

**SCHOLARLY COMMUNICATION TRAINING AND WRITING SELF-EFFICACY
OF MASTER'S DEGREE STUDENTS MODERATED BY TECHNOLOGY
APPLICATIONS IN KYAMBOGO UNIVERSITY**

BY

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**A DISSERTATION SUBMITTED TO DIRECTORATE OF RESEARCH AND
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DECLARATION

I Stella Zawedde confirm that this research dissertation entitled “Scholarly communication training and writing self-efficacy of master’s degree students moderated by technology applications in Kyambogo University” is my own. It was developed in pursuance of a Master’s degree in Educational Policy, Planning and management of Kyambogo University.

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APPROVAL

This dissertation titled “Scholarly communication training and writing self-efficacy of master’s degree students moderated by technology applications in Kyambogo University” was developed under our guidance. The dissertation is now ready for submission for examination.

Signed

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Date.....

DEDICATION

I dedicate this study to my beloved family, who have supported me throughout my academic struggle. I also dedicate it to my dear Lecturers and Supervisors who patiently guided me, turned my weakness into my strength and believed that I could make it. Thank you, so much may the Almighty God reward, you.

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ABSTRACT

This study investigated the influence of scholarly communication training and technology applications on writing self-efficacy of master's degree students in Kyambogo University. The objectives of the study were; to examine the influence of scholarly communication training, and assess the influence of technology applications on writing self-efficacy of master's degree students in Kyambogo University. Further, the objective sought to test the moderating effect of technology applications on the influence scholarly writing on writing self-efficacy of master's degree students in Kyambogo University. Using the quantitative approach, the study adopted the correlational survey research design. Data were collected from a sample of 250 students using a self-administered questionnaire. The data were analysed using descriptive analysis that involved calculating of frequencies, percentages, and means, and inferential analysis using Partial Least Squares Structural Equation Modelling (PL-SEM). The study revealed that scholarly communication training in terms of training content and strategies had a positive and significant influence on writing self-efficacy of master's degree students, technology applications in terms of applications use and ease of use had a positive and significant influence on writing self-efficacy of master's degree students, and technology applications partially moderated the influence of scholarly communication training on writing self-efficacy. It was concluded that scholarly communication training is essential in enhancing the writing self-efficacy of students, technology applications play a vital role in enhancing writing self-efficacy of students, but combining scholarly communication and technology applications does not boost students' writing self-efficacy. Therefore, the recommendations of the study are that the university curriculum should emphasise scholarly communication training to enhance the writing self-efficacy of students, and universities should access students' technology applications that support the development of writing self-efficacy. However, university scholarly communication courses should not over integrate technology applications.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

A critical aspect for completing any postgraduate programme is scholarly writing. Students at this level are required to write in a scholarly manner to produce satisfactory monographs as a requirement for the award and disseminate findings through publications (Gupta et al., 2022). Scholarly writing encompassing the efficacy to articulate ideas and arguments in an understandable, precise, and logical fashion is an essential skill for completing research activities and publish findings in internationally recognised academic journals (Çelik, 2020). Academic writing is a basic component for any successful graduate program and plays a central role in one's academic progress (Gupta et al., 2022). Nevertheless, a significant number of students in Uganda universities face challenges in completing their research activities according to Waweru and Kyakuha (2020). Consequently, it becomes crucial to examine factors affecting writing self-efficacy of master's degree students. Specifically, this study investigated the influence of scholarly communication training on writing self-efficacy of Kyambogo University master's degree students moderated by technology applications.

1.1 Background to the Study

1.1.1 Historical Perspective. Scholarly writing self-efficacy of master's degree students globally has been a challenge. Many academic mentors of graduate students always feel encumbered by the poor quality of written texts when reviewing and editing drafts of graduate students. Thus, helping and supporting the students becomes hard for them (Gupta et al., 2022). Consequently, many students fail to complete their courses because of failure to complete their research dissertations/

theses which are a requirement for graduation. For instance, at PhD Level, globally in the past 50 years, the overall attrition rate at PhD level is around 50% especially because of failure to complete the final monograph (Jonas & Hall, 2022). A study involving international PhD students in Canada by Gupta et al. (2022) revealed that their scholarly writing self-efficacy was low. Approximately 90 per cent students indicated that their academic writing skills were low while 46 per cent indicated their mentors had indicated to them the need to improve their academic writing skills. Great difficulty was found in the writing process, content or ideas development, grammar use, vocabulary and organisation of sentences or paragraphing.

