of Swakopmund.

1.6   Definition of technical terms

This section provides definitions for terms considered critical and pertinent to the current study:

- **Computer Application**

  A computer application, shortened App is a type of software that allows someone to perform specific tasks. In this study, a computer application is any software that can be used for computer assisted language learning (Jonassen, 1996).

- **Computer Assisted Language Learning (CALL)**

  CALL is defined by Levy (1997) as the search for and study of applications of the computer in language and teaching. Computer Assisted Language Learning (CALL) addresses the specific needs of second language learners and tutors in computer-based learning and training environments.

- **Computer Mediated Communication**

  Computer Mediated Communication (CMC) is an emerging area within the CALL domain (Warschauer, 1996; Weininger et al., 1998). It occurs when learners use the computer to communicate with each other.

- **Multimedia**

  By definition Multimedia is a representation of information in an attractive and interactive manner with the use of a combination of text, audio, video, graphics and animation. In other words, we can say that Multimedia is a computerized method of presenting information combining textual data, audio, visuals (video), graphics and animations. These methods can be used in language learning.

- **Language Acquisition**

  Second Language Acquisition (SLA) is the study of how a second language is acquired. It is a fascinating field that covers non-first language and foreign language learning. A distinction is made between learning (a conscious process) and acquisition (a subconscious process).

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter provides discussions of both related literature and the major explications of the theoretical framework(s) adopted in the analysis and interpretation of the collected data. In conducting the literature review, the chapter seeks to locate the current study within the corpus of already existing scholarship. In this manner it also avoids the duplication of research. Secondly, in conducting a discussion of the theoretical framework, the chapter provides explications of the theoretical framework within which the study is couched.

2.2 Literature review

A database search conducted on Computer Assisted Language Learning (CALL) yielded valuable information presented here in this section as a review of work done by other researchers. Computer-Assisted Language Learning (CALL) is concerned with "the use of computers in assisting second or foreign language instructional activities" (Chien, 2011, p. 25). Gunduz (2005) observes that, even though computers have been used since the first half of the 20th century, they were not used for educational purposes until the 1960s. In the 1970s, the use of CALL evolved in the field of linguistics and language learning. The pioneering projects in CALL, which were referred to as Computer-Assisted Instruction (CAI) were the computer-based introductory courses developed in the USA in the 1960s. By the 1980s, people had witnessed the spread of computers both in educational institutions and in households. Since the beginning of the 1980s, computers have been used in many schools, and CALL software has also become more readily available on the market (Ittelson, 2000). Therefore, CALL is an emerging force in language education.

Slattery and Kowalski (1998) maintain that there are two waves in Computer Assisted Language Learning. The first one started in the 1980s and early 1990s which was related to using word processors and improvement in writing quality and even motivation which the learners had with the new system of writing and typing. The second one is placed on computer-mediated communication (CMC) which appeared with the arrival of Internet and the role of hypertext which link a related text to numerous texts. On the other hand, this wave also allowed for students to be able to electronically communicate with each other (Chien, 2011). Early studies on writing in CALL focused on two areas: developing word processing skills in learners and the use of text-based and later graphic organisers to support the writing process. Word processing was common in CALL previously but it is not any longer. Pennington (2004) notes that research in word processing showed positive effects in terms of writer

attitudes, text length, text quality and quantity, and in some cases quality of revisions. In the contemporary, word processing is now used by virtually everyone for composing.

2.2.1 How vocabulary development enhances writing comprehension

There are many ways that technology affects human endeavours, and education is no exception. Computers play a variety of roles in modern life. Much like other forms of technology, they are related to people's lives and occupations. Recent years have seen a rise in the popularity of computer-assisted vocabulary learning, which is now regarded as one of the key uses of computer-assisted language learning (CALL). This could be viewed as a brand-new teaching aid for vocabulary in academic settings.

Computer Assisted Language Learning (CALL) is regarded as an appealing learning tool due to the extensive vocabulary that students should learn and the constrained time available in EFL classrooms (Enayati & Gilakjani, 2020). The continuous repeating of words in CALL vocabulary education ensures that taught words are retained (Enayati & Gilakjani, 2020). Enayati and Gilakjani (2020) investigate how CALL affected Iranian intermediate learners' vocabulary acquisition. For this goal, the researchers used the Tell Me More (TEM) software. The Preliminary English Test (PET) was utilised in this study as a standardised test to determine the subjects' level of language proficiency (Enayati & Gilakjani, 2020). The individuals were then divided into the experimental group and the control group by the researchers. Thirty-one EFL students made up the experimental group, while thirty-one EFL students made up the control group. A pre-test of 80 items was given to participants to gauge their prior vocabulary and grammar skills in English. For a total of 12 sessions, the researchers instructed the students in both groups. The experimental group received TEM software as a treatment, while the control group did not receive any care (Enayati & Gilakjani, 2020). In both groups, the same terms were taught. The 65 items were given out as a post-test after 12 sessions in order to contrast the results of the two groups' scores and assess the treatment's efficacy. The Independent Sample T-Test was used to examine the evidence. The post-test findings revealed that the experimental group's members fared better than the control group and had favourable sentiments toward CALL (Enayati & Gilakjani, 2020). The method and the approach seem to be appropriate for the study, but the study did not detail how the analysis was to derive the conclusion.

The use of CALL when teaching vocabulary, according to Khoshnoud and Karbalaei (2015), will significantly improve vocabulary acquisition. Respondents who were elementary EFL students performed better on the memory tests than those who underwent the conventional method of teaching vocabulary as a result of learning language through actual experience and actively involved in the learning process. In a different study, Ghorbani and Jahandar (2015) note that computer-assisted vocabulary education had a substantial impact on the word retention of Iranian EFL learners.

In agreement with earlier researchers, Eizadpanah, Abedi and Ghaedrahmat (2014) conclude that Computer-Assisted Vocabulary Learning (CAVL) improved long-term memory in intermediate English as a Foreign Language (EFL) learners. They submit that the students themselves realised how much they benefited from instruction through online learning during the course of the course.

Talarposhti and Pourgharib (2014) investigated CALL research on vocabulary learning in order to support the earlier findings. In terms of connecting CALL with vocabulary acquisition and looking for efficient ways to use CALL in vocabulary training, the study explored the use of computers for the development of lexical skills. The retention test results revealed that the experimental group outperformed the control group by a large margin. This implies that the presentation of vocabulary in computer-assisted learning environments with visual, aural and sentence contexts would improve vocabulary learning and teaching (Talarposhti & Pourgharib, 2014). A related study, Barani (2013), also identifies a crucial function for CALL instruction in raising vocabulary achievement in the setting of EFL learning and teaching, and in the process thus provides additional support for the conclusions derived from the aforementioned investigations.

In two institutes in Tehran, Iran, Naraghizadeh and Barimani (2013) examined how well CALL helped Iranian EFL students understand vocabulary compared to those who received traditional instruction using printed text resources. The outcomes demonstrated that CALL education enhanced vocabulary knowledge in EFL students. In this study, the experimental group outperformed the control group in terms of vocabulary knowledge. Hirschel and Frits (2013) also examine the short- and long-term efficacy of two widely used but understudied vocabulary acquisition strategies: 1) vocabulary notebooks, and 2) a Computer Assisted Language Learning (CALL) application with spaced repetition. The study's findings demonstrate that both the CALL and vocabulary notebook groups showed comparable statistically significant vocabulary score increases from the pre- to post-tests. The CALL group outperformed the other groups in terms of gains over the long term.

Observing the offerings on the web today, vocabulary is still one of the most common applications, partly because it holds such high face value for language learners and partly because it involves the manipulation of discrete items (words, definitions, translations, etc.) and is therefore easy to program and manage. "A key area made possible by CALL is electronic glossing as a support tool for both vocabulary development and writing comprehension" (Hubbard, 2009, p. 7). Being a productive skill, writing requires recalling personal stored background knowledge of all language aspects and then composing and producing a practical relevance of a written piece in order to be read by others comprehensibly (Rahim & Shafaei, 2018).

More recently, the web has made accessible an enormous amount of printed material in both commonly taught and many less commonly taught languages. Online dictionaries have reduced the need for laborious glossing. Chun (2006) provides a review of CALL reading research linked to implications for reading instruction. For instance, from Grabe (2004) that have emerged from text-based reading research and one of them is lack of vocabulary. By far the largest number of studies have been those concerned with just one of these implications: emphasize the learning of vocabulary.

There are quite a number of benefits that CALL can offer when it comes to vocabulary development, writings skills and language development. Spell checkers and grammar checkers were brought in as useful tools in the development of second language writing. Systeme-D for French (Noblitt, et al, 1987) was a CALL program that included aspects of vocabulary, grammar and composition to create an integrated composing and editing environment. Learners who compose by means of typing texts are privileged to correct their errors regarding spelling. Zaini and Mazzdayasna (2014) examine the effects of CALL on Learner's writing skills and believe that CALL is beneficial on vocabulary development. After their experimental study, students who wrote tasks with Microsoft Word Office as a word processor were provided with automatic feedback concerning their vocabulary use.

Cunningham (2000) concludes that his writing class was more productive when he used word processing software with his students. He surveyed 37 EFL students in his writing class to study the students' attitudes towards using computers in their writing. Eighty-eight percent (88%) of them proved that using a word processor during the writing process helped them to concentrate on certain aspects of their writing sub-skills such as grammar, vocabulary and organisation of the structure of their text.

2.2.1.1 The necessary contexts in which learners use the English language
Generally, people use the English language to communicate with one another in a diverse global community characterised by linguistic diversity. Overall, the goal of teaching English as a second language is to encourage students to improve their communication skills for academic and professional goals, as well as to make communication simple for them (Namaziandost & Nasri, 2019).Within the Namibian context, despite, Namibia choosing English as the official language of communication at independence in 1990 (Sabao & Nauyoma, 2020; Simataa & Simataa, 2017) there has been slow progression in the performance of English as a Second Language in Namibian schools. The choice of English was for political, economic, social and educational reasons as the Language of Teaching and Learning (LoTL) (Iipinge, 2013). Thus, the necessities for the usage of the English language by the learners and students were observed. The use of English creates challenges for most learners in Namibia since the majority of them learn it as a second language – which then necessitates

the need for analysing the needs of the learners. In addition, there is a need to test the learners' competency through listening, speaking, reading, writing, vocabulary, identifying errors and correct usage of such structures of language (Mallillin, 2017). It is through a need analysis process that teachers can improve their teaching methods. English for Specific Purpose (ESP) happened to be the effective tool through which necessities for the use of English are enhanced. In establishing an English for Specific Purposes curriculum, a needs analysis is critical (Anthony, 2018).

Developing the learners' ability to write coherently and cohesively remains a priority in education and an objective in the curriculum. Despite prioritising writing there are still challenges experienced. Some of the challenges identified have to do with the methodologies through which the learning of English is taking place, which were largely found to be inappropriate (Kessler, 2018). Firstly, oral work, which is the heart of any system, is completely ignored. Secondly, writing, which is a more challenging ability to learn, is taught from the start. Thirdly, students are not exposed to the use of language in any way. Fourthly, rules are used to teach language and rote memory is used to learn it (Kumar, 2020). As a result, students are unable to compel the use of language in any way. In other words, in the field of English as a Second Language, a lot of research has been done but none of these really focused enough on investigating the use of computer-assisted language learning in enhancing writing comprehension. Therefore, this study intends to deepen the understanding of the use of CALL as a developed tool that is unique in terms of identifying, for example, syntax errors in writing.

Although it has been noted that, all skills in English are crucial in learning, writing skills are commonly known to be inadequately applied correctly by the teachers as one study observes (Al-Jarrah, Mansor, Talafhah & Al-Jarrah, 2019). One of the early skills deficiencies noted in studies conducted globally is that today there is a short supply of trained and qualified teachers (Al-Jarrah et al., 2019). These short supplies affect the teaching and learning of the English language since many schools are forced by situations to hire anyone with background knowledge in the teaching of English – yet such individuals may be fully qualified to teach pedagogical aspects of a language communication skills. For example, a study conducted in India revealed that, despite the fact that English teaching and learning should be focused on specific realistic elements and demands, it is always diverted to idealism, elitism and the status quo (Noddings, 2018). Similarly, the study revealed that teachers teaching English were found to be overburdened with teaching loads, clerical duties, and co-curricular activities. The teachers did not also use teaching aids during instruction. For example, 73 percent of the sentences written by the learners contained one or more errors, with 79 percent of the errors being serious and occurring in word order – and teachers did not use teaching aids during instruction (Tabatabaei, & Pourakbari, 2012).

Teachers face the problem of a large number of students who do not speak English and have high transitory rates when classroom conditions change (Osman, Rahim, Bakar & Rahman, 2021). Teaching speaking, motivation, differentiating learning, teaching huge classes, discipline, teaching writing and teaching grammar, according to Copland, Garton, and Burn (2014), are issues that have surfaced as affecting large numbers of instructors in many educational environments. Learning English is a challenging transition for this big population, one that is sometimes frustrating and often traumatic and some students who are learning a new language require a tremendous lot of assistance (Briana & Mutia, 2018).

Those who work with learners studying English as a second language are well aware that any linguistic assistance is critical to their language acquisition (Kamati & Woldemariam, 2016). As a result, English Language Learners (ELLs) require a wide range of language experiences. They require exposure to English in the form of hearing, writing, speaking, and reading. Technology, particularly computers, can assist EL students in gaining valuable language practice while learning a foreign language (Ezeh, Anidi, & Nwokolo, 2021).

Computers can be used to provide English Language (EL) students with multiple language learning opportunities outside of the traditional classroom setting (Alsubaie & Madini, 2018). When these chances are combined with activities that English Language learners may do at home with family members, English Language learners have a rich literacy development. Computers and software, as previously said, can assist English Language students in developing lexicon skills and knowledge (Alsubaie & Madini, 2018). According to Alsubaie & Madini (2018), computers can also assist EL learners in improving their writing abilities. It can be challenging for pupils to write paragraphs in a language that is still unknown to them and therefore the computer can be of greater assistance.

Sometimes to discover the writing problems among learners, a special method for data collection in a specific study is needed that suits how the results will be analysed to be understood. For example, a study conducted by applying the mixed method design – meaning that a combination of both qualitative and quantitative data was collected concurrently, and a triangulation of tools was also conducted to validate and confirm the reliability of data. Furthermore, the study used a sample size of 210 secondary school students, six English language teachers and six headmasters from six schools in Khurda and Cuttack as a sample (Dash, & Mahana, & Mishra, 2021). With the use of the mixed methods the tools used included the questionnaire, interviews, focus group discussions and simple statistical techniques (Dash et al., 2021). According to Dash et al. (2021) the findings of this study made some revelations in which, in writing, only 12% of students never evinced problems using the correct tense, but 44% of students had challenges using the correct tenses all of the time. 17% of pupils never

write English essays because they prefer to write in their native tongue, Odia. It was also observed that 36% of the students used their first language extensively to assist with English terms, whereas 40% of students did not use their first language at all to assist with English words. In the early stages of writing, 16%of the students were able to use prewriting activities in English to a large extent, whereas 60% of students are unable to do so. What this study did not reveal however, is how those tests were conducted, whether learners were allowed to apply Computer Assistive Language Learning (CALL) in order to determine their competence, or simply to analyse errors made in terms of what the content was supposed to cover.

Therefore, the current researcher affirmed that despite the results of this published study, its findings are vague in the sense that its conclusion does not make any recommendations based on the findings. In addition, if a similar study were to be conducted applying different samples, methods and triangulation of data/tools, will it yield similar findings? Despite enormous evidence of how computers can be helpful to writing proficiency, there are challenges associated with it, such as having a restricted computer supply, which is a problem whenever learners/students have classes that require more computers than are available (Winkler, Söllner & Leimeister, 2021). There are several benefits associated with computers, cellphones and tablets that have increased our society's dependence on technology. These devices assist in many ways to improve the quality of education such that, learners can write, watch television, or read the news anytime they want (Winkler et al, 2021). Access to internet services all over the globe has also become a benefit, as the computers can access Internet media such as YouTube, BBC and online encyclopaedias thanks to the world wide web (WWW) (Winkler et al, 2021). A study by Leona, van Koert et. al., (2021) indicates that the learners' written ability and vocabulary knowledge improved significantly after participating in English computer activities or coming into contact with English outside of school (extramural English) through computer practices.

2.2.3 Effecting coherence in paragraph writing

Writing has been called the core of education and the path of language learning. Kroll (2003) believes that writing is an integral part of the education system. Generally, learning to write a language successfully is viewed as a proof of actual acquisition of that language. Nitta (2004) concluded that the concept of fluency includes the components of organisation, grammar and vocabulary in communication not simply the number of words produced in a given period of time. Li and Cumming (2001) examine whether word processors could change a second language learner's writing process and improve the quality of writing or not. Analysis of the raw data indicates the advantages for the word processing medium over the pen and paper medium in terms of a greater frequency of revision made at the discourse and syntactical levels (Li & Cumming, 2001).

To be able to construct coherent and well-structured paragraphs, sentences in these paragraphs should be grammatically correct. Godwin-Jones (2009) states that using computers to help students practice and learn grammatical constructions goes back to the earliest days of Computer-Assisted Language Learning (CALL). Chien (2011) argues that with the birth of the Internet age, CALL began to focus more heavily on the new capabilities of computer-mediated communication. For secondary school learners, an awareness of forms and rules is a vital component of online learning. Compared with earlier grammar-oriented applications, however, there is recognition today that a focus on form should not be an isolated, stand-alone activity but rather should be integrated into a communication-centred and networked language learning environment. Therefore, it has become clear that grammar exercises require more than a single word or phrase answers (Chien, 2011).

It has been proven that helpful tools like word processing and computer-based activities can help students learn through technology and the pedagogical use of technology (Ambrose & Palpanathan, 2017). Additionally, it should be highlighted that this has inadvertently made it possible for pupils to explore learning with a lot of linguistic data. This study compared the efficiency of in-class pen and paper writing to computer-based writing in the computer lab (Ambrose & Palpanathan, 2017). To elaborate further, the study applied a string of approaches to determine the coherence in essays written by the 114 participants, in which each participant completed one writing assignment using Google Docs in the computer lab and the in-class writing assignment (pen and paper). The two writing assignments both involved descriptive writing. In order to gauge how the students, feel about using Google Docs in writing sessions and to determine whether Google Docs encourages them to write more, pre- and post-writing questionnaires were administered.

The results demonstrate that most students had a favourable attitude toward using Google Docs as one of the resources for learning to write, since they thought it was extremely trustworthy. Although language teachers might have the influence to persuade their students to do some CALL activities, there are impediment to capturing their interest. Based on the study of writing samples, it was observed that 74 out of 109 students (5 absentees) had improved their writing through the use of Google Docs (Ambrose & Palpanathan, 2017). This is an indication that many of the efforts that can be suggested have the potential to yield the necessary desired results if learning tools are available. The results showed that pupils are aware of the computers' significance as a key educational instrument for the twenty-first century (Ambrose & Palpanathan, 2017). However, other pupils said it should be done in moderation because using too much technology can occasionally dull the teaching and learning process. Despite the good efforts to improve and make our life better through technology, technology has its own limitations and bad effects.

Another technology that seems to have dominated the internet recently and proven to be an enhancer of second language writing complexity, accuracy, fluency, and lexical complexity is the Online Translator (OT) similarly known as Google Translate (GT). Much background study was conducted on the use of this technology and has been proven in one of the studies, whose methodology included the participation of a total of 225 first-semester university students (Mujtaba, Parkash & Reynolds, 2022). These students were divided into three groups at random: GT+ training, GT only, and control group after being first placed into two proficiency levels: high proficiency (HP; n= 108) and low proficiency (LP; n= 117) (Mujtaba et al., 2022). The writing was assessed using Complexity, Accuracy, Fluency and Lexical complexity (CAFL), and the findings demonstrate that while LP learners performed better on the accuracy, HP learners had higher levels of syntactic and lexical complexity and fluency (Mujtaba et al., 2022). In the context of this study, the researcher seeks to determine whether individual learners either fall in the category low proficiency or some fall in the category of higher proficiency by administrating a test item, and thereafter conducting an analysis.

Mujtaba et al. (2022) is one of the latest studies that have demonstrated quantitative analysis with the results worth interpreting. However, there is need for transferability for the sake of trustworthiness of this study. Transferability is the capacity to apply findings from research studies to circumstances that are similar (Pitney & Parker, 2009, p.64). It suggests that others may use and share the information (Cohen, Manion & Morrison, 2011). This makes it possible for anyone who might want to replicate the study in different research contexts to do so without difficulty. Although the above quantitative methodology was used to derive the conclusion, much still needs to be analysed, for example, it could be important to inquire from the students in particular about the difficulties and challenges they experienced while they were being examined.

Moreover, traditional teaching on paragraphs writing has changed drastically with the introduction of advanced technology. Ultimately, this has resulted in the replacement of old practices (Chung & Ahn, 2021). Furthermore, education stakeholders have begun using these innovations in language classrooms to enhance instruction after realising how important they are (Cancino & Panes, 2021). Online translators (OTs) allow learners to correct orthographic, lexical and grammatical errors, and have raised metalinguistic awareness, which is why L2 students have acknowledged using OTs in writing sessions (Ducar & Schocket, 2018). Among the numerous OTs, GT is regarded as the most prevalent technique that supports learners in writing (Jolley & Maimone, 2015). In 2006, Google released the GT OT tool. This OT featured a translation model based on phrase-based algorithms that assessed word combinations based on the "frequency of occurrence across huge volumes of digitalised data" (King, 2019, p.2).

A new translation system called "Google Neural Machine Translation (GNMT)," which enhances translation quality, was created after ten years (Wu, Schuster, Chen, Le, Norouzi, Macherey & Dean, 2016). Researchers have claimed that there are certain drawbacks to utilising OTs despite Google upgrading its OT. Because of cultural references, pragmatic expressions, proverbs, idioms, and polysemic terms, for instance, the OTs appear to produce inaccurate translations (Abraham, 2009; Chung & Ahn, 2021; Correa, 2014; Ducar & Schocket, 2018). Additionally, even after employing OTs, students must engage in post-editing to ensure that their work is of appropriate quality because OTs appear to depend on the type of text, the subject matter and the language pair (Godwin-Jones, 2015). The depth with which teachers meaningfully approach learners in the context of applying OTs and the programs they use to ensure that learners mastered the editing of their writing to the final version, are not well known yet. However, the researcher is interested in investigating further how language teachers at the school under study ensure that certain applications can be used to assist learners to master the editing skills applying either one of the available software applications or their own learned editing skills.

Despite these difficulties, earlier research has shown that OTs can assist students improve their writing (Lee, 2020; Stapleton & Kin, 2019). These studies, however, employed all-encompassing metrics to assess how well students wrote after using OTs, leaving unresolved the question of how consistently utilising OTs influences L2 students' CAFL. Investigating this is crucial since writing is multidimensional (Cumming 1990), making it possible for CAFL to fully capture the learners' writing performance (Barrot & Gabinete, 2019; Lu & Ai, 2015). A variety of factors appear to affect the CAFL, such as L1 interference, proficiency level, and the multidimensional structure of writing which demands students to prepare and edit their work and prior experience (Chung & Ahn, 2021).

For instance, L2 authors cannot write in the style of native speakers because their mother tongue (L1) influences them (Tsai, 2019). Writing is challenging for these students since L1 and L2 are naturally entwined in their minds (Okasha & Hamdi, 2014; Salma, 2015). However, rather than dismissing this, one should see it as a chance to capitalise on (Leonardi, 2010). Therefore, researchers recommend utilising translation from L1 to L2 in writing workshops to encourage students to hunt for a variety of lexical items and phrases and develop compositions that are cohesive and syntactically complicated (Cohen & Brooks- Carson, 2001; Tsai, 2019).

Additionally, because of their direct influence on the L2 writing process, linguistic elements like L2 proficiency—knowledge of grammar and vocabulary—have received the attention they deserve (Kim & Pae, 2021). According to researchers, L2 writing is a complicated process that involves interactions between various factors, including L2 proficiency level (Zabihi, 2018). The benefits of OT for learners

with different levels of language proficiency (high vs. low) in terms of CAFL have not been thoroughly investigated, despite the fact that previous studies have shown that language proficiency accounts for a significant difference in L2 writing (Engber, 1995; Grabe & Kaplan, 1996; Laufer & Nation, 1995; Pae, 2018). The current study thus contributes to the body of literature in two different ways: firstly, analysing the impact of CALL in the context of other technologies such GT on the CAFL of L2 writers; secondly, examining how GT benefits students with varying levels of proficiency. Similarly, earlier above, the researcher demonstrated a lack of awareness on whether the English second language teachers do apply any other specific CALL tools apart from Microsoft Word application. The research thus also seeks to further establish if the teachers take any drastic steps to engage learners with other applications such OT/GT, or any other at their disposal.

2.2.3.1 L2 translations and writing

OTs are tools that can be used online and for free in translating texts from one langauge to another. Currently, Google Translate, Babylon, Bing, and I'm Translator are the free, widely accessible OTs. Dictionary and textbook use have, in language lessons, been replaced by the use of OTs (O'Neill, 2016). Despite this, due to its resemblance to the grammar-translation method (GTM), translation from one language to another is not generally accepted (Cancino & Panes, 2021). For instance, Cook (2009) contends that translation is still used internationally in language schools that emphasise form. This approach can be employed in large courses and gives students, especially those with low proficiency, a sense of accomplishment and confidence.

The benefits of OTs in language learning has been the subject of discussion in the literature, with some authors making positive assertions in its favour, with others expressing cautious hope (Jolley & Maimone, 2015). Despite this, Lee (2020) contends that technological improvements have given OTs a unique niche in language education since OTs help students increase the accuracy of their grammar and lexical resources. In support of the positive aspects of OTs, Lee believes that they can be useful for language learning under the condition that teachers are aware of their limits and that students receive enough teaching. According to Nio (2009), students use OTs to finish written tasks since they offer quick translation in a wide range of languages. Additionally, many college students believe that OTs are a crucial component of learning a second language. According to Briggs (2018), 48.8% of 80 Korean undergraduate language learners agreed that OTs are an effective aid for language learning. Additionally, the study concluded that OT usage among college students is frequent and shouldn't be condemned.

A few scholars have warned against utilising OTs in language classrooms, citing issues with idioms, ambiguous lexical items, and excessive dependence on OTs as justifications (Ducar & Schocket, 2018;

Luton, 2003; Somers, 2011). The researcher agrees with the foregoing observation that over-dependence on the OTs could have far-reaching implications on the learners' writing competencies and their ability to master editing skills without CALL. In addition, the quality of the linguistic form used by OTs, which may have an impact on the writing's quality, is one of the most prevalent problems (Chung & Ahn, 2021). For learners with poor proficiency, who are unable to determine whether the translation provided by OT is accurate or inaccurate, this problem appears to be more difficult (Cancino & Panes, 2021). Hence the combinations of both OTs and learners' linguistic ability had led researchers to be sceptical about the learners' writing skills and qualifications. Researchers believe it would be difficult for one to be able to discern how, in the future, the learners would be able to produce quality writing.

Furthermore, according to Klekovkina and Denié-Higney (2022), it is not ideal to compare a text created with OT with one created without OT because, in the latter scenario, a student must exert effort to create his composition without access to OT. Stapleton and Kim (2019) contend that these technological innovations are now gradually giving their users accurate translation, allowing the users to improve their written output. The authors also argue that a text produced with the help of OT does not have any pedagogical implications and that this squanders the time and expertise of language teachers.

While a significant body of research has shown that OT improves the writing abilities of L2 students (Lee, 2020; O'Neill, 2016; Tsai, 2019), These studies did not use the CAFL to gauge the students' writing abilities. For instance, O'Neill (2016) examines how an OT affected the writing of L2 students. Three groups of participants were created: one with access to an OT, one without access to an OT, and one with access to both an OT and training. The outcomes evinced that the OT + training group outperformed the control group in terms of production, and the learners who adopted OT showed improved grammar, content and comprehensibility. According to the report, OTs are an important tool that supports students in improving their language proficiency, provided that the students receive instruction prior to utilising OTs in their writing.

Similarly, Tsai (2019) conducted a study to investigate the impacts of GT on the writing productivity of L2 learners. In order to do this, 124 adult-Chinese EFL learners' compositions were evaluated by two automatic writing evaluation tools: VocabProfiler and 1Checker (for grammar and spelling) (for lexical features). In the study, students were asked to write in their first language before switching to English to finish the text. The students were split into two groups as a result: self-written (those who did not have access to GT) and those that had access to GT. The findings demonstrate that GT students fared better than their peers in that they used more words, more vocabulary and made fewer grammatical

and spelling mistakes. Lee (2020) recently conducted research to examine how GT affected the calibre of writing produced by L2 students. Based on their TOEFL iBT results, the 34 EFL participants in the study exhibited intermediate and high intermediate competence levels. The L2 students first composed a sentence in L1, and then they used GT to rewrite it in L2. By using GT's translation of their L1 material, the learners then modified and corrected the final version of the text. The findings showed that the learners' final L2 texts had no statistically significant differences from their initial L2 texts in terms of grammatical and lexical mistakes.

Even if the aforementioned research showed that OTs had good benefits on writing performance, there is still much to be discovered. Writing is a multifaceted talent. Thus, many researchers have utilised the CAFL model to assess the learners' writing abilities (Abdi Tabari, 2020; Barrot & Gabinete, 2019; Cho, 2019; Lu & Ai, 2015; Skehan, 2009), citing the CAF model's ability to fully capture the learners' writing abilities. Only two studies, to the best of the researchers' knowledge, have examined the impact of GT on L2 learners' writing performance as determined by CAFL (Cancino & Panes, 2021; Chung & Ahn, 2021).

Cancino and Panes (2021) explore how OT affected L2 learners' writing performance as shown by the length of T-units, the complexity of syntactic structures and correctness. In order to achieve this, 61 EFL students in the 11th grade were included in the study and divided into three groups: GT, GT + training, and no GT. According to the Quick Oxford Placement Test, the learners' competency level was A1/A2. The findings demonstrate that learners who had access to GT generated texts that were more sophisticated, contained more words and were more correct than those who did not. Since there was no discernible difference between the GT and GT + training groups, both groups appeared to have benefited students. More recently, a study examining the effects of GT on L2 was carried out by Chung and Ahn (2021).

The study looked into how text genre and language proficiency affected the usage of GT in L2 writing. The study made use of 91 adult Korean EFL learners, who were separated into high and low proficiency groups based on their results on an English proficiency test. These students were given a narrative essay writing assignment without the use of GT (with the title 'My first day at college'). 'My final day of college' was the subject of their second assignment, which they ace had to write a week later. In order to evaluate the text genre, a similar process was utilised with 31 students (argumentative writing). The findings evince that L2 learners were more accurate, but there were no discernible gains in lexical and syntactic complexity. The study also revealed that the effects of GT varied depending on the text style and proficiency level (narrative vs. argumentative).

The preceding studies have offered factual proof of how GT affects L2 writing skills. The majority of studies, however, did not evaluate the students' CAFL writing, and they also had methodological flaws. For example, Lee (2020) and Tsai (2019) asked their pupils to write about the same subject twice. In both trials, participants were asked to write a text in L1 first before being asked to write the same content in L2. Later, a comparison was conducted between the GT translation and the L1 text. In light of the possibility that the practice effect is to blame for the changes in learners' writing, this may have complicated the consequences of GT. The objective of this study is to respond to the research question.

2.2.4 The effect of CALL on essay writing

To define the quality of writing, it is crucial to mention De Beaugrande's viewpoint about a high-quality discourse. De Beaugrande (1981) believes that there are seven features that qualify a written or spoken English text. Those features are identified as discourse features including: cohesion, coherence, intentionality, acceptability, informativity, situationality and intertextuality. These features make a text a high quality one, particularly essays. In line with the foregoing, Li and Cumming (2001) assert that "word processors help reduce the mechanical difficulty involved in changing texts and offer a fluid and easily transformed communication, users might create longer compositions and do more revisions of their writing than they would do with pen and paper" (p. 128).

To facilitate and fasten writing practice, a variety of techniques, strategies and activities are needed. Brown (2001) argues that "written products are often the result of thinking, drafting, and revising procedures that require specialised skills, skills that are developed naturally by every speaker... pedagogy focuses on how to generate ideas, and how to organize them coherently". Additionally, Brown (2001) asserts that producing an English language written text requires a mutual exchange of ideas between students themselves instead of a compulsory imposition of the teacher's authoritative ideas. This requires, as the current researcher believes, a negotiable process of composing ideas development in a logical, argumentative, cause and effect or narrative style. This seems to be practical and in line with Brown (2001) who asserts that one should not "buy into the myth that writing is a solitary activity" (p. 339).

El-Ghonaimy (2015) reveals that unlike the regular method in the process of learning writing skills, CALL enabled the learner to get feedback from the linguistic repertoire available in the word processor easily. Clearly, the software is able to give comments on errors made by users and provides suggestions for checking and correcting linguistic errors which occurred in writing. The findings of his study further indicate that CALL writing sub-skills (paragraph, grammar, punctuation) could be more effective than the regular method for teaching English language writing skills. Additionally, spelling

skill improvement via computer teaching had the same effect on the regular group, and the experimental group seemed to benefit largely from using computers in learning writing sub-skills. Thus, it seems that the computer has a significant role in English learning which, in certain cases could improve the writing subskills of the students. This agrees with Puccio (1993), Chapple (2001), Cohen, (1989) Muir (2004) and Szendeffy, (2008).

Another study by Li (2006) investigates the influence of word processing on the writing skills of students of English as a Second Language (ESL) as well as on writing assessment. Twenty-one adult Mandarin–Chinese speakers with advanced English proficiency living in Toronto participated in the study. The students completed two tasks, one a computer which traced and recorded their writing and revision processes and the other one was written with pen. Think-aloud protocols were also recorded. The results of the study revealed that participants paid more attention to higher order thinking activities while evaluating their written texts in the computer session, that they revised significantly more at most levels on the computer, and that their computer-generated essays received higher scores in argumentation than the hand-written ones. The study thus, came to this conclusion that educators should seriously consider the impact of computers on writing assessment.

Again, due to its potential to foster a student-centred pedagogy, critical thinking, collaboration, and communication skills, the incorporation of project-based vocabulary acquisition (PBLL) in Computer-Assisted Language Learning (CALL) has drawn increasing interest (Kokotsaki, Menzies & Wiggins, 2016). More recently, academics have started looking into the use of PBLL in CALL settings to give language learners the necessary knowledge and abilities they need to understand global concerns and make a good social impact in their communities (Turula, Kurek & Lewis, 2020). Through the critical literature reviews of PBLL in CALL environments, PBLL design methods and empirical evidence addressing the use of PBLL for social justice, the book Project-Based Language Learning and CALL: From Virtual Exchange to Social Justice seeks to provide a diversity of viewpoints on PBLL. Eleven chapters, separated into three parts, make up the book. The second and third parts of the book report on statistical literature that concentrate on PBLL for the development of communicative learning, intercultural competence, and critical awareness of issues of equity and social justice. The first part of the book starts with a brief chapter and is followed by two critical literature reviews. The diversity in the approach simply means that there is much that the two can instil to develop the professional writing of students if language teachers choose to invest much into the reading of these kinds of books.

2.2.5 Effectiveness of grammar checkers, electronic dictionary, chat Blogs and internet forum and discussions for CALL approach

Research has established that employing technology to learn a language fosters positive learning environments where students have more opportunities for engagement, receive more feedback, have more time to compose sentences, and most importantly, have better access to the target language. Thus, applications such as Grammarly for grammar checks, electronic dictionaries, Chat, Blog are considered to be effective multimedia software that consider language inconsistency and errors for automatic correction.

Research has also established that using technology to learn a language promotes productive learning environments where students have more engagement chances, get more feedback, have more time to construct sentences, and most crucially, have greater access to the target language. The Grammarly website, for instance, focuses on grammatical mistakes in users' written work. As the digital age takes hold, contemporary research has repeatedly highlighted language-learning technology as a creatively adjusted instructional approach. In EFL countries, the use of technology in language learning has increased, especially for successful learning a foreign language.

Language learning technologies, according to Chapelle and Jamieson (2008) and Sharma and Barret (2007), mirror the demands, routines, and inclinations of the contemporary digital society. Due to its benefits, it is quite debatable whether or not technology will replace books as a learning tool in the future. According to Baek, Jung, and Kim (2008), using technology as a learning tool in the classroom can help students gain real-world experience, provide scaffolding for difficult tasks, receive sophisticated and personalised feedback, foster interaction between teachers, students, and parents, and advance the teachers' professional development.

Reinders (2011) notes that learners learn new languages through YouTube, Google, and language applications platforms that are easily downloaded through mobile phones. These platforms and gadgets have the potential to increase the learners' autonomy due to the closer look at the authentic example of the target language. This thus, signals a transformation from the traditional method of language learning from textbooks into technology devices – a process that leads to student autonomy in the learning process. This is further compounded by the fact that the field of language learning technology is broad since several technological designs, including websites and applications, are produced frequently.

The Chat services, like WhatsApp, provide features that make communication simple. Text and audio communications have been suggested as viable tools to help students become more proficient in speaking and writing. Academic writing in Grade 11 is demanding as learners are required to achieve

a certain level of competence. According to Minal (2018), voice message chat helps language learners connect orally, and creating and arranging sentences while conversing will aid students in writing (Skyes, 2018). Furthermore, the ability to communicate globally with people from all over the world, facilitated by such forums, as well as the opportunity to get feedback from native speakers while using the platform, make Internet forum discussion platforms an acceptable language learning tool, especially for the improvement of speaking and writing skills.

WhatsApp, one of the most prominent social media platforms, has more than 1 billion members globally and is widely used (Klein et al, 2018). Through text and voice messages, images and videos, video calls, and group conversations, users of this application can interact socially and share information. Researchers and language educators are drawn to these features that the application offers. In the process, researchers continue to study how these platforms assist language learners in developing their language skills. According to Minala's (2018), audio message chatting in a WhatsApp group is a useful tool for improving language learners' verbal engagement. Brown (2001) demonstrates how voice messages have a significant impact on learners' vocabulary. Language learners can rapidly and cheaply communicate with speakers of the target language from around the world as well as with other language learners through text messaging (Khalili & Baradaran, 2009). In the context of this study, it will be appropriate to ask learners how often they use these social media platforms, in particular those with smartphone or access to other gadgets that permit the use of these social media platforms.

Again, a similar study assesses Facebook's efficacy as a learning aid in improving EFL students' writing abilities (Tarihoran, Alhourani, Ocaña-Fernandez, Alanya-Beltran & Hernández, 2022). Its specific goal is to examine how students feel about Facebook's features, dependability, utility and potential for language learning. Compared with this, the context of the current, is characterised by many of the students in Namibia being underprivileged and having no smartphones or access to social media platforms such as Facebook. However, it is appropriate to ascertain the extent to which these students use either Facebook or WhatsApp as they seem to also be popular platform in Namibia. The bulk of the participants, in the foregoing study, use Facebook six to 10 hours every day, according to the findings (Tarihoran et al., 2022). They were really satisfied with Facebook's functions as a tool to aid in their writing. The two main determinants of differences are the pupils' gender and age. When the profile variables of the students are taken into consideration, the findings of this study will have a considerable impact on how to handle their language learning demands.

Finally, it is demonstrated that there is a direct correlation between the students' attitude toward CALL and their use of Facebook (Tarihoran et al., 2022). This suggests a favourable correlation between

the study's key factors. Additionally, students are more likely to embrace Facebook as a tool to promote language learning when they have a high level of positive attitude toward using CALL (Tarihoran et al., 2022). In the context of this current study, parents and teachers have different perception and misconception about the use of social media by students as well as for students to own smartphones while in school. However, there was an observed need to improve the students' engagement in online language learning in the COVID 19 era (Tarihoran et al., 2022).

The revolution in technology and the interruption caused by the outbreak of the COVID-19 resulted in innovative and creative teaching and learning of language – largely through the application of various online activities. Many of the studies conducted between 2020 and 2021 indicate the benefits of migrating to online teaching and learning. For instance, the COVID-19 epidemic resulted in a rise in the use of online learning, and the widespread access to Information Technology (IT) has significantly increased the use of computers in language instruction (Andujar & Salaberri-Ramiro, 2021). Again, Computer-assisted language learning and acquisition are becoming more and more popular in academia (Thao, 2021). However, today's language learners can select the educational resources they want to use, whether they are on standalone computers or the Internet, which is a big advantage of computer technology. Additionally, they can choose whether or not teachers are available to guide them in their selection of materials. The manners in which students study specific courses, like language, and their strategies for mastering these skills are changing as a result of technological improvements in the educational system. Different teaching methods have led to significant changes in pedagogy, and now that technology is more widely accepted in society, it is contributing to the students' ability to learn these abilities.

Students' writing skills in English has benefited from the Computer-Assisted Language Learning (CALL) program's computer-based exercises and word preparation (Gelan, Fastré, Verjans, Martin, Janssenswillen, Creemers & Thomas, 2018). Research has indicated that using CALL in a flipped classroom to teach EFL writing has many economic benefits, including fostering learner autonomy, enhancing teaching and learning procedures, allowing more time for EFL writing and input during face-to-face meetings, encouraging active learning, student learning responsibility and peer collaboration (Ghufron & Nurdianingsih, 2021). Participants in this study included 150 EFL university students from Indonesia. In addition, 14 EFL writing lecturers from five universities who had used CALL to flip classrooms participated in this study. The study established that, to a large extent, the implementation of the flipped classroom had a favourable impact on the EFL writing course (Ghufron & Nurdianingsih, 2021). This study thus, suggests that teachers can use online resources like videos from reliable sources or, if practical, create their own videos that can be used as instructional materials.

Research has also shown that students' writing abilities have improved as a result of their use of social media, particularly Facebook, which allows them to express themselves freely without restrictions such as the rules of academic composition writing (Domingo, 2017; Ghufron & Nurdianingsih, 2020; Jen; Al-Ahdal, 2020a & 2020b). As a result, social networking sites like Facebook and Twitter encourage users, among them English language students, to improve their writing skills. Many academics have examined how Web 2.0 might be used as a tool in education to better serve today's students (Alkhataba, Abdul-Hamid & Ibrahim, 2018; Balbay & Erkan, 2018; Hursen, 2021). Since they were born at a time when personal computers and the Internet were pervasive, today's pupils are referred to as digital natives. Digital natives perceive technology as an essential component of their lives from an early age. Equally, in Namibia the new generation of student born after independence have had the privilege of growing up with the use of computers. Computer usage in Namibia, intensified in the early 2000s. Thus, after 22 years of high rate of use, the application of technological implements in Namibia has evolved, especially in so far as language learning using computer assisted technology is concerned.

Students' use of technology to improve their learning in various ways, such as their English language abilities, is no longer surprising (Magulod, 2018a, 2018b; Magulod, 2019). Students may greatly improve their writing skills with the help of CALL and Facebook. The 21st-century learning approach exemplifying by the use of by CALL is advantageous for both students and language teachers since it simplifies the process of teaching and learning English language skills, particularly writing skills (Utami, Suwastini, Dantes, Suprihatin, & Adnyani, 2021). Word processors are being used more frequently in CALL, and they may be better than more traditional writing methods like handwriting (Utami et al., 2021). In addition to simplifying changes, word processors may swiftly produce intelligible texts while also providing additional support, enhancing the reading and writing abilities of individuals who are less fortunate, for instance.

In the same manner, during the period of the COVID 19 pandemic, all forms of communication—whether informal or formal—relied heavily on social networking sites such as Facebook to connect teachers and students. Students' sense of worth and willingness to speak are certainly improved through the exposure to such forms of communication. Social media networks that are effective, like those seen on social media platforms, may have a significant impact on how people learn and improve their writing and speaking skills. Being a part of a social media network that is alive and well is what using Facebook is like. It allows for efficient language use and quick adaptation to new circumstances. Students' writing abilities are strongly impacted by flexible frameworks, characterised by few questions, computers, and social media use in the classroom. To help students write better, this study will make use of CALL and review how social media and other applications enhance the ability of learners. The researcher will assess students' perceptions on using CALL based on what they think of

it. They will be questioned about their opinions on how CALL, including social media and other applications might help them develop their language skills as part of the survey.

Within the current study's environment in Namibia, there have been few researches related to the use of CALL as a language learning aid, focusing on the usage of CALL in improving the students' writing abilities and perspectives. Studies on how students feel about using CALL as a platform for online language learning are scarce in Namibia, and further research is required (Ithindi, 2019; Viberg, Mavroudi & Ma, 2020). Consequently, the current study is conducted because it seeks to fill this knowledge gap. The results of this study will assist language educators and curriculum specialists in designing and creating language-learning activities that would help Namibian students build their global communicative competencies.

Numerous studies have compared the efficacy of voice or text chats to the more conventional classroom discussions. Student output can be more sophisticated when it is written rather than spoken, according to Skyes (2005). The study surmises that this takes place because children have more time to build and rehearse the structures during the chat interaction's natural delay. A similar finding was reported in another study regarding the development of oral proficiency. Students who practise through written chats fare better than those who engage in face-to-face conversations (Blake, 2009; Payne & Ross, 2005).

Using social media, which is compatible with smartphones, is another contemporary method of language acquisition in the contemporary. As technology advances, many social media platforms that make it easier for people to interact or communicate with one another continue to emerge. Social media sites often play a significant role in improving the learners' oral abilities by enabling them to utilise the target language more actively, freely, and spontaneously (Warschauer, 1997).

A blog has also been viewed as a contemporary medium for writing practise. It is more engaging and difficult because writers may publish their work and interact with readers through the comment feature (Lowe & William, 2004). Grammar checkers are another frequently used tool that assists students write better and arrange their sentences. Both teachers and students can use this technology and gain from it in various ways.

Grammar checker applications can assist teachers with their time constraints by allowing them to examine students' writing for grammar while also allowing users to self-direct their learning toward sentence structure or grammatical errors. The current electronic dictionary is considered one of the problem-solvers for improving the vocabulary proficiency of learners' as it is a quick and simple

instrument for determining the meaning of words (Nomass, 2013), and the majority of its applications include audio recordings.

Since more people are using technology to learn languages, a lot of research has been conducted to either describe how well a particular technology works or to determine how it affects how students respond to language learning. However, there are not many studies that explore the effectiveness of technology in enhancing the students' results or the learning process. While it is certainly accurate to say that a particular sort of technology is beneficial to achieving particular goals, the extent to which the specific activities carried out while utilising technology actually enhance students' learning, remains unclear. Therefore, it is within this context that the current study utilises both quantitative and qualitative approaches in order to increase the participation of learners in responding to the research questions. One could also observe that children may become more engaged in the target language as a result of the enthusiasm over the use of technology, and the self-selected activities that they are able to engage in while utilising such technological drive platforms. However, in this instance, it is still unknown whether adopting technology can actually have the potential to boost language proficiency amongst learners.

2.2.6 CALL Applications and Programs

Different CALL applications and tools are used in diverse teaching and learning settings. These programmes increase enthusiasm in learning since they are user-friendly and simple to use. This gives the impression that a computer is an instructor and a versatile tool for language learners. The commonest amongst the numerous CALL programmes and applications are discussed below:

- **Grammar**

Writing: CALL Drills and practise on a specific topic, such as irregular verbs, definite and indefinite articles, etc., as well as drills on a variety of topics are done in programmes meant to teach grammar. CALL also makes it possible for programmes for test preparation and games like Code Breaker.

- **Vocabulary**

This area covers games like Hangman and Scrabble as well as drill and practice tools like Synonyms, multimedia courses, and English vocabulary. In addition, numerous different applications for expanding vocabulary are developed.

- **Writing**

A fascinating art is writing. With the use of CALL, this work is made more beautiful. The majority of writing-supportive software falls under the heading of "Computer as Tool."

2.3 Integration of technology into the teaching and learning of English language skills

Gilakjanin (2017) defines technology integration as follows; "it is the utilisation of technology tools in general content areas in education in order to permit learners to use computer and technology skills to learning and problem-solving" (p. 96). In addition, Gilakjanin further defines technology integration as the solicitation of technology to advance the educational setting. Technology is rapidly enhancing our livelihood in many ways, especially in education, where it has already made tremendous strides. New teaching models are being developed with some technological integration (Gilakjani, 2017).

For auditory and visual senses, it is believed that technology plays a huge role in satisfying the learners' curiosity and rapid learning interests (Solanki & Shyamlee1, 2012). For the purpose of increasing the development of new methods in teaching and learning, technology happens to offer new proposals and strategies. Due to the past inclination in the process of searching for new strategies, teachers have been sources of materials when it comes to the teaching of language.

Virtual classrooms are regarded as a useful source of materials which motivate collaboration between learners and language teachers (Smith, Nicholas & Seimon, 2021). In their study, Smith et al. (2021) were more interested in analysing the authentic materials in all their diversities through the use of the virtual classroom as a platform for studying a foreign language. The frequently used mode of instruction is audio-visual materials that sanction sociolinguistic, linguistic and pragmatic proficiency in the language (Khoshsabk, 2018). According to Smith et al., audio-visual materials, likewise, are exceedingly appealing and tend to cultivate verbal and non-verbal communication.

There have been some studies on the use of the flipped classroom and CALL in the instruction of English (Adnan, 2017; Ahmad, 2016; AlHarbi & Alshumaimeri, 2016; Arifani, 2019; Doman & Webb, 2017; Han, 2015; Sung, 2015). In the flipped classroom, learning takes place outside of the classroom, and homework and preparation are changed (Adnan, 2017). In the flipped classroom, learners are exposed to new content after school, usually through videos (Chen Hsieh, Wu, & Marek, 2017). Under the guidance of their teachers, learners participate in practical drills and processes at school. A flipped classroom allows for active student participation and promotes a stimulating learning environment (Chuang, Weng & Chen, 2018). Students have access to videos before classes so they can learn at their own pace (Chen Hsieh et al., 2017; Yu & Wang, 2016). In a flipped classroom, teaching time is flexible, a vibrant and active learning environment is created (Amiryousefi, 2017). Adnan (2017) examines how ELT students perceived the flipped classroom. The results of the students' e-portfolios evinced no significant differences between the two groups. However, the flipped students' scores were significantly higher than those of the non-flipped students. The results demonstrate that students have favourable perspectives of learning and have had fulfilling educational experiences.

Ahmad (2016) investigates the impact of the flipped classroom approach on Egyptian EFL students' listening comprehension. The outcome reflects that the flipped classroom has a beneficial impact on the listening comprehension of Egyptian EFL students. Al-Harbi and Alshumaimeri (2016) examine the flipped classroom strategy's impact on secondary school students' outcomes, expectations, and attitudes in the Saudi setting. The findings demonstrate how the flipped classroom can improve EFL students' grammar proficiency. In the same study, the students evinced positive reactions to its application. Arifani (2019) explores how the use of flipped classrooms and WhatsApp groups might aid EFL students in developing their collocation skills.

The results demonstrate that WhatsApp group activities produced more collocation mastery than WhatsApp individual activities. Individual WhatsApp activities do not produce the same favourable attitudes in learners as small group flipped education by WhatsApp with small group collocation exercises. Sung (2015) explores EFL topic courses using the flipped classrooms. The results demonstrate that, despite initial problems with adjusting to the flipped classroom, the students evinced a favourable opinion of the strategy. Additionally, they believed that the current ELT was being driven by flipped teaching. However, there hasn't been much research into the advantages, disadvantages and efficacy of the flipped classroom approach with CALL in EFL writing classes, particularly in the Indonesian context. The flipped classroom is being studied in many ELT studies. From those studies, it was observed that there are four main patterns of flipped classroom studies in the ELT context: the benefits of the flipped classroom on FL/ESL, the difficulties of implementing it in ELT and the success of the flipped classroom in ELT (Turan & Akdag-Cimen, 2019).

The use of flipped classrooms to improve English language proficiency is the first trend (Ahmad, 2016; Al-Harbi & Alshumaimeri, 2016; Ekmekci, 2017; Huang & Hong, 2016; Körolu & Akr, 2017; Soltanpour & Valizadeh, 2018; Su Ping et al., 2017; Vaezi et al. 2017; Xie, 2017; Zou &). Studies on the deployment of the flipped classroom were overwhelmingly supportive of the strategy. A 2019 study by Vaezi, Afghari and Lotfi explore how the flipped classroom affected students' listening comprehension. The study's findings evince that flipped instruction improved students' listening skills. However, more studies on the flipped classroom, as far as writing is concerned, are being analysed in the current study. The impact of the flipped classroom on the English-speaking abilities of future teachers is examined by Körolu and Akr (2017). Their conclusions demonstrate that the flipped classroom is effective at helping aspiring teachers improve their English-speaking abilities. Additionally, flipped learning enhances language learners' pronunciation, lexical wealth, fluency, and clarity.

Moreover, flipped instruction enhances language learners' fluency, clarity, lexical wealth, grammatical accuracy and pronunciation. In Taiwan, Huang and Hong (2016) looked at the effects of a flipped

English-classroom approach on students' ICT proficiency and English language acquisition. The study's conclusions demonstrate that high school students can benefit from the flipped English classroom technique. The flipped classroom promotes independence and provides a foundation for English literacy training. Similarly, interactions between teachers and students were helpful in enhancing the students' ICT abilities. A flipped learning model was utilised by Zou and Xie (2019), who explored the manners in which it could nurture writing skills. The findings evince that flipped learning fared better in writing than standard flipped learning. There should be more English writing classes that employ the suggested flipped learning model. From earlier studies, it can be deduced that implementing the flipped classroom has a positive effect on English language proficiency.

The benefits and capabilities of the flipped classroom in ELT are discussed in the second trend (Alsowat, 2016; Amiryousefi, 2017; Basal, 2015; Boyraz & Ocak, 2017; Choe & Seong, 2016; Gasmi, 2017; Zainuddin, 2017; Zainuddin & Perera, 2017). Researchers have looked into the benefits and strengths of the flipped classroom in the context of ELT in a number of researches. Among these is research conducted by Amiryousefi (2017), who investigates how flipped learning affected speaking, listening, engagement outside of the classroom, and participation in ESL students' classes and extracurricular activities. The online application, Telegram instant messaging, was identified as a potential online space that facilitates structured, semi-structured and flipped learning groups on which learners could work together on selected tasks. The findings of the study note that flipped learning can produce a less disruptive educational atmosphere than conventional settings. The input and performance boundaries are widened, and possibilities for high-quality engagement increased. Furthermore, resources for more cooperative and interactive learning experiences are created. However, it is interesting to note that there are no adequate studies conducted in Namibia or elsewhere in Africa focusing on the flipped classroom learning environment. Additionally, Zhang (2017) confirms that the flipped classroom adds to both teachers' and students' workloads. He contends that a flipped classroom is a kind of instruction that emphasises both teaching and self-learning. Organising pre-class and in-class time is the most effective strategy to enhance the teaching impact. Students must study thoroughly prior to class. Teachers must constantly guide their students' learning in the classroom, assist them in overcoming their learning challenges, and keep an eye on them while they complete their learning activities and objectives.

The impact of the flipped classroom on ELT is the subject of the fourth trend (Khosravani, Khoshsima & Mohamadian, 2020; Meléndez & Iza, 2017; Mo & Mao, 2017; Rahmelina et al., 2019; Suranakkharin, 2017). The majority of studies examining the efficacy of the flipped classroom corroborate that the approach is successful when used in an ELT setting (Ahmad, 2016; Alsowat, 2016; Amiryousefi, 2017;

Meléndez & Iza, 2017; Mo & Mao, 2017). A few researches, however, also suggest that the flipped classroom is ineffective (Al-Harbi & Alshumaimeri, 2016; Suranakkharin, 2017).

Al-Harbi and Alshumaimeri (2016) examine whether or not the flipped classroom had a significant impact on the experimental and control groups' English grammar proficiency. The results of the research demonstrate that there is no discernible difference in the students' English grammar proficiency between the experimental and control groups. Additionally, Suranakkharin (2017) compares traditional education to the flipped classroom in Thailand to establish how it affects the students' knowledge of English collocations. Overall, the findings evince that the flipped classroom dramatically improved the students' collocation learning outcomes. The findings also suggest that there was no appreciable distinction between regular and flipped courses.

Turan & Akdag-Cimen (2019) examination of the flipped classroom in Iran, attempts to determine the type(s) of technology-based extracurricular activities Iranian EFL students use more frequently outside of language classrooms. They also investigate the associations between three individual learner traits, including motivation, autonomy, and self-efficacy, and the usage of Technology-Based Outside-of-Class Language Learning Activities (TBOCLLAs) by EFL learners. 100 Iranian EFL learners were the study's participants, and they agreed to participate by answering four questionnaires about TBOCLLAs, motivation, autonomy, and self-efficacy. The findings evince that among various TBOCLLAs, learners tended to engage in receptive activities more frequently than productive ones. The findings also demonstrate a significant beneficial relationship between Iranian EFL students' motivation levels and technology-based extracurricular language learning activities. Additionally, it was observed that TBOCLLAs and the independence of EFL learners had a substantial link. In a similar manner. The results also show a substantial link between the learners' self-efficacy and TBOCLLAs. Finally, the research results indicate that the participants' usage of technology-based outside-of-class language learning activities was strongly influenced by their motivation, autonomy, and self-efficacy. Motivation had the best predictive value of the aforementioned individual characteristics, while autonomy outperformed self-efficacy as a predictor of learners' use of TBOCLLAs.

A similar study by Stepp-Greany (2002) asserts that CALL programmes, particularly those that emphasise multimedia elements, can spark students' motivation and interests. According to Ghalami, Nobar, and Ahangari (2012), CALLs can be utilised to inspire students and help them develop good attitudes. The ideal self and ought-to self-motivations of learners are favourably impacted by an online community, according to Lam (2000). Another study by Ayres (2002) shows that students respect and appreciate the learning they accomplish on computers, leading to high face validity for CALL. Students

who view CALL as a crucial component of the course are also highly motivated and believe CALL to be pertinent to their requirements.

In the context of the current study, the researcher is of the opinion that it is not clear whether motivation is one of the strategies applied by the teachers to ensure optimum participation by the learners. Smartphones and tablets, as new technologies, offer multiple opportunities for language learners to partake in extracurricular language learning activities. One may claim that using technology in the process of language acquisition increases the motivation of L2 learners. Generally speaking, educators believe that motivation is the most influential aspect that they can focus on in order to improve the students' learning experiences (Williams & Williams, 2011).

Previous studies have established that successful language learners frequently credit their success in language learning to their active involvement with the target language (TL) outside of the classroom (e.g., Lai & Gu, 2011). To put it another way, language learners use the Internet to locate and apply information in a TL environment by reading authentic sources online, viewing videos, listening to podcasts, etc (Levent, 2012). According to Kuure (2011), the Internet, media, and synchronous computer games offer opportunities for language learning as well as the development of social bonds through networking and cooperative problem-solving. The five Cs of foreign language instruction (Communication, Culture, Connections, Comparisons, and Communities) can be developed by students (Yang & Chen, 2007).

Peters (2018) examine the impact of exposing two groups of Dutch-speaking teenagers outside of the classroom to authentic language learning materials through music listening, television and movie watching with and without subtitles, computer games, books, magazines and the internet. The study concludes that exposure to non-subtitled television shows, films, the Internet and printed materials has a favourable impact on the learners' vocabulary knowledge. Additionally, he also concludes that exposure outside of the classroom had a greater impact on the students' understanding of vocabulary than instruction did.

Ansori and Nafi' (2018), Egbert, Herman and Lee (2015), Ghufron and Nurdianingsih, (2019, 2020), Yang (2017) and Zhang (2017) rationalise that the third dimension to understanding the impact of CALL should be regards the difficulties in implementing the flipped classroom in ELT. Egbert et al. (2015) opine that the internet- and technology-related issues provide a barrier for both teachers and students when using the flipped classroom model. Yang (2017) also speaks about how an English-language flipped classroom was implemented in Hong Kong. The results indicate that flipping a classroom only benefits highly motivated students and that students must complement such

techniques with additional efforts in order to fully benefit from participation in the flipped classroom session.

Umamah and Cahyono (2022) conducted a qualitative study to describe the many online resources that EFL students use, as well as how they are used during the different stages of self-regulated writing. Four English-speaking students from a private university in Malang, Indonesia, were chosen for the programme for three reasons: they were deemed to be highly motivated and self-controlled individuals; they were observed to have successfully completed an academic writing course with excellent grades; and they had at least one article published in a journal with a national scope (Umamah & Cahyono, 2022). The students were questioned through a semi-structured interview about the internet resources they use and how they utilise them during the three stages of self-regulated writing.

However, due to a lack of technological expertise, only basic tasks may be performed using web resources (e.g., gaining ideas, understanding writing theories, transforming the language, obtaining feedback, and verifying plagiarism). The same study suggests that teachers should therefore advise their pupils on how to use the online tools that are available in an appropriate and efficient manner (Umamah & Cahyono, 2022). However, because this study only examined self-regulated writing, it is imperative that future researches examine self-regulation while using online tools for English language proficiency in areas other than writing by applying both qualitative and quantitative methodological approaches.

Another study similar to Umamah & Cahyono (2022) was conducted by Rahimi and Fathi (2021) who sought to investigate the effects of wiki-mediated collaborative writing on English as a foreign language (EFL) students' writing performance, writing self-regulation, and writing self-efficacy, a sequential explanatory mixed-methods methodology and the Vygotskian social-constructivist theory of learning was used. To do this, two complete classes were chosen, and 35 EFL students from the experimental group and 32 EFL students from the control group were randomly distributed into two groups. Through group writing exercises, the students were expected to co-construct and enhance their writing performance, writing self-regulation, and writing self-efficacy over the course of one term (about 12 sessions lasting 90-minutes each). Wiki-mediated collaborative writing education was provided to EFL students in the experimental group, whereas face-to-face (non-wiki) collaborative writing instruction was provided to EFL students in the control group (Rahimi & Fathi, 2021).

To gather the necessary information, two timed writing tasks, writing self-efficacy and self-regulation scales for second languages, and an individual semi-structured interview were all used. In the wiki-mediated collaborative writing group, the sorts and frequency of the students' writing mediations

were also noted. The qualitative data were analysed using language-related episodes and thematic analyses, while the quantitative data were analysed using paired samples t-tests and one-way ANCOVA (Rahimi & Fathi, 2021).

The quantitative data analyses proves that the EFL students' writing performance, writing self-regulation, and writing self-efficacy all increased with both wiki-mediated and non-wiki collaborative writing instructions. The quantitative data analysis also revealed that the EFL students who participated in the wiki-mediated collaborative writing group outscored those who did not (Rahimi & Fathi, 2021). In the wiki space, the qualitative data analyses evince a number of peer writing mediations that influenced the EFL students' writing content (i.e., clarity of the produced message), writing organisation (i.e., sequencing of information), and language use (i.e., grammar, lexicon, & writing mechanics). Further evidence of the EFL students' favourable attitudes and views of wiki-mediated collaborative writing came from the qualitative data analyses. Discussions of the pedagogical implications continues. Thus, the utilisation of the mixed method approach provided sufficient empirical data to demonstrate that self-regulation learning improves writing efficiency, in particular, the use of wiki-mediated and non-wiki collaborative writing instructions. Furthermore, in order to successfully achieve the learning outcomes, students must be equipped with the ability to self-regulate their learning. This is so because autonomy has been observed to be fundamental to this pursuit (Çelik, Arkın & Sabriler, 2012). Self-regulation is crucial for language learning, particularly when learning vocabulary (Sadeghi & Khezrlou, 2012), listening (Yabukoshi, 2018), speaking (Hromalik & Koszalka, 2018), reading (Kavani & Amjadiparvar, 2018), and writing (Roderick, 2019).

According to psychology, self-regulation may enhance motivation (Kormos & Csizér, 2014) and self-efficacy (Bai & Guo, 2018), which in turn might predict learning outcomes (Teng & Huang, 2019). The ability to control one's behaviour in order to attain learning objectives incorporates a variety of factors, including metacognitive, cognitive, emotional, motivational and behavioural components (Kizilcec, Pérez-Sanagustín & Maldonado, 2017). The three stages of self-regulation—forethought, action and self-reflection—all need these components (Zimmerman, 2000). In the context of this study, it is not yet known how much time language teachers have to allow their students to self-regulate when it comes to applying themselves to writing activities that they prepare for them. Yet the researcher is particularly interested in establishing the amount of time students have do undertake self-regulation in the learning process.

The learning process has become considerably simpler as a result of remarkable technological advancements, which have immensely improved access to information and communication technology (ICT) in language acquisition. According to Valentn, Mateos, González-Tablas, Pérez, López

and García (2013), ICT is unavoidably a significant aspect that is related to students' success. This is due to the fact that ICT provides speaking skill-building language production tasks in addition to intelligible input (Hromalik & Koszalka, 2018). Additionally, ICT is used to practise writing, listening and vocabulary (Barnett, Corkum, & Elik, 2012). Monitoring students' academic progress and fostering motivation are also beneficial (Barnett et al., 2012; Lai, Zhu, & Gong, 2014).

In the context of this study, ICT dissemination in particular schools in Namibia has been highly promoted to provide students with much needed resources which they are unable to access physically at home. However, the Ministry of Education, Art and Culture has not been able to provide for access to the facilities since it is not cheap to set up ICT tools like computers labs, computers and other tools. Thus, the access to ICT facilities has been a challenge for many schools both in the urban or rural areas. It therefore follows as no surprise that high-achieving pupils use ICT regularly (Hromalik & Koszalka, 2018). There are currently millions of online resources for learning languages, all thanks to the internet. Online writing resources help students become more proficient in their lexical aspects (Pyo, 2020), critical thinking abilities (Zhang, 2018), content and language function (Sloan et al., 2014), self-confidence and text structure (Taffs & Holt, 2013), as well as collaborative learning (Ferriman, 2013).

Recent studies have focused on the use of ICT to mediate the students' self-regulation in light of the prospective advantages of both self-regulation and ICT (Nückles, Roelle, Glogger-Frey, Waldeyer & Renkl, 2020; Rahimi & Fathi, 2021; Yang, Asbury & Griffiths, 2019). ICT is a tool for improving learning (Banyard et al., 2006) and facilitating self-regulation (Kitsantas, 2013).   Due to the fact that ICT is largely used outside of the classroom (Lai et al., 2014), there are many opportunities to expand language learning outside of the classroom (Lai & Gu, 2011). Interestingly, Yot-Domnguez and Marcelo (2017) believe that while being frequent users of digital technology, undergraduate students do not routinely embrace technology to self-regulate their writing skills.

The world was shaken by the rapid emergence of the deadly Covid-19 disease. Numerous colleges and universities were forced to temporarily close due of the Covid-19 pandemic outbreak. Many institutions, colleges and universities stopped offering in-person instruction. The necessity to safeguard and save the nation's students, staff, communities and society was indeed essential. There was a migration thus, to online bases instructions. However, accessibility, cost, flexibility and learning methodology were some of the issues raised in relation this migration. The outbreak of the pandemic Covid-19 thus, led to the establishment of various online platforms to mitigate the resulting teaching and learning challenges.

This rapid transition to online teaching and learning brought to the fore, the need for institutions to assist students figure out how to maintain autonomy through substantive online interaction. Harwood

and Koyama (2020) discuss how a face-to-face writing centre at a university changed to a synchronous online writing centre that was hosted by the videoconferencing programme, Zoom. In the context of the current, there are gaps with to the access to virtual classrooms and learning resources due to the fact that most Namibian schools are poorly resourced.

Previous research has also indicated that students are typically inconsistent in how they use ICT to control their own learning (García, Questier & Zhu, 2019; Wang, Fang, & Gu, 2020; Yu, 2021). Furthermore, very few of them expressly addressed the use of online tools to promote self-controlled writing, even though online tools can enhance writing abilities. The kind of online resources that English as a Foreign Language (EFL) students use to encourage self-regulated writing, and how they are actually utilise them throughout the three phases of self-regulated writing is, however, mostly unknown (Umamah & Cahyono, 2022). The researcher agrees that little is known about how teachers ensure that students have access to the internet when they do their assignments and homework.

Since writing is inherently a complex talent, it should come as no surprise that many students struggle to become proficient writers, particularly in EFL contexts (Harris & Graham, 2016). Additionally, developing excellent writing skills involves complex processes that present additional difficulties (Karim, Maasum & Latif, 2017). There are three stages make up the cyclical process of writing: planning, executing and evaluating (Flower & Hayes, 1981; Oshima & Hogue, 2007). Students generate and arrange their thoughts in the initial phase of planning. For them to gather ideas and organise ideas, they need to have extensive knowledge (Flower & Hayes, 1981). The concepts are then developed into a rough draft as part of the execution process. All standard requirements for written English, which include rhetorical, lexical and syntactic proficiency, must be met by the students (Flower & Hayes, 1981). In the evaluation stage, the students finalise their manuscript by modifying the writing style and the content (Oshima & Hogue, 2007). If the students do not sustain goals to increase the quality of their writing and their understanding of English writing rules, this stage could become frustrating (Zimmerman & Bandura, 1994). These writing processes don't end here since students need to modify their drafts continuously until they meet the acceptable standards, depending on teacher input (Zimmerman & Bandura, 1994). Therefore, it is not surprising that EFL students struggle with all aspects of writing, including planning, executing and evaluating their work (Karim, et al., 2017).

Students ought to self-regulate their learning in order to deal with the complexities of writing. Substantial research (Roderick, 2019; Rosário et al., 2019; Teng & Huang, 2022; Zimmerman & Bandura, 1994), has demonstrated that self-regulation is essential for writing. Writing demands that students maintain a personal schedule, work alone and make sustained creative efforts. Therefore,

self-regulation is important (Zimmerman & Bandura, 1994). Additionally, because writing processes are cyclical, students must invest their time in them (Rosário, Högemann, Núñez, Vallejo, Cunha, Rodríguez & Fuentes, 2019). As a result, a lot of self-control is needed to enhance the students' writing skills and tactics (Harris & Graham, 2016). Unfortunately, EFL university students rarely practise self-regulation in writing (Sun & Wang, 2020), and only accomplished writers exhibit high levels of self-regulation (Hughes, Regan & Evmenova, 2019; Reparaz, Aznárez-Sanado & Mendoza, 2020).

The three phases of self-regulation—forethought, performance and self-reflection—fit the cyclical pattern of writing processes. Hughes et. al., (2019), drawing on the theories of several academics, present a three-phase model of self-regulated writing: planning, writing and self-reflection. Before writing, the forethought phase is completed to establish a goal. During the writing process, the performance phase is completed to track one's own progress through scaffolded writing. And finally, following writing, the self-reflection phase is completed to assess one's own writing progress guided by feedback from instructors or peers. Figure 2.1 below, presents an explanation of each phase in detail.
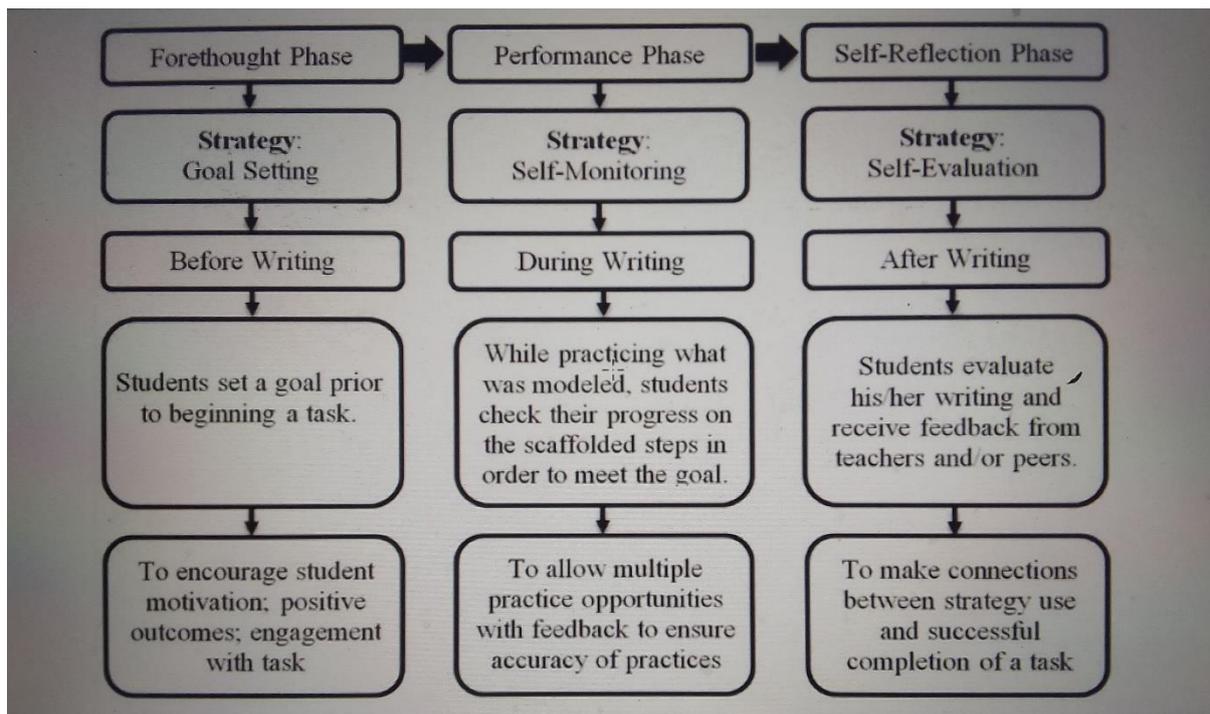
In addition to promoting self-control, ICT has made it easier for pupils to practise writing (Barnett et al., 2012). The development of ICT certainly provides students with access to a wide range of online materials that, as Internet natives, they can use with ease (Prensky, 2001). Research seems to be largely supportive of the positive effects of online writing materials. Online tools are useful during the preparation stage to organise content, comprehend how language works and gather feedback (Sloan

et al., 2014). Online tools also assist students in structuring the literature review portion and building their confidence (Taffs & Holt, 2013). The accuracy and arrangement of ideas could also be enhanced via YouTube tutorial videos (Alobaid, 2020). Dictionary applications have the potential to also expedite the pupils' lexical knowledge during the execution stage (Pyo, 2020). Students can refine their language to reflect as more natural throughout the evaluation step by using online corpora (Gilmore, 2009). Online message boards, however, offer a collaborative learning environment for students (Ferriman, 2013).

The Yot-Dominguez and Marcelo (2017) Self-Regulated Learning (SRL) Strategies and Technologies, which were created based on the models of Zimmerman (1989, 1990) and Pintrich, were used to classify online resources for self-regulated writing. Ten categories make up this model: Internet, management tools, social networks, production and storage, social markers and Really Simple Syndication (RSS), multimedia resources, communication tools, repositories, social networks, assessment tools and other technology. The only available technology for this study is online resources.

Combining self-regulation with ICT is intended to hasten self-regulated writing, given the important roles they play in writing. Thus, although research is still in its early stages, recent studies have attempted to examine how ICT can help with self-regulation. For instance, context-aware ubiquitous writing based on augmented reality (ARCAUW) has been shown to greatly improve self-regulation in genre-based writing (Lin, Liu, & Chen, 2020). Additionally, an online writing centre gives students unrestricted access to academic guidance and allows them to take charge of their own education (Harwood & Koyama, 2020). Paradoxically, despite being frequent users of digital technology, university students rarely employ technology to self-regulate their writing learning process. For completing simple tasks (including seeking, storing, and sharing information), they use instant messaging and Internet information search for social assistance (Yot-Domnguez & Marcelo, 2017).

Meanwhile, only students who perform well use the tools of technology that are available to them to increase their speaking self-control by utilising techniques like performance monitoring, time management and learning approaches (Hromalik & Koszalka, 2018).On the other hand, although several arguments are presented in various studies about how sometimes even university students lack innovation and creativity despite internet access, it has been observed that fewer students have used the internet, in particular, online program, to regulate their writing (Hromalik & Koszalka, 2018; Yot-Domnguez & Marcelo, 2017).

One of the CALL implicational techniques that improves writing is computer-assisted writing (CAW). It was created as a full writing, checking, editing and text completion system. According to Ching (2018),

the most popular piece of writing software for this purpose is Microsoft Word, which helps speed up the writing process. We are currently living in the age of the cloud, where Google Drive is the dominant application, thanks to technological advancements. Google Docs, which bears many resemblances to Microsoft Word, is one of the key elements of Google Drive. An interface similar to Microsoft Word's pull-down menus and toolbar with buttons for standard formatting operations may be found in Google Docs. Google Docs, however, provides distinctive features including Document Sharing, Real-time Collaboration, Research Tools, and Cloud Computing.

In contrast to Microsoft Word, Google Docs offers special capabilities including file transfers, real-time collaboration, research tools and cloud computing where we can view our work from anywhere at any time. The teacher can monitor the revision history to see what and how students edited their writing, and students can quickly invite teachers to view their writing in real time to edit. However, it is still unclear whether this approach will actually improve the learners' writing abilities.

Lately, web-based programmes such as web components, the internet, e-encyclopaedias, PowerPoint presentations, audios and audio-video programmes such as YouTube and so many other programmes have been targeted as powerful tools for literature teaching at university for short stories, prose, fiction, plays, novels and poetry (Al Manifi, 2019). These approaches can likewise be applied by senior secondary language teachers to assist in the attainment and conception of both language and content learning for literature. Henceforth, Al Manifi (2019) explains several strategies such as liaison with ICT experts on incorporating various web based, online and offline resources that will assist the teachers to diversify their language and content in literature through multiple methods.

However, with the improvements in technology, learners have access to a variety of texts (Blake, 2013; Reiber-Kuijpers, Kral & Meijer, 2020). Keezhatta and Omar (2019) observe that there are researches that have explicated several characteristics of second language digital reading environments, tasks and readers. Primarily, characteristics of digital environments were accessibility and high-quality of authentic texts, gradations of linearity, lay-out characteristics and unified tools (Reiber-Kuijpers, Kral & Meijer, 2020). Subsequently, task characteristics evolved around different reading purposes, navigating elements and features of digital texts for the readers to decode for analysis, information management and interaction (Reiber-Kuijpers et al., 2020). For the reader, characteristics included language and reading expertise levels; readers' perceptions of their self-efficacy, locus of control, and of themselves as second language readers; and readers' topic, lexical and world knowledge.

There are a few topics worth expanding on when it comes to how the students use online resources during the three stages of self-regulated writing. Students use the internet, repositories, social networks, social markers, Really Simple Syndication (RSS) and communication tools during the

forethought phase. All of those web tools are mostly used to study writing techniques and find writing inspiration. Undoubtedly, the internet provides countless resources for learning that can assist students with any type of learning task, including writing, by maximising autonomous learning (Svyrydjuk, Kuzmytska, Bogdanova & Yanchuk, 2021). Additionally, students find YouTube to be a helpful resource for gathering ideas and comprehending writing theories. It is a flexible, engaging and interactive platform for learning (Wang & Chen, 2019). Regarding the utilisation of social networks, an intriguing discovery is made. One student utilises the TikTok app to research trustworthy online publications and article writing advice. Other social networks, like Facebook and Telegram, aren't used for academic duties, but they can be used to share information and comments with others about writing assignments (Badri, Al Nuaimi, Guang & Al Rashedi, 2017). Although a prior study revealed that it is less frequently accessible than other types of RSS, a type of social marker is employed.

Unquestionably, the internet provides countless resources for learning that can assist students with any type of learning task, including writing, by maximising autonomous learning (Svyrydjuk et al., 2021). Additionally, students find YouTube to be a helpful resource for gathering ideas and comprehending writing theories, and it is a flexible, engaging and interactive platform for learning (Wang & Chen, 2019). Regarding the utilisation of social networks, an intriguing discovery is observed. Some students utilise the TikTok app to research trustworthy online publications and article writing advice. Other social networks, like Facebook and Telegram, aren't used for academic duties, but they can be used to share information and comments with others about writing assignments (Badri et al., 2017).

The students have access to the internet, repositories, management tools, communication tools and other technology during the performance period. In order for the learners to be able to research about concepts such as language theories and also adapt to the study language, repositories and the Internet are needed and critical. For instance, the students use Google Search to identify webpages about article which speak to the theories as well as online journals, dictionaries, thesaurus and online translator programmes. They use YouTube and other repositories to explore the ideas they might have, a concept also observed by Wang and Chen(2019). Additionally, YouTube can be used to improve concept structure and writing correctness (Alobaid, 2020).

Umamah and Cahyono (2022) observe that, although many students have Instagram accounts, they regrettably do not use them for academic purposes. Many students own smartphones, however, what they used them for is supposed to be part of self-regulation towards improving their writing efficacy. Citations and reference management are done using a reference manager, such Mendeley or Zotero (Umamah & Cahyono, 2022). A reference manager is required to locate, archive, manage and write

academic texts (Kali, 2016). It is this important to teach students how to effectively use online resources.

As one of the prerequisites of article writing is avoiding plagiarism. The online plagiarism checker is thus used to check the similarity index of the students' academic work against already existing corpora of research (Umamah & Cahyono, 2022). IN order to prevent plagiarism and ensure that they have included the correct acknowledgement and paraphrase, article writers must use an online plagiarism checker (Stappenbelt & Rowles, 2009). In the context of the current study, the researcher is not aware of the mechanism put in place to regulate students' work for them to write imaginatively and creatively.

The students generally exhibit an affinity for WhatsApp. Discussions over WhatsApp increase independent learning, lower anxiety, enhance language proficiency and boost the students' enthusiasm (Kartal, 2019). In the meanwhile, email is one of the suggested methods for online communication (Basilaia, Dgebuadze, Kantaria & Chokhonelidze, 2020), particularly for getting teacher feedback. Another technology is the next category of internet resource. While some students read e-books to construct their topics, some use Google Forms to gather data for their research. Reading e-books enables students to multitask since they can read and then immediately type or copy the pertinent ideas to be quoted in the article (Baron, 2017).

Students have been observed to employ management tools, communication tools, the internet and assessment tools during the reflection phase (Umamah & Cahyono, 2022). Before submitting the material to the teacher, they use an online plagiarism checker as a management tool to help them avoid plagiarising and to ensure that they have included the correct acknowledgement and paraphrase (Stappenbelt & Rowles, 2009). In order to get comments on the content of their work from their classmates, elders and professors, they are observed to largely use WhatsApp and email as communication tools in this stage. WhatsApp is a messaging app that is typically used to communicate with peers and elders.

In the meantime, the use of email is one of the most recommended methods for online connection (Basilaia et al., 2020), particularly for students to submit their written assignments and receive response from teachers (which feedback, is typically provided through indirect corrective feedback) (Wei & Cao, 2020). After receiving comments from peers, seniors and teachers, the content is revised in the final stage using the internet. The students benefit from the lexical part, for instance, by using an online dictionary (Pyo, 2020). Additionally, they visit specific websites like the online writing centre, which offers students limitless access to receive academic guidance and engage in self-directed study

(Harwood & Koyama, 2020). In the context of this study, teachers need to ensure that learners are guided properly.

These results from the study by Umamah and Cahyono (2022) are consistent with earlier studies that demonstrated the importance of using online resources to improve collaborative learning (Ferriman, 2013), writing structure, content and language function, lexical aspect and brainstorming (Mashrah, 2017; Taffs & Holt, 2013; Soria, Gutiérrez-Colón, & Frumuselu, 2020). Additionally, the three phases of self-regulation leverage online resources, which can greatly enhance a student's writing abilities. However, because they are still unable to utilise the online resources to develop their writing processes, the students' utilisation of these resources is still limited. In addition, Yot-Domnguez and Marcelo's (2017) research reveals that university students only use technology for basic functions like seeking, storing and sharing information. The same be could said about students at high schools. An observed majority of them, although owning smartphones, rarely produce academic papers that evince certain acceptable standards.

Recent research indicates the role of students in participating in virtual writing as a critical skill upgrade as far as writing is concerned (Harwood & Koyama, 2020). Recognising the value of conversation and social engagement in the educational process is a major tenet of the writing centre (Wells, 1999). The study argues for the need to prevent the online writing centres from turning into an email-based editing business where students send their papers for what amounts to proofreading (Waldo, 1993). It is crucial that the online writing centres should continue to be settings in which it is the student's responsibility to schedule sessions and actively participate in the tutorial process (Harwood & Koyama, 2020).

Making a choice on how to communicate with students should the first step in the plan to establish a virtual writing centre (Harwood & Koyama, 2020). The FLA used Zoom for synchronous meetings and conducted an online orientation for incoming students before to the start of classes (Harwood & Koyama, 2020). Students discussed their opinions of online education with an academic advisor during the orientation. Most of their remarks evince worry about getting along with teachers and fellow students (Harwood & Koyama, 2020). The student response made it obvious that even if the writing centre were moved online, the students would still want the tutorials to be interactive (Harwood & Koyama, 2020).

Despite the good effort of virtual learning, some challenges have emerged. How to establish, foster, and maintain social presence in online educational situations is a recurring subject in the research on online learning. According to Garrison (2009), social presence is "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and

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develop inter-personal relationships by way of protecting their individual personalities" (p. 352). Because people can virtually see each other in real-time and the model keeps many of the crucial visual cues of face-to-face communication, the affordances of videoconferencing technologies like Zoom, especially in a one-on-one teaching situation, drastically improve social presence online.

The current researcher thus, proposes as part of their recommendations, the need for affordable digital reading, and on the teachers' perspective. In a nutshell, for the technology integration to happen, there must established roles for both the learners and the teachers. On one hand, the teachers' roles in language teaching include being an expert, formal authority, personal model, facilitator, and delegator, developers and academic advisors and gatekeepers of instructional technology (Dingle, 2018; Downing, 2018). On the other hand, the learners' role is the mitigating factors that enable technology integration to happen (Gilakjani, 2017). Besides the philosophy of learner-centred replacing the teacher-centred teaching, the learners need to transform from being passive learners to being active learners (Gilakjani, 2017; Shatumbu, 2019).

2.3.1 The roles of learners in the CALL program

At the core business of CALL are end users referred to as learners or in other word students. The students stand to benefit from the programs tailor-made specifically for the purposes of learning through the assistance of computer designed writing programmes. Within CALL, computer-based activities should emphasise the use of forms more than the actual forms themselves, as well as teach grammar implicitly rather than explicitly, and also allow and encourage students to create their own sentences rather than just manipulate prefabricated language as well as the use of the target language primarily or even exclusively (Jayavalan & Razali, 2018).

2.3.1.1 Pre-writing activities in the CALL program

- **Word prediction**

When a student types the first few letters of a word, a programme that is designed specifically for students displays a list of frequently used terms that begin with those letters (Dahlström, 2019). This speeds up typing.

- **Speech-to-text**

The software must be "trained" to identify and relate to the student's word pronunciation and speaking pattern (Dahlström, 2019). The student must be shown how to use the program. The student talks into a microphone, and the computer types the words. A quicker transition from thought to text.

- **Text-to-speech**

The learner may hear the computer read out what they are typing as they type. This assists in ensuring that it conveys exactly what they intended (Dahlström, 2019). This is useful for editing.

- **Spell-checker**

If the teacher configured the programme for the purposes of spell checking, the computer programme automatically corrects words that are spelled incorrectly by the student (Dahlström, 2019).

- **Thesaurus**

This provides the student with alternative words that have the same meaning as the one they are currently using. As such, it adds diversity to their writing and broadens their vocabulary.

Students who find handwriting tiresome should use word processors (Zaini, 2018). Students who are disabled frequently struggle to meet all the requirements for the writing process. They struggle to organise their ideas and hold onto them long enough to convert them into writing. T

However, before word processing can speed up the writing process, pupils must be computer and keyboard literate. Without sufficient typing instruction, typing speeds could be slower, which could result in shorter and lower-quality writing assignments (MacArthur, 2000; MacArthur, Ferretti, Okolo, & Cavalier, 2001). It is possible that typing will take longer than handwriting if pupils have trouble typing quickly or have to look for letters and numbers.

The writing process can become less difficult if students are taught to type and how to use these tools early in primary school. This is not to argue that students shouldn't be taught appropriate grammar and spelling. Students can learn to use these programmes to speed up the thought-to-paper process, which will reduce their tension during the procedure (Rapaport, 2018). Their vocabulary and attitude toward writing may both improve as a result. It is possible that students with impairments will discover they enjoy the writing process.

2.3.1.2 Post-writing activities in the CALL program

Information must be transferred from one medium to another during CALL activities, that is to say, from one student to another or from one group to another (Alsuhaibani, 2019). Students listen to a story on tape and then put the events in chronological order, match dialogue to characters in a story or enter material that was created by another group of students into a word processor (Alsuhaibani, 2019). Computers connected across a network offer the best environment for information-transfer activities.

Information gaps frequently occur in CALL lessons, where one student or group of students needs information from another student or students in the class to complete an activity (Tafazoli, Huertas

Abril & Gómez Parra, 2019). The information may occasionally be buried within the computer itself. Programs that either completely or partially delete data are an example of an activity based on such a knowledge gap. Many CALL lessons are built around opinion-gap exercises. Regarding a problem-solving situation, such as the most cost-effective method of resource allocation in a spreadsheet or a simulation, the students have varying viewpoints (Park & Son, 2020).

2.3.2 The roles of teachers in the CALL program

There is a proposal for the use of digital literature as it facilitates learners to realise the narrative in an easier manner. The introduction of teaching literature in schools happens to have come at the right time, especially in a context in which that technology is now strongly enforced, with even the policy of Information Communication Technology in education proposing for several strategies to be utilised. Recently, digital literature has manifested as the vehicle to achieve the basic competencies that enable learners to apply narrative texts. In this regard, Coiro (2021) suggests that the English teacher ought to utilise the digital literature specifically in the teaching of the reading of narrative texts throughout the learning process.

The film industry is another body of narrative analysis where cognitive linguistics is being applied as the technology revolution brings characters to reality. A study by Gamliel (2020) contemplated on two aspects of key norms, namely: that, meaning in film is figuratively mapped in our sensory-motor system and for the embodied simulation processes in the brain to consent for the spectator to deduce this meaning from the proof provided by the film (Coëgnarts, 2017). Consequently, there are implications of the two theories; Conceptual Metaphor Theory (invented in the field of cognitive linguistics) and Embodied Simulation Theory (invented in the field of neuroscience) (Coëgnarts, 2017). The two are combined to provide insights and in-depth analysis on the role of film in modern literature of teaching and learning of English Language Skills (Coëgnarts, 2017). Therefore, introducing learners to film as part of developing their auditory skills and analytical abilities with films projection will provide them with the enthusiasm to enjoy literature.

2.3.3 Applications of CALL

One of the key challenges, among many others, with teaching and learning, notably of a new language, is the use of computers for academic purposes. CALL refers to the field of language study that focuses on the use of computers in environments for learning languages to teach and learn a new language. Numerous books, articles, reviews, etc. that are constantly published take into account one or more CALL-related concerns. In order to address this, academics have sought to propose or assess certain CALL applications.

The existence of so many different kinds of CALL programmes, according to Cameron (1988, p. 15), "illustrates the folly of attempting to define a single set of programme principles or structures to meet all scenarios." The teaching methodology has been impacted by other auxiliary technologies associated to the computerised exemplar. In the language learning process, for instance, Information and Communication Technology (ICT) "has been integrated within the overall architecture of the technique used." (Zhang, 2012, p. 8). Other comparable well-intentioned books that discuss a number of strides made in relation to the CALL subject can be cited (see for example, Thomas, Reinders, & Warschauer 2013).

One of the most thorough publications on defining and rearranging the notion of CALL into language teaching is Beatty's *Teaching and researching in computer-assisted language learning* (2010). The review that follows is based on Beatty's book, which is excellent for in-depth reading and analysis. In addition to appendices and a research sample chapter, the book has four divisions, ten chapters and theses. The build-up to the CALL question by the author across the chapters is flawless. The book begins by outlining the earliest notions of CALL before moving on to the most recent ones. Beatty attempts to provide a clear description of CALL in chapter 1, section 1, titled Key Concepts, by outlining the crucial idea that there are still other terms that are related to the topic yet have a similar connotation. Additionally, he underlines how CALL is technology-driven, with advancements in computer technology—from hardware to software—playing a role as tools in pedagogy and research.

He suggests that CALL can be used as a complement to all classroom teaching and learning activities in addition to being a component of traditional classroom instruction. The traditional method has been progressive enough in the sense that, more learners were relying on printed materials to master the skills for spelling, vocabularies enrichment, sentence constructions and grammar accuracy. However, CALL software such as Google Docs and Microsoft Word offer unique features, such as file transfers, real-time collaboration, research tools and cloud computing where we can access our work whenever and wherever we are, they also differ in other ways. This unique aspect of CALL has demonstrated its benefits to teachers in a way that they benefit from its lead-in to their instruction, assessments, and strengthening programmes for students.

A succinct account of CALL's history is provided in the second chapter. The author describes the development of CALL from the early 1950s to the present. He enumerates the software and hardware advancements and makes the case for how the new desktop computer generation aided teacher-led research. Many pieces of early software were built under the behaviourist theory of language teaching and learning. However, further breakthroughs in Web technology have devoted a new generation of user-friendly learning activities to the contexts and classrooms of language acquisition.

Hypertext, hypermedia, and multimedia are introduced in Chapter 3, which focuses on how computers may deliver information differently and more effectively than traditional or classical teaching and learning methods. However, throughout time, due to the widespread adoption and usage of multimedia in education and online applications, research into the more effective effects that multimedia may have on learning was gradually supplanted by newer technological advancements in the field. The development of virtual worlds that use avatars to represent individuals in MOO-like virtual object scenarios, for instance (see The Lost Moo Library at http://www.hayseed.net/MOO), continues to advance in sophistication and the chances for interaction they offer. (2010), p. 56 (Beatty).

Word processing, games, books, corpus linguistics, computer-mediated communication, web-based resources, adopting CALL materials, personal digital assistants (PDAs) and mobile phones are a few examples. The book cleverly draws attention to the fact that the amount of effort teachers and students devote to these applications before language learning even starts strongly affects how well they are presented. According to Beatty, regardless of the wonderful benefits of technology in teaching and learning, it will be useless and a waste of time if teachers and students cannot identify or understand the application or if it is too sophisticated for them.

In introducing theories of language learning that promote CALL, such as behaviourism and constructivism, Beatty discusses second language acquisition and instructional approaches, in the process defining. mastery learning and programmed instruction. The author discusses the advantages and disadvantages of each in light of CALL software and second-language acquisition (SLA). According to Beatty, computers' binary logic features best matches behaviouristic models of learning. Contrary to the behaviouristic viewpoint, he asserts that constructivism with schema theory as a specific concept makes collaboration and meaning negotiation in CALL models simpler.

In recent times, media and technology have revolutionised our lives overwhelmingly, and have provided a lot to be curious about, especially within the context of cartoons and adverts. These have predominantly and critically played a crucial role in our daily lives. Hence, they become popular in society through media. Whether they are printed, electronic or billboards, these forms of communication as multimedia texts have made use of multimodality to create cartoons and adverts for various purposes.

The field of education has also begun integrating cartoons and adverts for the purpose of learning. This is conducted in ways that allows us to analyse and critique them and how they enhance our way of life, and in the process of which, we understand the world we live in as it has evolved over decades and centuries. The studies of cartoons and adverts have been adopted in schools' subjects, colleges

field of studies and universities' faculties for analysis in various disciplines in order to 'construct' and engage high order thinking to the messages they convey.

Cartoons and adverts have become a huge part of the studies of literature, and they have the potential to send out powerful messages that could be interpreted, misinterpreted, prejudiced and used in humorous ways. However, cartoons and adverts have become powerful tools that the media use to depict current affairs in news, in a   more focused way. Because of the diversity of the media houses and the huge readership followers, it is much simpler to curiously attract readers with flashy and catchy headlines in cartoons and adverts through media. The current study also argues for the introduction of cartoons and adverts in Namibian schools and explicates how effective they will be in informing and educating the learners about the way of life depicted by such adverts and cartoons – in both negative and positive ways. The study will thus as: What impact do they have on the education system with regards to developing critical thinking and creative writing among learners?

The development of academic literacy skills in today's schools require mind stimulation. For such skills to be acquired by learners in schools from as early as elementary classes, picture drawings should be used to create a stimulus in the mind of the children. The development of reading, writing and pronunciation of words while looking at specific picture being described by words enhance better learning in young children in pre-primary and primary levels of education. Hence the introduction of cartoons and adverts will provide positive outcomes and enhance competencies and fluencies in the learners in both their mother-tongue and the second language – which in most case is English.

The use of computer technology has developed and evolved over for a long period of time. For example, computers have been used to produce textual effects programs which are edited for television film production and producers have genuinely produced some of the best cartoon networks and series of programmes that are enjoyable and liked very much by children, from toddlers to teenagers. The television networks and studios around the world are programming channels that are strictly for children, and such programmes are designed to educate children on various issues. The researcher therefore believes that such programmes are beneficial to not only young children but the older ones too. If education policies-makers and planners introduce such kinds of programmes in the Namibian education context, this would most likely appeal to the interests of students.

The benefit of studying using visual cartoons is rooted in their ability to develop critical thinking in the learners. This is especially so if they are incorporated and integrated for continuous writing, for creative writing of argumentative, narrative, expository, persuasive, discursive and descriptive type of essays. In this regard, learners are asked to argue for or against the cartoons by using a Microsoft word program. This helps them create awareness on grammar usage, sentence constructions, forms and

other technical linguistic aspects. Moreover, a variety of strategies for how to use cartoons and adverts in the teaching and learning of English language across several themes can thus, be developed. In this manner, learners will be able to use them to enhance their thinking abilities creatively – and by describing the cartoons using adjectives, nouns, prepositions, adverbs, pronouns, conjunctions and verbs, they are able to improve their grammar.

Media plays some important roles especially with regards to the concept of 'multimedia language of the screen' (Daley, 2003). Adverts do send out a powerful message across society with catchy and flashy words that display powerful messages, which are sometimes expressed in satire within newspapers, magazines, televisions commercial adverts and billboards. These messages often describe the product being advertised in order to attract the potential customers and persuade them to buy those products. Viewers are also sensitised on how the product works. They also examine the language usage patterns in adverts, and this could become a source of learning to students especially by describing the motion of the products on television. Daley believes that '…images and sounds, integrated in a time-based medium, can be as important in creating knowledge and communicating ideas and information as text' (2003, p. 34).

There is a link between literacy theories of language learning and the contexts in which the language of multimedia is used to put out the messages across, whether using cartoons or adverts. For example, the text-based language usage in the print media might differ from that of television, cinema, computers and billboards. Most language theories, specifically the reading theory emphasises the importance of understanding the link between letters and words, syntactic parsing of sentences, understanding the meaning of words and sentences, integrating the meaning of texts about the same topic (Van Dijk & Kintsch, 1983) described it as 'Model of Text Comprehension'. However, the emergence of multimedia during the early 21st century, has provided us with integration of these theories of reading and writing as part of literacy theories.

In relation to theoretical explications of many theories such as Krashen's five hypotheses on how language is acquired, it is critical that these cartoons and adverts be used with intentions of assisting learners to acquire their mother tongue, second and even the third language faster, and with the immediate intervention of the teacher as his or her role is to scaffold the learning using the cartoons and adverts in context. For instance, Krashen (1988) emphasises the importance of language acquisition through interaction in the targeted language by way of natural communication, in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding.

Furthermore, (Krashen, 1988) argues that the best methods are those supplying comprehensible input in low anxiety situations, containing messages that students really want to hear, since they help students to undergo the process of language acquisition through supplying communicative and comprehensible input, contrary to forcing and correcting production. In terms of social, historical and political issues, cartoons are used to express ideas. Sometimes cartoons are used to draw attention to a well- known personality (Lutrin & Pincus, 2013). Oftentimes the works of cartoonists like Zapiro and others use cartoons to draw attention on socio-economic issues.

For the teachers to study these cartoons with learners in prepared visual literacy/ analysing lessons, it is very important that they first understand the 'characters' in terms of 'stereotypes' and 'figures' surrounding their subject. Furthermore, Lutrin and Pincus believe that 'the facial expression, body language and relationship between characters' (Lutrin & Pincus, 2013, p. 111), in most cases provide clues on the subjectivities of the cartoonist in terms of 'ridiculous exaggeration' of the characters. In addition to that the 'background and setting' can help locate where and when it happened and whether they are ''fictitious' or 'factual' (Lutrin & Pincus, 2013). Once a teacher is able to visualise it and narrate it to learners before, by a way of scaffolding, this will provide learners with an opportunity to study visual literacy with purpose and conviction in their minds.

For the second language teachers to successfully implement visual literacy lessons and for successful learning and teaching to take place, the teachers need to fully understand the learner-centred approach. Firstly, they need to harmonise the interests of learners and their curiosity to explore cartoons and adverts. Secondly, they need to analyse them in a more critical manner in order to develop analytical skills. For example, the Ministry of Education has emphasised that, 'a wide variety of media should be used to 'trigger discussions: role-plays, creative writing, and broadcasts by local language radio stations, pictures without words, aspects of pop culture and children's literature' (MoE, 2006, p. 7). In this manner, meaningful learning will take place as the learners' interest is stimulated further.

The introduction of cartoons and adverts in the Namibian education system will advance the chances of learners to develop critical skills such as analytic, cognitive thinking, creative thinking, listening for responding, reading and responding in writing. However, this can only happen if the cartoons and adverts are used to construct, disseminate and perpetuate the way of life in a meaningful manner and within the context of the learners' level of understanding issues like Environmental Learning, Population Education, HIV and AIDS, Education for Human Rights and Democracy (EHRD) and Information and Communication Technology (ICT), subjects which can be taught across the themes.

In this manner, the learners will have an opportunity to enhance their competencies which then can be assessed either formally or informally.

Cartoons and adverts have enabled and eased the way of life in so many ways. For examples, the use of cartoons network channels has become a popular commercial visual programme that are entertaining for many children of different age groups and grades. The advertising billboards are overly used with effective and clear commercial messages that can be useful in developing language skills, because they are used in many ways.

Cartoons and adverts can have both negative and positive influences in society. However, in education, they mostly manifest positive influences if they are used with proper intent, purpose and conviction, despite stereotypical attitudes associated with them. For instance, *Tom and Jerry* are popular animated cartoons that have characters which can help in enhancing the learners' ability to analyse them using elements of the genre of literature, such as setting, plot, themes, style, tone and mood etc.

2.4 Needs analysis on CALL to improve writing comprehension for students in Grade 11

Due to the rapid developments and availability of technology, it has emerged that teachers are daunted with the task to keep up with the changes in technology. In line with this, some studies have observed that the challenges culminating from the lack of teachers' inexperience on what and how to do with technology in particular the use of CALL in enhancing the learning of English in school (Li, Brar, & Roihan, 2021; Regan, Evmenova, Sacco, Schwartzer, Chirinos & Hughes, 2019). Again, recent research implies that teachers may not be effectively integrating technology into their writing skills lessons (Shadiev & Yang, 2020; Zou & Xie, 2019). In a recent study that interviewed teachers, it emerged that in most of s cases, the students' writing skills were deficient. The same study, also observes that teachers believed that using technology was too time-consuming, that they had restricted access and that access was regarded as a challenge (Reagan et al., 2019). As such, increased access to technology is required, and school divisions will have to provide pre-service and in-service training as well (Kenttälä, 2019).

Some studies seem to suggest that teachers must acknowledge what the learner needs are (Brown, 2016; Young, 2018). The researcher agrees with the sentiment above because there is a need to increase access to technology in order for learners to practice using computers to write and in the process, ensure that syntax errors are minimised. Through this, teachers may be able to implement needs analysis by conducting CALL research (Youn, 2018). In other words, through CALL research the teachers will be able to adjust the methods applied in teaching students on how can they can organise their writing using computers. Furthermore, to meet the students' needs action research is needed

which will determine collaboration and group problem-solving strategies in writing applying CALL (Pöntinen & Räty-Záborszky, 2020). Something titillating is that language usage in different capacities, purposes and alignment to curriculum objectives hasn't been thoroughly investigated, and as such, we the regularly overlook the purpose of a language course. We must analyse why language lessons are offered and what the advantages of using technology are for the students.

2.4.1 Techniques for Identifying Needs for Computer Assistance Language Learning

The relevance of needs analysis has led to the development of many techniques to conducting needs analyses. The learning-centred approach, the learner-centred approach, and the task-based approach are three popular ways to conducting needs analyses.

2.4.1 Linguistic technologies for assessing language needs

Identifying the type of remediation required and placing the student correctly within a remediation programme is one of the first stages in addressing the needs of persons with developmental language difficulties (Beals, 2015). Oftentimes, teachers for second languages have not knowledge of the structures and the forms of language and thus sometimes need to establish the needs through the competences test conducted by using computers and through which the students with learning difficulties can be tested. This section looks at how linguistic technologies can supplement current assessment methods. Certain aspects of language are well-suited to traditional examinations. Vocabulary is one of them. Additionally, vocabulary tests are easily computerised, which significantly reduces the amount of labour required for conventional testing (Beals, 2015). However, vocabulary alone paints an inadequate picture of language abilities (Beals, 2015). A student's total pragmatics abilities can also be ascertained by more conventional in-person evaluations and surveys, such as the pragmatics component of the widely used Clinical Evaluation of Language Fundamentals (CELF) test (Beals, 2015). Pragmatics evaluations, in contrast to vocabulary tests, are not well suited to computerisation. Firstly, it is difficult for computers to replicate the situations found in real-world.

2.5 Research gap (s)

While there are many independent studies conducted on the cognitive process theory of writing as well as on CALL, few studies have recognized CALL as one of the apt approaches to respond to the implications of the cognitive process theory of writing as applied to writing in English Second Language. Additionally, CALL empirical studies have not yet been conducted in a Namibian context following the same research objectives or the same research methodology as proposed by the current study. Therefore, the study seeks to fill this research gap in Applied Linguistics by investigating the effectiveness of CALL on writing through the cognitive process theory of writing.

2.5.1 The language gaps that exist in writing comprehension in the context of CALL

The gaps in writing comprehension can be attributed to various factors. For instance, there is a growing notion in secondary education and higher education that students' language and literacy skills are deteriorating, regardless of whether they are from an English-speaking or non-English-speaking background. It is also evident in the examiners' reports that indicate that there are errors in syntax and spelling incoherence in writing in general. Furthermore, the reports also indicate that "candidates who attempted more sophisticated vocabulary were let down by the spelling of those words. Candidates who made use of a more formal register or who used vocabulary that was inappropriate to the writing piece produced unnatural sounding language. Over-rated vocabulary was used that does not ring right with the audience" (Ministry of Education, Arts, and Culture, 2021, p. 146). On the other hand, there is evidence similarly from the tertiary institutions that believes that there is a growing notion in higher education that students' language and literacy skills are deteriorating, regardless of whether they are from an English-speaking or non-English-speaking background (Salehi, Davari, & Yunus, 2015). As a result, many lecturers have had to step aside from their course materials to address these challenges, which are oftentimes outside the area of their knowledge and their spheres of influence (Rossikhina, Ermakova, & Aleshchenko, 2019). English plays a huge role not only because it is a medium of instruction in schools, but because learners will find themselves joining the corporate world and their competencies in the language become a critical requirement. Employers are more interested in employees to be equipped with relevant communication skills, which learners need to fully comprehend while in the senior secondary phase of their education.

Furthermore, previous research studies have evinced that many students prioritise English language skills for daily life and social engagements, followed by listening and speaking and finally reading and writing abilities for academic purposes (Murray, 2010). Although listening skills are recognised as necessary for academic success, many learners pointed out that other skills are also required are reading, speaking and writing abilities (Jančaříková, Povolná, Dontcheva-Navratilová, Hanušová, & Němec, 2020). Overall, the goal of teaching English as a second language is to encourage students to improve their communication abilities, both academically and professionally and to make communication easier for them.

Other factors associated with the hindrance to CALL effectiveness is the lack of research on the challenges of integrating technology, focusing on issues as the technical constraints like suitability of devices and bandwidth availability pose a serious challenge (Muthuprasad, Aiswarya, Aditya & Jha, 2021). Many developing countries are struggling to significantly improve in the area of ICT deployment in many of their rural communities. That alone can hinder the use of CALL for students in general as

the students in rural aras struggle to be empowered technologically in order to be able to acquire technical skills likely to be gained from using computers to write/type.

The 21st century is often regarded as an era of technology. Today technology plays a very important role in our lives. It is seen as the basis for growth in the learning process. This is because technology makes our work much easier and less time consuming (Raja & Nagasubramani, 2018). In Africa, the digital divide is felt at the highest degree. Despite the introduction of mobile phones to Africa in the mid-1990s, the lack of network towers and other infrastructures make it difficult for everyone to have internet access. According to Nurmara Daily Brief (2019) in a publication titled "Africa is struggling to bridge the digital divide" the World Bank stresses that despite the success of mobile phones since the turn of the century, the average broadband penetration in Africa stands at just 25%, and estimates that it will cost around US$100 billion to achieve universal access in the next decade. Several reports are available that also indicate that, "that Sub-Saharan Africa is the least developed region of the world in terms of life expectancy, school enrolment ratio, income" (The UN Human Development Report [UNHDR], 2005, p. 222).

Poverty has trapped Africa for centuries, depriving citizens of opportunities to learn from the west and other developed nations (Fuchs &Horak, 2008). The restructuring of the system of education in Africa is based on the belief that ICT have the potential to enhance and accelerate teaching and learning, thus improving educational skills across the school curriculum (Livingstone, 2012). As a result of the spread and the infiltration of ICTs, many countries worldwide developed national policies that endorse the use of ICT in education as means of offering new ways in which quality, effectiveness and efficiency can be improved in teaching and learning sectors. Thus, the use of computers, mobile phones, television and radios has become a primary source for learning, especially during challenging time such as the Covid-19 era.

Furthermore, it is also recognised by many countries around the world that, the advances in Information Communication and Technology (ICT) in recent times, has correspondingly revolutionised the educational sector and allowed for flexible learning. Despite the challenges associated with ICT integration in education, ICT has provided flexibility in the teaching and learning processes. For instance, with the use of ICT, distance students can learn and collaborate among themselves for the purpose of achieving good academic grades (Fonseca, Martí, Redondo, Navarro & Sánchez, 2014).

 Namibian's 5th National development plan (NDP5) for 2017 is one of the national documents that underscore the need for Information and Communication Technology (ICT). The document sets out strategies as well as desires for Namibia to have universal access to information, affordable ICT

infrastructure and services by the year 2022. Namibian intends to integrate ICT in all sectors of the economy including education, with priorities in education, business, health and governance (Kozma, & Isaacs, 2011). Namibia's goals are to integrate and implement ICT in schools based on the curriculum for basic education. In the Namibian National Curriculum for Basic Education, the Ministry of Education (MoE) encourages teachers to use learning materials that facilitate and develop a knowledge-based society by equipping learners with knowledge and skills. Writing skills are particularly a hard thing to gain. However, modern technology such as computer possess the potential to assist learners to improve their writing abilities as well as to increase their typing speeds. Learning through ICT contributes to the foundation of a knowledge-based society by improving the learners understanding of knowledge and skills achievement (Jatileni, & Jatileni, 2018).

The national ICT policy of 2003 recognises that ICT can enhance learning opportunities and advocates for the introduction of an e-education system. As stated in the overarching ICT Policy of 2009 for the Republic of Namibia of, the government is committed to providing adequate funding for ICT skills development and/or education in Namibia (Ministry of Information and Technology, 2009). The funding can be used in purchasing more technological tools to be used in the teaching and learning processes.

Several case studies have been conducted and these sought to examine the importance of ICT and how these are useful to learners. The studies observe that there ar a range of benefits for ICT applications in subjects at school. ICT can play various roles in the learning and teaching processes. According to Bransford, Brophy, and Williams (2000) the use of ICT in learning has great potential to enhance learners' achievement. Johnson, Jacovina, Russell and Soto (2016) note that technology can play a crucial part in supporting face-to-face and distance learning. Many researchers and theorists assert that the use of ICT can help learners to become knowledgeable, reduce the amount of direct instruction given to them, and give teachers an opportunity to help those students with particular needs (Lawrence, & Tar, 2018). According to Habibu, Abdullah-Al-Mamun, and Clement (2012) technologies can be used to enable learners to collect information and interact with resources, such as images, videos and encourage communication and collaboration. Greenhow and Askari (2017) opine that new technologies may also help to increase learner motivation, facilitate clear thinking and develop data interpretation skills.

The use of ICT is arguably one of the most profound means of supporting students to achieve the nationally-stated curriculum goals. It must however be very thoughtfully selected and integrated into educational planning management for subjects. In particular, the use of ICTs for learning encourages: learner-centred learning; active, exploratory, inquiry-based learning; collaborative work among

students and teachers; and creativity, analytical skills, critical thinking and informed decision-making (Sulaiman, 2011). One of the gaps identified is that, students lack the ability to analyse the flow of ideas in writing, coherence tend to be skewed since critical thinking is not being properly instilled in them.

Chen (2011) believes that technology has the potential to produce exciting curricula, based on real-world problems, into the classroom. Other researchers suggest that ICT can assist weaker students to make progress, as learning materials can be directed at the level appropriate for each student; and if ICT is used, students are more motivated to learn (Avvisati, Hennessy, Kozma, & Vincent-Lancrin, 2013).

Furthermore, ICT can be used to provide immediate up to date resources, and by using one or more media, large numbers of teachers and learners can easily access, relatively cheaply. Any changes made to resources are easily available to teachers and learners without incurring major additional distribution cost. An additional benefit is the huge resource base that resides on the World Wide Web. Oyovwe-Tinuoye, and Adogbeji (2013) asserts that ICT has the ability to transcend time and space making possible asynchronous learning. Online materials can be accessed 24 hours a day, seven days a week. ICT has enabled instructions to be received simultaneously by multiple geographically dispersed learners, who are able to access resource persons, learning resources, mentors and professionals from all over the world (Negi, Negi, & Pandey, 2011). It is also observed that using ICT in learning activities can makes these learning activities more exciting and can increase the attention of learners easily (Gunawardena & McIsaac, 2013). ICT is treated as an essential driver of innovation and growth in modern society. ICT use in education also increases the students' technical and cognitive proficiency to access, create and develop. It also enhances the potential of teaching-learning activities (Noor-Ul-Amin, 2013).

2.6 Theoretical framework

The study employs a cognitive process theory of writing approach. This approach is informed by Flower & Hayes (1981) who assert that "a cognitive process theory of writing is the process of writing described as a set of distinctive thinking processes which writers orchestrate or organise during the act of composing, and these processes have a hierarchical, highly embedded organisation" (p. 366). The cognitive process theory of writing is focused on gaining insight into the writing process through the writer's thought processes. According to this theory, the best way to examine and monitor the writing process is to study the writer in action.

There are four features of cognitive process theory of writing: The first feature is that writing consists of distinct processes, namely planning; translating and reviewing. The second feature is that writing processes are hierarchical and highly embedded. The third feature is that writing is goal directed. The fourth feature of cognitive process theory of writing is that writing stimulates the discovery of new goals.

The cognitive process theory of writing is appropriate for CALL studies since this it provides a foundation for argumentative, reflective and collaborative activities in technology enhanced learning environments. This is a modern theory in linguistics as it focuses on learning by doing and learning through writing. The cognitive theory of writing will be used in CALL study to understand the teaching and learning practices for English 2nd Language writing skills in which a computer is considered to be an important tool in facilitating writing.

2.6.1 A cognitive approach to CALL

CALL programmes tend to give learners more agency, in keeping with cognitive/constructivist perspectives of learning. According to this concept, students build new knowledge by exploring what Seymour Papert called "microworlds," which offer chances for problem-solving and hypothesis testing, enabling students to draw on their prior knowledge to create new understandings (Yang, 2010). Papert (1980) and his colleagues at the Media Laboratory reverse the prior image of the computer as instructor, seeing computers as entities to be controlled by, rather than controlling learners, in order to further the school of thinking that learning occurs via creative action. The computer offers resources and tools, but it is up to the learner to use them (Yang, 2010). The learner is responsible for utilising the resources and tools provided by the computer in a simulated environment (for example, in Papert's Turtle Logo software, students programme a turtle to follow their commands).

2.7 Summary

This chapter provided a review of studies that investigated CALL and its effectiveness as well provided additional inference to the topic under study. The theory underpinned for this study and its relevance to the data analysis of the study were also explained. The next chapter discusses the methodology used in collecting data in this research.

CHAPTER THREE

RESEARCH METHODS AND PROCEDURES

3.1 Research design

The research utilised an explanatory design in an attempt to explain how language learning is influenced by Computer-Assisted Language Learning (CALL). The explanatory design explained the relationship between CALL and writing itself, in the process, explaining the efficacy of CALL. The explanatory research approach is suitable for explaining how computers, as tools, affect the level of writing comprehension in English Second Language teaching and learning processes. In other words, the explanatory research design aims at identifying the extent and nature of the cause-and-effect relationships of the variables under study. The two variables examined here are CALL and writing comprehension as one of the major skills in English Second Language.

3.2 Research paradigm

The study adopted a constructivism stance in investigating the efficacy of computer-assisted language learning in enhancing writing comprehension at the selected school. The constructivist perspective has been integrated into the theoretical framework employed in the study, specifically within the framework of cognitive process theory, with regard to the evidence from written expression. Both the paradigm and the theory put learners at the centre as they are expected to take ownership of their learning and be actively involved in the writing process. The presentation and analysis of the study was also conducted through the lens of constructivism. The paradigm of constructivism is appropriate for this empirical research as it considers the belief that people/learners construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences (Bogna, Raineri & Dell, 2020). Therefore, the study regarded learners as active participants in the learning process of writing – both inside and outside of the classroom setting – as they learn the English language through CALL. Constructivism as a philosophical stance shaped the entire study.

3.3 Research approach

This research used a mixed-methods research design because it is both quantitative and qualitative in nature. The purpose of using a mixed methods research is to build on synergies and strengthen what exists between quantitative and qualitative methods. This enables one to understand a phenomenon more fully than using one method only. Also, each research objective fits a particular research method. Both quantitative and qualitative data are collected concurrently and equally weighed throughout the study. Survey research including interviews was used. Observation questionnaire checklists were also developed. Data that were collected from the observations were both quantitative and qualitative in

nature, whereas data collected from interviews were qualitative in nature. The two methods thus complement and supplement each other in achieving research objectives.

3.4 Research setting

The study was conducted at Westside High School. The school is situated in the coastal town of Swakopmund in the Erongo Region of Namibia. Therefore, the school falls under Erongo Educational Directorate and, specifically located in the Swakopmund Circuit.

3.5 Study population, sampling, and sample size

The study delimited itself to Westside High School in Swakopmund, which forms the study population. However, studying the whole school would have been lengthy and time-consuming. There were 117 grade 11 learners at Westside. It is for this reason that purposive sampling was done to target Westside High School learners and English Second Language learners. Westside High School was selected for convenience's sake because of accessibility and the availability of necessary infrastructure such as the media centre and internet connectivity. To avoid challenges associated with computer illiteracy, Grade 11 learners formed the sample of the study. A purposive sampling informed by Andrade (2021), was implemented to select the right sample size for quantitative data. However, there were only 45 learners out of 117 learners doing English Second Language. Therefore, 40 learners formed the sample size for observation. Systematic sampling was used to generate the sample size for interviews in which a quota sampling was used to get 10 learners.

3.6 Research instruments

The relevant tools for collecting data within the mixed methods research approach are both qualitative and quantitative in nature. The qualitative data collection instruments were the interview checklists for 10 learners and interview checklist for 2 English Second Language teachers while the quantitative data collection instruments were the questionnaire and observation checklists for 40 learners. The interview checklist consisted of open-ended questions to give the respondents the opportunity to openly express their views and experiences about CALL and its effectiveness in enhancing writing in English Language Learning. The observation instrument assisted the researcher to have first-hand information as the subjects were observed in their usual learning environment during English lessons.

3.7 Data analysis

Data analysis is a crucial step of the study as it forms the basis for conclusions and recommendations. An explanatory approach was used through content analysis for qualitative data and this was guided by the research objectives. Descriptive statistics were used to analyse statistical data gathered through the observation checklist. The analyses of qualitative and quantitative data were done and

presented concurrently. As such, both qualitative and quantitative data were presented and analysed in response to the research objectives, and are presented as subsections for analysis in the analysis chapter. Microsoft Excel spreadsheets was used to sort out and analyse quantitative data. Only information useful to the research objectives formed part of the analysis. Some of the tools which was used to present, analyse and interpret data are tables, graphs, charts and summaries.

3.8 Ethical considerations

Apart from a letter of permission from the Inspector of Education authorising the researcher to carry out the study in the selected schools, further consent was also needed from the regional directorate, school principal, teachers, learners and parents of these learners. Before conducting the interviews and filling in of the questionnaires, the researcher briefly explained the objectives of the study to all the participants. The teachers and learners were given consent letters to formally indicate their willingness to participate. To ensure anonymity, participants were not expected to write their real names on the questionnaires. It was explained to the participants that they were taking part in the study on a voluntary basis, and should they not feel comfortable to take part, they should let the researcher know and nothing would be held against them. Information obtained from participants was treated with respect and only used for the reasons intended for by the study. An ethical clearance certificate was obtained from NUST.

3.8.1 Trustworthiness

Credibility, Transferability, Dependability and Conformability

In order to ensure that the data that were collected are credible, transferable, dependable, confirmable and reliable the researcher developed a structured interview with open–ended questions that can be triangulated via different methods, different types of informants, and different sites (Shenton, 2004). Similarly, debriefing sessions between the researcher and the school principals, the inspector as well as the Director of the Erongo Education Directorate were arranged prior to the exact dates of data collection. Finally, there was recognition of the shortcomings in the study's methods and their potential effects. The trustworthiness of the research was thus evaluated by using triangulation, credibility, transferability, dependability and conformability as discussed below in more detail.

3.8.1.1 Transferability

The ability to apply research study findings to similar situations is referred to as transferability (Pitney & Parker, 2009, p. 64). It implies that the information can be shared with and used by others (Cohen, Manion, & Morrison, 2011). This ensures that anyone who might have intended to repeat the study in different research contexts, can readily do so. The research procedure was fully detail, notably how the sampling was conducted, and the process of data processing was precisely outlined in line with

the literature. Triangulation was one of the researcher's checklist for the trustworthiness of research data. According to Yeasmin and Rahman (2012), triangulation is a powerful way of demonstrating concurrent validity of a qualitative research. Triangulation can be defined as the use of two or more methods of data collection in the study of some aspect of human behaviour.

3.8.1.2 Credibility

Credibility, according to Mutch (2005, p. 29), ensures that the participants' statements are accurate and appropriately interpreted so that the study will be taken seriously. When participants acknowledge the significance they give to their experiences, and that the researcher's findings are consistent with their perceptions, this is referred to as affirmation (Holloway & Wheeler, 2010, p.304). The researcher assured the participants that there is no right or wrong answer because their responses to the questions are solely based on their experiences. This was done in order to ensure that the findings capture accurate data. The researcher gave the participants the reassurance that she is neutral, impartial, without any biases, and that her goal is to provide them the chance to share their stories about their experiences with CALL. This gave the participants the confidence to speak or express themselves openly about their experiences with the CALL programs application.

3.8.1.3 Dependability

Dependability has to do with the standards used to assess credibility in qualitative research (Streubert & Carpenter, 2011, p.94). Replicating research in such a way that the same tools and methods for obtaining data can be used in a comparable research sample and under similar circumstances is referred to as being reliable (Lietz, Langer, & Furman, 2006, p.199). In this way, identical results can be obtained. According to Schurink, Fouch and De Vos, (2011, p.420), the results of qualitative research depend on how well the study process is organised, documented, and audited. The researcher took great care to meticulously record each step that she took and the research techniques she used.

3.8.1.4 Conformability

The study's confirmability relates to the data's impartiality (Cope, 2014). In this study, the researcher will achieve confirmability by establishing an agreement with the assigned supervisor to verify the validity of the qualitative findings report and incorporating actual quotes from participants in the findings to serve as confirmation. Furthermore, confirmability addresses the underlying issue that "findings should mirror the situation being examined as closely as (humanly) possible, rather than the researcher's views, petty theories, or biases" (Pope & Mays, 2008:14). With regard to confirmability, the researcher has recognised and acknowledged flaws and limits in the study's procedures, as well as their potential consequences.

CHAPTER FOUR

MAJOR FINDINGS AND DISCUSION

4.1 Introduction

This chapter presents and discusses the findings of this research. It consists of two sections. The first section will concentrate on how CALL enhances the vocabulary of grade 11 learners. It does this by answering the research objectives as initially established in Chapter 1, which were:

- to explore the ways of bringing coherence in paragraph writing through CALL; and
- to evaluate the effect of computer-assisted language learning on essay writing.

As indicated in Chapter 3, the data were analysed through the mixed methods approach, which consists of qualitative and quantitative methods. The data was firstly presented in quantitative followed by a qualitative one. The sample of 40 Grade 11 learners responded to test items on computers as tools that affect the level of writing comprehension in English Second Language. In other words, the study sought to identify the extent and nature of cause-and-effect relationships of the variables under study.

4.2 Section 1 : Presentation of Quantitative Data

4.2.1 Demographic data

Table 4.2.1. Age

Age	Frequency	Relative frequency	Total
17-18	19	19/42	0.45
18-19	10	10/42	0.24
20-29	9	9/42	0.21
30-39	1	1/42	0.02
40-49	1	1/42	0.02

The table above present details about the ages of the respondents. Learners between the age of 17-18 are the majority participants.

Table 4.2.2. Gender

Gender	Frequency	Relative frequency	Percentage
Male	20	20/42	48%

Female	22	22/42	52%
Total	9	9/9	100%

The table above indicates that, the number of female respondents were more than the number of male respondents.

Figure 4.2.3. Level of education
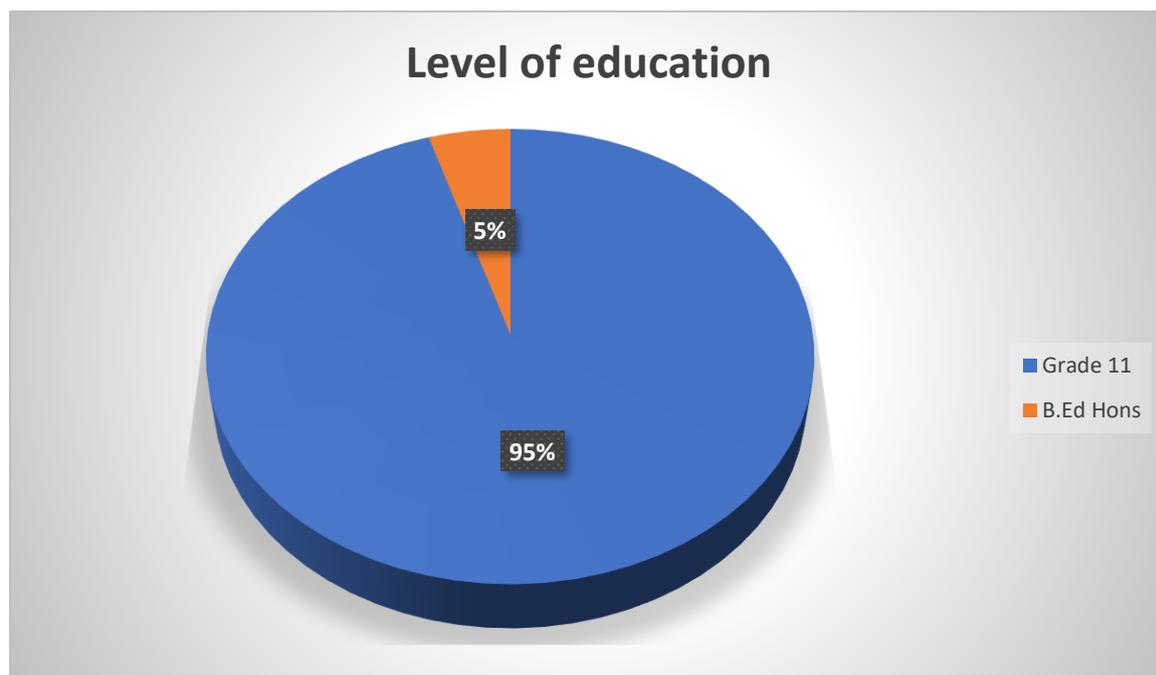
The above figure represents the level of education for the participants. The highest percentage depict learners who are the majority of the participants by 95%, while the minority are the teachers representing 5%.

4.3 CALL enhances the vocabulary of grade 11 learners

Respondents were asked to rate themselves using the degree of comparison in which the rating were 1-5 as follows;

1- Strongly disagree -SD
2- Disagree -D
3- Neutral -N
4- Agree -A
5- Strongly agree - SA

4.3.1 Frequency rate for using CALL to enhance English proficiency

Figure 4.3.1 A: Frequency rate for using CALL

Figure 4.3.1 A: Frequency rate for using CALL
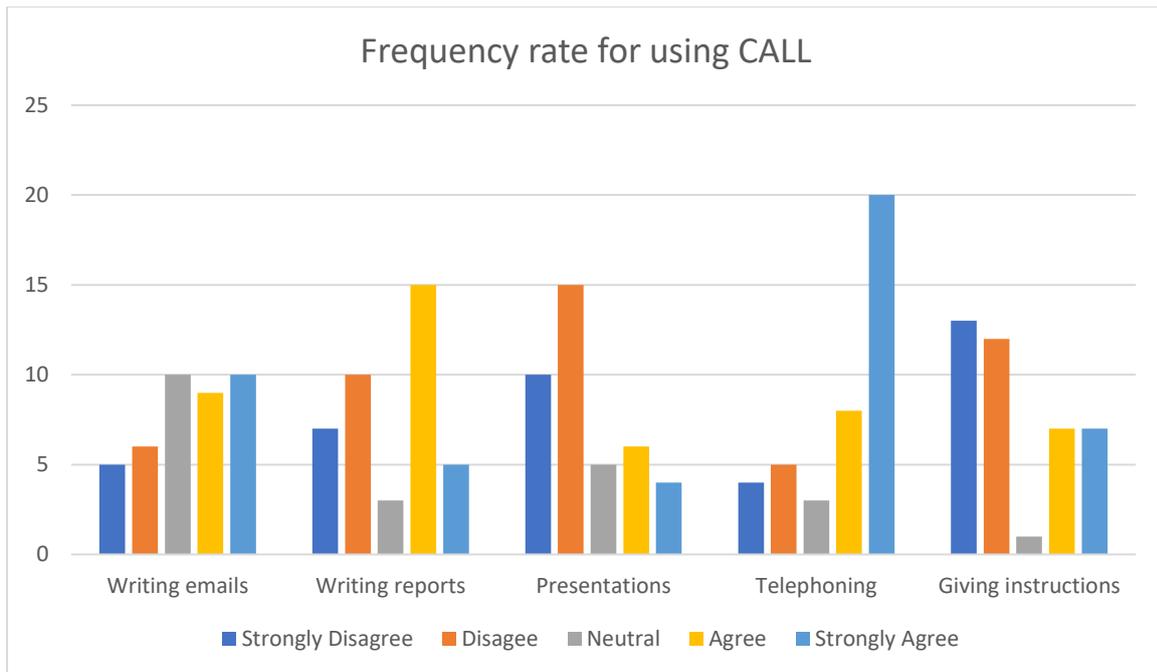
The figure above indicates the use of CALL to improve learners in terms of writing emails, writing reports, presentations, telephoning and giving instructions. From the data presented above, there are variations among different learners regarding the approach(es) or use when it comes to writing emails, report writing, presentations, telephoning or giving instructions. This implies that access to computers is not applicable to every one of the participants. Furthermore, data presented proves that the majority of the learners indicated that they are capable of report writing, telephoning and to a less extent can write emails. Figure 4.3.1 B below, presents data on giving direction, online learning, teacher-learner interaction, note taking and discussion.

Figure 4.3.1 B: Frequency rate for using CALL
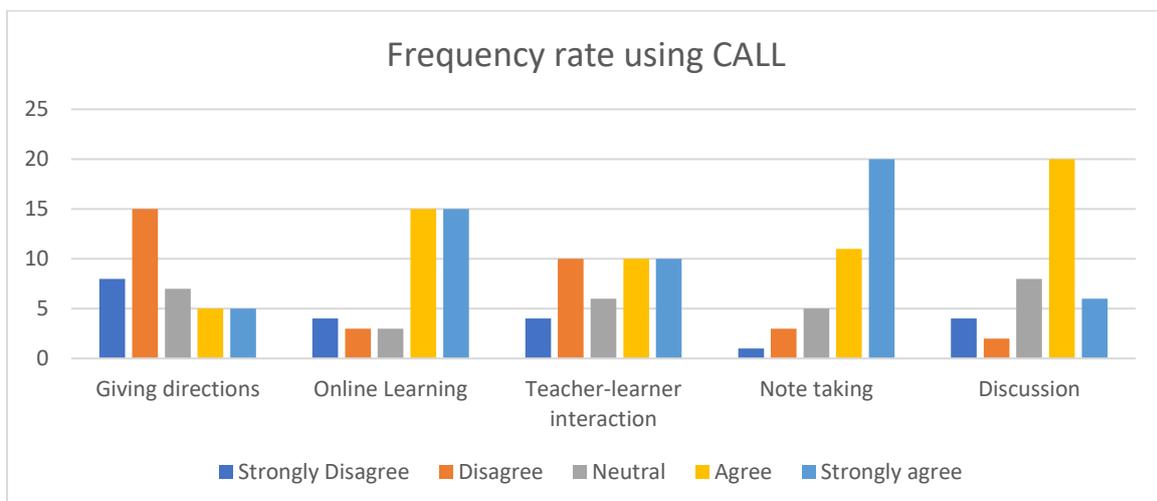
The figure above provides the details about the use of CALL to assess the learners' competence in the use of computer to determine which of the study variables mostly occurred. From the analysis it was established that online learning, note taking and discussion were proliferating. Of course, to a lesser extent teacher-learner interaction also occurred. The next figure 4.3.1 C presents data on creative writing, essay writing, speech writing and diction.

Figure 4.3.1 C: Frequency rate for using CALL
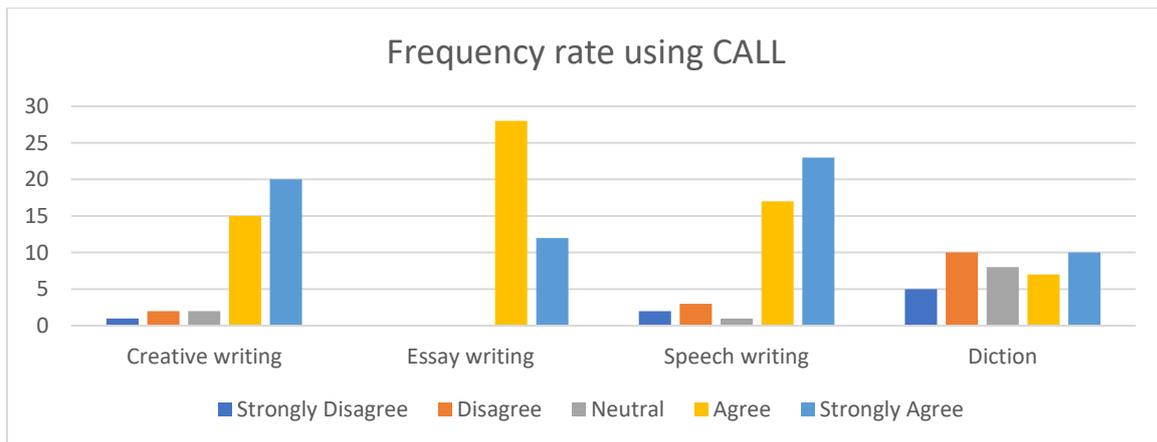
The figure above illustrates the data on the creative writing, essay writing, speech writing and diction. From the observed data, creative writing, essay writing as well as speech writing were mostly proliferate while diction was least observed as an activity for which CALL was used. The next section presents data on the 'skills integrating part of speech' using CALL.

4.3.2 Skills integrating part of speech using CALL

Figure 4.3.2 A: Skills integrating part of speech using CALL
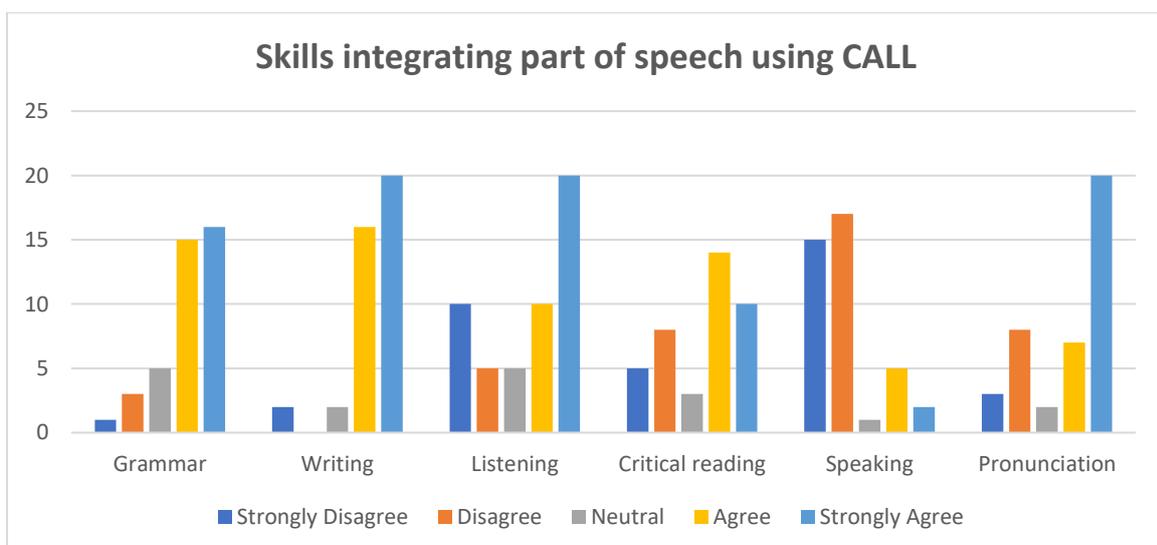
The figure above provides the data on the 'skills integrating part of speech' through the use of CALL. There are strong indications that grammar, writing, listening, critical reading and pronunciation were largely derived from such use. There seems to be less activities associated with speaking skills. Thus, this reflects the choices of uses made of CALL explicated from the learners' perspectives. The next figure 4.3.2 B presents data on word choice, sentence construction, word formation, sentence/paragraph coherence, using cohesive/ conjunctions and paragraphing.

Figure 4.3.2 B: Skills integrating part of speech using CALL
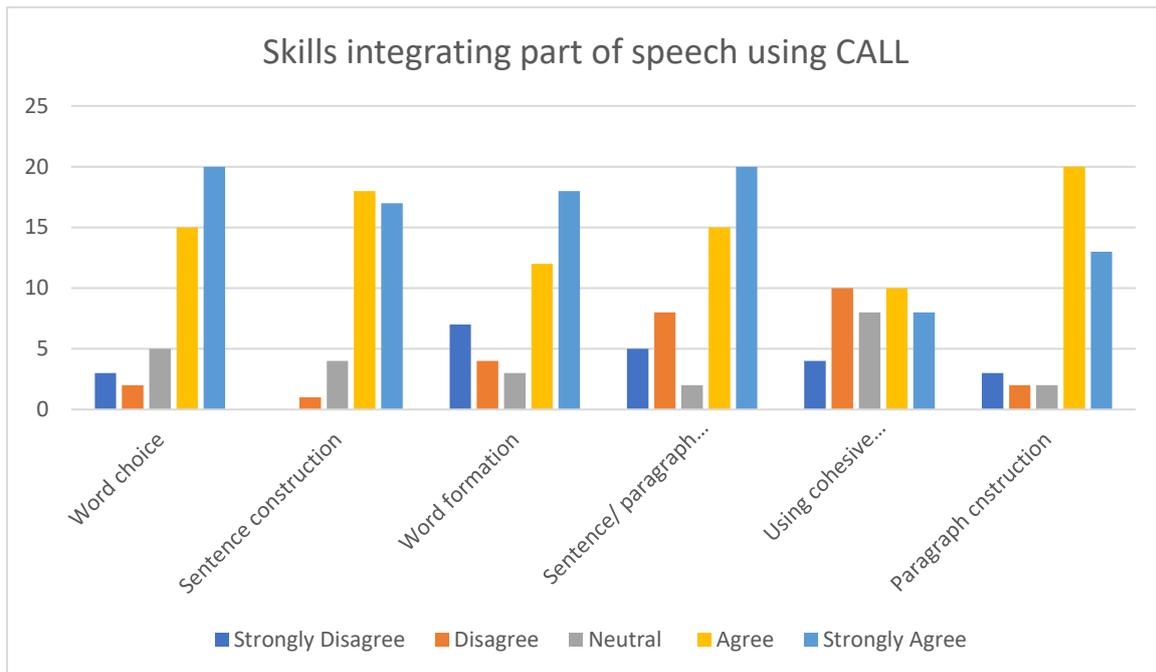
It is clear from the figure above that, the learners considered word choice, sentence construction, word formation, sentence/paragraph coherence, using cohesive devices/conjunctions as well as paragraph construction when using CALL. However, it seems like using cohesive devices/ conjunctions evinces the least frequency of choice to consider when applying CALL. The next figure 4.3.2C presents data on text production, punctuation and formal texting.

Figure 4.3.2 C: Skills integrating part of speech using CALL
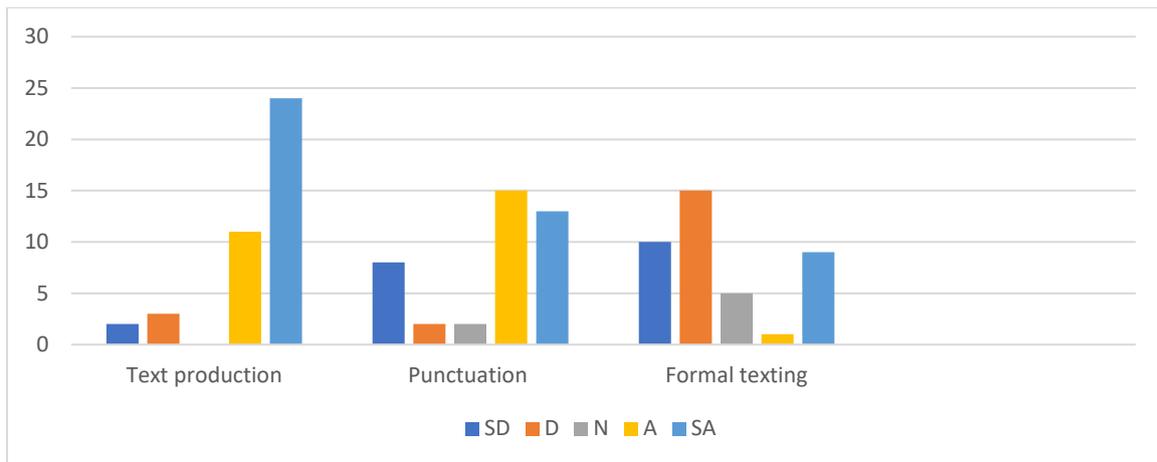
The figure above provides the data on the text production, punctuation and formal texting. It would seem that learners preferred to use CALL for text production and punctuation. However, very little evinces as part of formal texting because nowadays the style called Short Messaging Service (SMS) has influenced a lot of young people to make use of formal texting. The next section presents a discussion on activities most useful/helpful while learning English through CALL.

4.3.3: Activities most useful/helpful learning English using CALL

Figure 4.3.3 A: Activities useful/helpful learning English using CALL
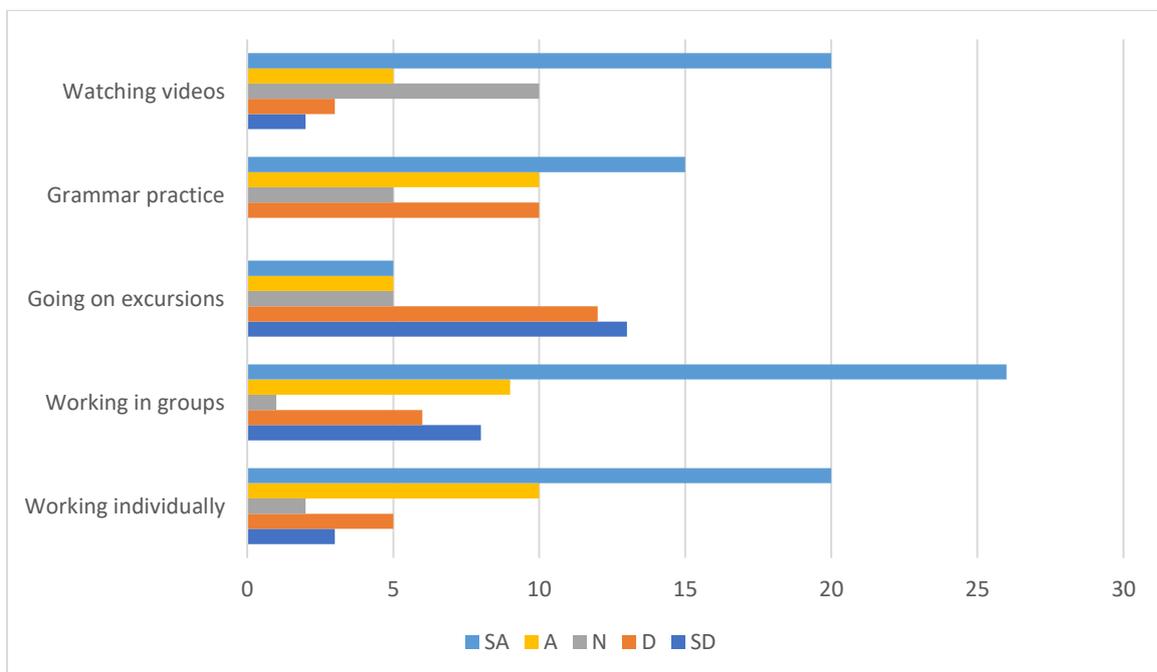
The above figure presents the data on the useful/helpful learning activities that learners preferred as part of their use of CALL. The most preferred activities include watching videos, grammar practice, working in groups as well as working individually. Much cannot be said about going on excursions and

the research speculates that perhaps these form part of the activities they least enjoy. The next figure 4.3.3 B presents data regarding reading articles, learning online, grill activities, reading genre or novels, writing essays and creative writing.

Figure 4.3.3 B: Activities useful/helpful learning English using CALL
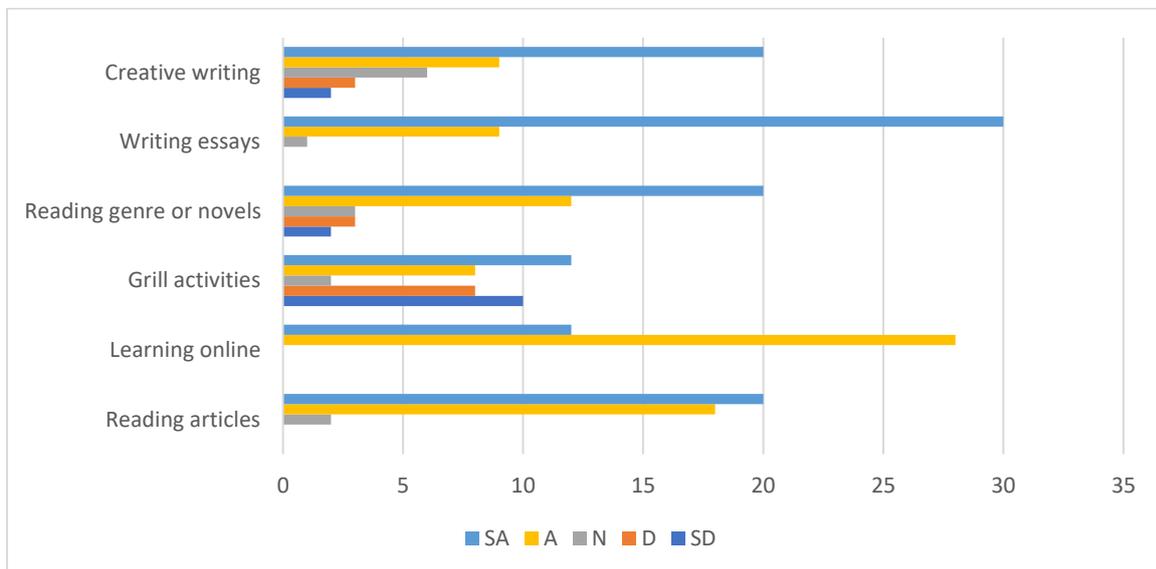
The figure above provides details on the useful/helpful activities that can enhance the learning of English using CALL. The activities that learners prefer are creative writing, writing essays, reading genre or novel, learning online and reading articles. Not much however, can be said about grill activities, an indication that learners do not enjoy doing them.

4.4 The researcher's own observations

Using a scale of 1-5 explained below, the researcher rates the effectiveness of CALL in English Second Language lessons at the selected school. The researcher spent an entire two weeks of classroom observations during lessons at the school

1	2	3	4	5
Poor	Fair	Good	Very good	Excellent

Table 4.4.1: Observation checklist

	1	2	3	4	5
1. Learners prepare for the lesson, including their learning tools (computer/laptop).			X		
2. The teacher clearly explains the objectives of the lesson.		X			
3. The teacher builds on the learners' prior knowledge.			X		

No.	Statement					
4.	The learners are actively involved in reviewing the previous lesson.				X	
5.	The teacher incorporates CALL in the teaching and learning process.			X		
6.	Learners are allowed to ask questions when they don't understand.			X		
7.	The learners respond to the teacher's leading questions about the topic.		X			
8.	The learners pay attention to the material presented by the teacher.			X		
9.	The teacher uses instructional tools related to CALL effectively.				X	
10.	The teacher uses authentic materials related to the learners' background knowledge.			X		
11.	The learners do their tasks online or offline.			X		
12.	The vocabulary used by the teacher is appropriate for learners' level.		X			
13.	The syntax is appropriate for the learners' level.			X		
14.	The teacher explains the benefit of using a particular writing strategy.				X	
15.	Learners are allowed to use vocabulary search engines or dictionaries.				X	
16.	The CALL lesson assists learners to master specific writing skills, e.g., sentence, paragraph and essay.				X	
17.	The lesson presented with CALL is running smoothly, naturally and logically.				X	
18.	The learners are working independently on the tasks through CALL.			X		
19.	Writing tasks are at the appropriate level of difficulty.			X		
20.	The learners are actively involved in concluding the lesson/tasks.				X	

The observation checklist has demonstrated how the teachers were able to integrate the use of CALL to establishable extents as indicated in the table above. Activities ranged largely within the ranges of fair, good or very good, particularly the use of tools related to CALL that engaged learners in a more participatory learner-centred approach to developing their writing creativity. Paying attention to grammar, paragraphing and essay writing are the most relevant skills needed in order to achieve the objectives of the lessons. The learners' abilities to apply CALL in the learning process put them in an advantageous position to research on various sources that were related to the lessons' objectives.

4.5 Section 2: Presentation of Qualitative Data

4.5.1 Interview(s): English language teachers

1. How often do you integrate computers or computer use in English L2 teaching and learning process?

TA: I most apply it during the research-based topic that I give learners for example when I give them individual task like essay writing or to prepare for a prepared speech.

TB: I give homework to learners to go explore on the topic of interest or to complete a homework by doing the research on internet.

2. How do you use the computer and other technological tools to plan and present lessons meant at vocabulary development?

TA: I develop a lesson by a way of PowerPoint presentation where learners can do a B-spelling.

TB: I usually develop a puzzle or download from the internet so that learners can do individually or in pairs.

3. What strategies do you use as an English L2 teacher to assist learners learn new words?

TA: Allow them to do more research on subject or topic that I prefer them to do. As this will enhance their capability to improve proficiency in the second language.

TB: The goal is to ensure that each learner achieve the competencies layout in the syllabus therefore each CALL lesson is planned towards use the appropriate strategies such enhancing creative writing or to read an article per day.

4. Some of the applications used for drilling methods are the computer games. What role do these applications play in vocabulary development?

TA: The applications enhance the linguistic ability of the learners.

TB: It ensures that the learners figure out how to look up for the words they consider very ambiguous or simple do not know their meaning.

5. How does vocabulary development impact students' writing abilities to construct meaningful logical paragraphs?

TA: When a learner has a rich-base vocabulary it enhances their capability to reason and express themselves better.

TB: The more a learner is capable to use a variety of words in their own expression or writing, the better they become.

6. **There are several modes of organizing paragraphs such as comparison/contrast, definition, narrative, cause/effect and process analysis among others. Which of these do you often use and why?**

TA: I prefer narrative, because it is an ultimate game changer in creative writing. Writing can only get better and improve if learners are given the benefit of the doubts.

TB: Writing is an art of language, definitely without proper paragraph organisations it will present poor authenticity of the context and literary meaning.

7. **How do you use CALL to check the development of students' paragraph writing?**

TA: We developed the mechanism of writing paragraphs and allow learners to save their works and then later they will print out for marking especially the continuous creative writing.

TB: First of all, allow learners to develop interest in a particular subject then develop an assessment where they will understand the difference between the various methods to writing paragraph. For example, to train them that to start a sentence, you first with the topic sentence, thereafter you develop supporting sentences that have similar views and opinion like the topic sentences.

8. **What are the materials you use in teaching essay writing and how do you measure their effectiveness in this regard?**

TA: Sometimes I prefer learners to write concepts about the essays in groups and they come up with more information about the subject for the essay. After they mind map the concepts about the essay topic, I then allow to begin with the draft. I check their draft then then ask them to correct grammatical errors as well spelling before I give another individual task.

TB: I prefer giving them a topic and allow them to go research widely, once they are back, we begin to formulate the format of the essay. Those who want to type their essays, I give them the total words they need reach in their essay.

9. **What role do computers play in developing or acquiring these materials?**

TA: Computer when connect to internet, it provides multiple sources to learn from.

TB: Learners are excited to use Computer Assistive Language learning tool; therefore, they stand a good chance to improve their performance through expose.

10. How do you promote students' autonomy in the use of computers and other technological tools to improve their essay writing skills?

TA: *Allow learners to independently do the research on topic to be taught the following lesson. They can go to the computer lab or use the gadgets they have at home.*

TB: *By giving the links and websites that are meant to assist English related activities.*

11. What are other language skills that learners can acquire through CALL?

TA: They learn to read and speak in that way; they will improve their fluency.

TB: They will learn all skills.

12. Assessment is part of the teaching and learning process. How does CALL impact the assessment of these competencies: vocabulary development; paragraph writing and essay writing?

TA: In terms of writing assess, the continuous monitoring through given activities, learners develop their ability to work independently and apply thinking to a task. My task is developing assessment activities that evaluate ability to master the competencies based on the activities.

TB: Vocabulary development, paragraph writing and essay writing can be developed through prepared task where learners are given a chance to type their essays.

4.4.2 Interview(s): Learners

1. Learning is not confined in a traditional classroom. How do you acquire vocabulary outside the classroom setting? Explain.

Participants identified numerous sources that they consider as source of learning vocabularies, such as newspapers, social media, internet sources as well as dictionary.

2. How does the integration of CALL can enhance English Language learning?

One of the candidates indicated that, through CALL, they are able to be exposed to a variety of sources. For instance, "I happen to search through a variety of sources regarding a certain topic on essay given by the English teacher, it will enhance and widened my abilities to write coherently." Another participant is of the view that, in essence, CALL is a technique that aids teachers in facilitating language learning. It can be used as a remedial tool to assist students who need more support or to reinforce what has already been learnt in the classroom. Additionally, several participants asserted that Computer Assisted Language Learning (CALL) strongly promotes the use of ICT in language learning to

increase learning efficiency and effectiveness, which can enhance the quality of comprehension and mastery of the language studied. In addition, it advances the learners' interests and encourages self-motivation, improves autonomous and personalised learning experiences, speeds up quick feedback, does error analysis and serves as an authentic learning resource.

3. *How do you use the computer to tackle problems associated with lack of vocabulary?*

Some learners indicated that there are many advantages gotten from using a computer, including the ability to learn from visual representations of word relationships in text, connecting learning and fun with online vocabulary games, encourages learners to express their vocabulary knowledge through media and supports reading and word learning with just-in-time vocabulary reference support. L5 asserted that technology makes it simpler for parents, teachers, and other stakeholders to collaborate in tracking the pupils' vocabulary development. The development of a pupil's vocabulary can be tracked, communicated and documented with the student, instructor, and parents/guardians using the right technological tools.

4. *What effect does mastery of grammar rules has on sentence construction?*

L10 submits that grammar explains how words are placed in sentences and their forms and structures. In other words, grammar establishes the norms for acceptable usages for both spoken and written language and this ensures that communication is simpler. According to L8, grammar makes it simple for someone to talk and write clearly and even improves the language that is created. L7 added that grammar usage in speech and writing can also be used to gauge a speaker's proficiency in English. L4 opined that grammar instruction is crucial because it improves the students' comprehension of the English language. Furthermore, grammar helps students comprehend how sentences are put together (L2). Additionally, it enables students to produce well-written essays and articles that even readers with less grammar knowledge can understand (L1).

5. *What is the role of the computer in developing skills needed for essay writing?*

L2 claim that they can properly plan their writing using computers. They can create a list of concepts or words. L3 explains that pupils can then combine these words into clusters that make sense. While learners may complete the identical task using a pencil and paper, computers can provide them with increased features.

4.5 Discussions

4.5.1 Frequency rate for using CALL to enhance English proficiency

According to the facts above, various learners have different approaches or methods they employ when composing emails, reports, presentations, making phone calls or delivering directions. This suggests that not everyone has access to computers. Furthermore, the data has demonstrated that the majority of learners acknowledged that they can do report writing, do telephoning and to a lesser extent, write emails. Online learning, taking notes, and conversation were relevant activities, as demonstrated in the analysis. Computers are also used, to some extent, for some teacher-student interaction. According to the research, speech writing, essay writing, and creative writing were the most frequently utilised types of writing for which computers were used for, while diction was the least frequent. Apart from the above ratings, evidence from reviewed literature highlighted that, writing emails, reports, presentation the sentences in paragraphs should be grammatically correct in order to be able to produce cohesive and well-structured paragraphs. According to Godwin-Jones (2009), computer-assisted language learning has been used to help students practice and acquire grammatical constructs since its inception. According to Chien (2011), as the Internet era progressed, CALL started to place a greater emphasis on the brand-new capabilities of computer-mediated communication. Forms and regulations understanding is a crucial aspect of online learning for secondary school learners. Today, however, there is acknowledgment that an emphasis on form should not be an isolated, stand-alone activity, but should be integrated into a communication-centered, networked language learning environment, in contrast to earlier grammar-oriented applications. Other studies reckoned that most learners had a positive opinion towards utilising Google Docs as one of the tools for learning to write since they believed it to be a very reliable resource. Although language teachers may persuade their students to engage in a variety of CALL activities, there are barriers to actually pique their interest. Through the use of Google Docs, 74 out of 109 pupils (5 absentees) were observed to have improved their writing, according to the analysis of writing samples (Ambrose & Palpanathan, 2017). This shows that if learning aids are accessible, many of the suggested initiatives for improving competences in language skills have the ability to produce the essential desired results.

Another critical aspect is to ensure that learners find the CALL types of activities that best suit their needs. The responsible ESL teachers should be at forefront of identifying barriers in access to such platforms and facilities in their school or encourage parents to assist where they are able to provide. Similarly, the findings from other studies demonstrate that students comprehend the value of computers as a crucial tool for education in the twenty-first century (Ambrose & Palpanathan, 2017). Some students disagreed, saying that it should be done in moderation because sometimes too much

technology might make the teaching and learning process boring (Ambrose & Palpanathan, 2017). However, teaching and learning is delayed but not boring as perceived. A number of factors are involved in designing appropriate lessons that respond to the needs of learners. Therefore, technology has its own limitations and negative impacts, despite strong intentions to utilise it in manners that better and enhance our lives.

4.5.2 Skills integrating part of speech using CALL

Strong evidence suggests that pronunciation, critical reading, writing, listening and grammar are skills that represent the needs that CALL must address for learners while learning. Speaking skills-related activities appear to be declining. In addition to paragraph building, students also addressed word choice, phrase construction, word formation, sentence/paragraph coherence and the use of cohesive devices and conjunctions. When applying CALL for upskilling, it appears that employing cohesive devices or conjunctions is the only option to consider. Although it is preferable that students employ text production and grammar, there is less that can be stated about formal texting nowadays because the Short Messaging Service (SMS) style has encouraged many young people to adopt and use it from their mobile devices. Because of this, teachers must devise ways that improve their students' ability to appreciate the use of CALL in order for their students to write creatively and produce meaningful thoughts. Apart from the skills needed to write coherently, researchers suggest that the amount of labour needed for traditional testing is considerably reduced by the ease with which vocabulary tests can be computerised (Beals, 2015). More traditional in-person assessments and surveys of parents and teachers, like the pragmatics section of the commonly used the Clinical Evaluation of Language Fundamentals (CELF) test, can also be used to determine a student's overall pragmatics proficiency (Beals, 2015). In contrast to language examinations, pragmatics evaluations are not well adapted for computerisation. First of all, it is difficult for computers to simulate real-life scenarios. On the contrary, due to the enormous vocabulary that students need to learn and the limited time available in EFL classrooms, computer assisted language learning (CALL) is viewed as an enticing learning tool (Enayati & Gilakjani, 2020). In CALL vocabulary instruction, words are repeatedly used to ensure that learners remember what they have been taught (Enayati & Gilakjani, 2020). This is one special advantage of CALL. Enayati and Gilakjani's (2020) research seeks to determine how CALL influences Iranian intermediate learners' vocabulary development. Another benefit of CALL suggested by Eizadpanah, Abedi and Ghaedrahmat (2014) who submit that computer-assisted vocabulary learning (CAVL) improved long-term memory in intermediate English as a Foreign Language (EFL) learners. They discovered that the learners themselves realised how much they benefited from instruction through online learning during the course of the course.

Therefore, by ensuring that lessons are inclusive through the optimum use of computerised programs that that are geared towards academic writing as in many cases, learners will eventually learners to incorporate cognitive linguistic abilities towards more grammatical sense-making forms of writing. Furthermore, L8 claims that CALL makes it easier for someone to express themselves clearly in both speech and writing, and even improves the language that is produced. L7 believes that grammar usage in writing and speech can also be used to determine a speaker's level of English competence. According to L4, grammar training is important because it helps pupils understand the English language. Grammar also aids pupils in understanding how sentences are put together (L2). It also helps students write well-written essays and articles that even readers with limited grammar understanding may understand (L1).

4.5.3 Activities most useful/helpful learning English using CALL

The most popular activities are watching films, working alone or in groups and practising grammar. Excursions can't be discussed much because, perhaps, the learners appreciate them the least. Writing essays, reading genre or literary fiction, learning online and reading articles are the activities that students prefer to do mostly. There is evidence that grill activities are the least liked activity. This is possibly because the students do not find them enjoyable. From the data collected through observations and interviews, it can be argued that CALL enables students to perform better as CALL enables them to able to develop their second language skills. Each CALL class is designed to develop all the necessary skills, such as fostering creative writing or reading an article every day, in order to ensure that each learner acquires all the skills as defined in the curriculum. Supporting literature indicates that, learners of English as a Second Language (ESL) can use computers to gain access to a variety of language learning possibilities outside of the usual classroom setting (Alsubaie & Madini, 2018). English language learners are assured of rich literacy development when these activities are are made relatable to things that can accomplish at home with family members. As has been previously observed, computers and software can help English language learners expand their lexical knowledge and skills (Alsubaie & Madini, 2018). According to Alsubaie and Madini(, computers can also help EL students improve their writing skills. Constructing paragraphs in a language that is still foreign to learners can prove to be difficult, and this is the context in which the computer becomes more helpful.

4.6 Summary of the chapter

This study sought to explore the effectiveness of the application of CALL towards in developing skills such as grammar, vocabulary, cohesion and coherent approach to academic writing. To achieve the objectives of the study as set out in Chapter 1, the current research sought to establish the activities

that are deemed to be most useful/helpful to students during the process of learning English language writing skills through the medium of CALL.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The currentchapter serves as the study's conclusion and is divided into two section: Section 5.2 (which provides a summations and conclusions culminating from the analyes of the research findings), and Section 5.3 (which presents recommendations suggested by the study based on the study's findings).

5.2 Conclusions

Learners entering Grade 11 are about to move from elementary school to tertiary education at universities and other institutes of higher learning, or into business and the working world. It is thus, expected that when they transition as such, the students possess strong writing skills, which are necessary for them to fulfil the demands of the educational and employment contexts. However, many students lack the skills to write well, a skill that is crucial for success in both academic and professional settings. The lack of writing skills limits a person's capacity to communicate ideas, opinions, and viewpoints in and outside of the classroom, which lowers quality of life, employment opportunities, and educational success. Learners' failures to recognise and utilise the proper vocabularies while constructing a a piece of written work is one of the challenges observed as affecting the development of writing skills. Learners struggle to write clear and well-constructed sentences in their writing, which eventually affects consistency between paragraphs. Additionally, when learners struggle to choose the appropriate vocabulary or write coherent sentences and paragraphs, essay writing becomes difficult. Teachers are also observed to be incorporating computers and computer related technologies into language lessons in order to improve the writing skills of learners. But how successful is CALL in improving the writing skills and solving writing issues? The current study has ascertained that CALL is quite effective in fostering the learning of language skills if properly implemented within Namibian secondary schools.

Ensuring that learners select the CALL-style activities that best meet their needs is a crucial factor to consider in the implementation of CALL. The responsible ESL teachers should take the initiative to identify challenges associated with the use of the platforms and facilities at their school and/or to persuade parents to help out where they can. Similar results from other researches evince that pupils were aware of how important computers are as a tool for education in the twenty-first century (Ambrose & Palpanathan, 2017). However, some learners have raised concerns with regards to the use of CALL, arguing that using technology excessively and frequently could make the teaching and learning process monotonous (Ambrose & Palpanathan, 2017). Despite being slower than CALL, conventional face to face learning and teaching are not as monotonous as people might think them to

be. Several elements go into creating relevant lessons that respond to the learners' needs. Therefore, despite having good intentions to improve our lives, technology has its own drawbacks and harmful effects. Because of this, it's crucial for teachers to consider how they prepare their lessons objectively with the need to assess and determine what students can and cannot do while using a computer. In other words, a need analysis must determine how to assist learners in meeting their needs while learning a second language.

The goal of the current study was to add to the body of knowledge in this field. It sought to contribute to the corpus of literature on how the use of contemporary technology (computer-assisted language learning) in improving the writing skills of ESL secondary school students. The findings of the current study suggest that the inclusion of CALL in the essay-writing curriculum for ESL secondary school students has already evinced positive results with regards to enhancing the students' understanding and application of the English writing skills as they get prepare for the Namibia Secondary School Certificate Ordinary (NSSCO) examinations as well as future professional careers.

5.3 Recommendations

Based on the findings of the study as they respond to the objectives established in Chapter 1, the following recommendations are proposed;

- With regards to the frequency rate for using CALL to enhance English proficiency in writing, it is advised that the current study be replicated with bigger samples drawn from various educational levels in order to assess how broadly the findings may be applied. Future studies should explore the impact of using CALL systems to improve other writing sub-skills including topic sentence creation, idea generation and so on.

- With regard to the skills integrating part of speech using CALL, the effects of CALL systems on other language skills, such as reading, speaking and listening should also be researched by ESL teachers as a component of their activities. The researcher proposes the need for looking into how much CALL software may be used to translate teaching and learning. It has been observed that the learners' motivation to learn rises when a program is frequently used. Therefore, research should look into how using CALL programs affects the learners' desire to study L2.

- With regard to activities most useful/helpful in the learning of English using CALL, it is recommended that additional studies be conducted to assess the efficiency of utilising CALL in inductive grammar instruction or drilling methods.

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Appendices

My Name is Susan Salom, a Master of English and Applied Linguistics Student at Namibia University of Science and Technology (NUST). I am busy doing a study on "investigation of Computer-Assisted Language Learning (CALL) in enhancing writing comprehension". Please assist me in answering the following questions which will enable me to reach the main objective of my study which is to investigate the effectiveness of CALL in Namibian Secondary Schools.

1. How often do you integrate computers or computer use in English L2 teaching and learning process?

2. How do you use the computer and other technological tools to plan and present lessons meant at vocabulary development?

3. What strategies do you use as an English L2 teacher to assist learners learn new words?

4. Some of the applications used for drilling methods are the computer games. What role do these applications play in vocabulary development?

5. How does vocabulary development impact students' writing abilities to construct meaningful logical paragraphs?

6. There are several modes of organizing paragraphs such as comparison/contrast, definition, narrative, cause/effect and process analysis among others. Which of these do you often use and why?

7. How do you use CALL to check the development of students' paragraph writing?

8. What are the materials you use in teaching essay writing and how do you measure their effectiveness in this regard?

9. What role do computers play in developing or acquiring these materials?

10. How do you promote students' autonomy in the use of computers and other technological tools to improve their essay writing skills?

11. What are other language skills that learners can acquire through CALL?

12. Assessment is part of the teaching and learning process. How does CALL impact the assessment of these competencies: vocabulary development; paragraph writing and essay writing?

Interview questions for Learners on CALL:

1. Learning is not confined in a traditional classroom. How do you acquire vocabulary outside the classroom setting? Explain.

2. How does the integration of CALL can enhance English Language learning?

3. How do you use the computer to tackle problems associated with lack of vocabulary?
4. What effect does mastery of grammar rules has on sentence construction?
5. What is the role of the computer in developing skills needed for essay writing?

Computer Assisted Language Learning (CALL) observation checklist

Class observed_____
Subject_____
Lesson Number_____
Targeted language skill_____

Please use the scale below to rate the effectiveness of CALL in English 2nd Language Lesson.
Tick off in the appropriate block.

1	**2**	**3**	**4**	**5**
Poor	**Fair**	**Good**	**Very good**	**Excellent**

	1	**2**	**3**	**4**	**5**
21. Learners prepare for the lesson, including their learning tools (computer/laptop).					
22. The teacher clearly explains the objectives of the lesson.					
23. The teacher builds on the learners' prior knowledge.					
24. The learners are actively involved in reviewing the previous lesson.					
25. The teacher incorporates CALL in the teaching and learning process.					
26. Learners are allowed to ask questions when they don't understand.					
27. The learners respond to the teacher's leading questions about the topic.					
28. The learners pay attention to the material presented by the teacher.					
29. The teacher uses instructional tools related to CALL effectively.					
30. The teacher uses authentic materials related to the learners' background knowledge.					
31. The students do their tasks online or offline.					
32. The vocabulary used by the teacher is appropriate for learners' level.					
33. The syntax is appropriate for the learners' level.					
34. The teacher explains the benefit of using a particular writing strategy.					
35. Learners are allowed to use vocabulary search engines or dictionaries.					
36. The CALL lesson assists learners to master specific writing skills, e.g., sentence, paragraph and essay.					

37. The lesson presented with CALL is running smoothly, naturally and logically.

38. The learners are working independently with the tasks through CALL.

39. Writing tasks are at the appropriate level of difficulty.

40. The learners are actively involved in concluding the lesson/tasks.

Questionnaire

Dear respondents

As part of my MA degree, I will be conducting a case study "The English needs for grade 11 learners at Westside High School. Be candid and respond to the following questions. Your response will remain confidential and will be used for this study only.

A. Demographic information
   1) Age……   2) Gender…………………
   3) Level of education………………….   4) Language spoken………………………………….

B. Rate the frequency of using English in the following contexts from 1-5.

	Context	1	2	3	4	5
1	Writing emails					
2	Writing reports					
3	Presentations					
4	Telephoning					
5	Giving instructions					
6	Giving directions					
7	Online learning					
8	Teacher-learner interactions					
9	Note taking					
10	Discussions					
11	Creative writing					
12	Essay writing					

13 Speech writing

14 Diction

    C. Rank your skills in order from 1-5 (weak to strong).

Gap	1	2	3	4	5
1 Grammar					
2 Writing					
3 Listening					
4 Critical reading					
5 Speaking					
6 Pronunciation					
7 Word choice					
8 Sentence construction					
9 Word formation					
10 Sentence/paragraph coherence					
11 Using cohesive devices/conjunctions					
12 Paragraph construction					
13 Text production					
14 Punctuation					
15 Formal writing					

    D. Which activities are most helpful to your English learning?
        Rate from least helpful (1) to most helpful (5).

Wants	1	2	3	4	5
1 Working individually					
2 Working in groups					
3 Going on excursions					
4 Grammar practice					
5 Watching videos					
6 Reading articles					
7 Learning online					

8   Grill activities

9   Reading genre or novels

10   Writing Essays

11   Creative writing

Thank you!

Letter of permission

DEPARTMENTAL RESEARCH ETHICS COMMITTEE (D-REC)

DECISION: ETHICS APPROVAL

RESEARCH TOPIC

Title:

Investigation of the efficacy of computer-assisted language learning in enhancing writing: A case study of Westside High School

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Dear Ms SN Salom

The Department of Communication Research Ethics Committee (D-REC) of the Namibia University of Science and Technology reviewed your application for the above-mentioned research. The research as set out in the application has been approved.

We would like to point out that you, as principal investigator, are obliged to:

- maintain the ethical integrity of your research,
- adhere to the Research policy and ethical guidelines of NUST, and
- remain within the scope of your research proposal and supporting evidence as submitted to the D-REC.

Should any aspect of your research change from the information as presented to the D-REC, which could have an effect on the possibility of harm to any research subject, you are under the obligation to report it immediately to D-REC as applicable in writing.

We wish you success with your research, and trust that it will make a positive contribution to the quest for knowledge at NUST.

Sincerely

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