The exception of high completion of master's degree students were in the United Kingdom where master's degree students starting a full-time taught masters in 2016-17, 94.6% completed the programmes and for part-time students 77.5% completed. These rates largely remained consistent for four subsequent years (The Office for Students annual review, 2022). However, a study done in Turkish universities by Yuvayapan and Bilginer (2020) revealed master's degree students had limited knowledge of writing academic papers (77%), reviewing and analysing academic manuscripts such as theses and research articles (73%), and academic writing skills and practices (63%). Those who relied on themselves for punctuation were 10%, and another 10% grammar issues. This means that the majority had challenges with punctuation and grammar issues. In China, a large number of master's degree students experienced challenges when it came to making criticism of the previous research (Cai, 2017).

In Africa, failure to complete research by students is also a challenge for master's degree students. Master's studies have demonstrated an array of potential impediments to candidate progress, with the possibilities of either delayed completion or attrition. Attrition differs from country to country, with some countries reporting up to 85%, while in some countries more than a

third of all students of Master's programmes drop out within the first year (Motseke, 2016). At most universities, a master's programme scheduled for duration of two years takes an average of between three to four years (Waweru & Kyakuha, 2020; Omanga, 2017). In South Africa, while the graduation rate at masters have been improving, they are still low. While master students' graduation was 7% in 2015, it was 24% in 2016, 41% in 2017, 51% in 2018, 57% in 2019, and 59% in 2020. This means in 2020, 41% of the students did graduate (Green, 2024). A study done in Kenya revealed that in private universities in Nairobi, the non-completion rate was 37% (Mugendi & Githae, 2021). Challenges related to delayed and completion rates relate to scholarly writing self-efficacy challenges. For instance, it has been reported that in Nigeria, master's degree students exhibit poor writing, literature review, methodological and statistical methods skills (Ofem & Akpo, 2022). In Kenya, master's degree students writing self-efficacy are also poor. While the universities have sought to address the problem through teaching writing by offering the Communication Skills (CS) course, there are several challenges that make the course ineffective including poor structuring, very broad content, poor quality delivery and large classes. Therefore, the course inadequately prepares students with the kind of skills they need to navigate academic discourse (Chege & Njengere, 2018). In Tanzania, it has also been reported that incompetence in research skills is among the factors contributing to low completion of master's degree students (Mkhai, 2023). Accordingly, majority of the students have poor writing skills making the supervision a burden often resulting into conflict between them and the supervisors ultimately hindering their timely completion (Magali, 2019).

In Uganda's higher education institutions, there's a growing enrolment of students in graduate programs but the completion rate for these programs is disappointingly low. While over 70% of students successfully complete their coursework in the first year, the progression

significantly slows down during the research phase in the second year (Malunda et al., 2021). Less than 30% of students graduate within the expected two-year timeframe due to difficulties in completing their research. For example, at Makerere University Business School (MUBS), a high number of Master of Business Administration (MBA) students, around 85%, who enrolled between 2001 and 2006, failed to complete their studies within the stipulated two years. The situation remained challenging in subsequent years, with graduation rates in 2015, 2016, and 2017 ranging from 94% to 95%. Remarkably, most students do well in their coursework but struggle to complete their research projects, resulting in delayed graduation (Waweru & Kyakuha, 2020). This low completion rate is closely linked to the inadequate writing skills among Ugandan university students. For example, according to Obuku et al. (2017), Makerere University's Postgraduate Master's students encounter difficulties in scholarly writing, resulting in a limited number of published works.

In their study in Kenya, Chege and Njengere (2018) indicated that poor communication skill training as a result of poor course structure and pedagogical strategy was responsible for students' low scholarly writing self-efficacy. On their part, Vacalares et al. (2023) in their study in the Philippines indicated that user technology applications such as grammar checkers and supervisor feedback system affected writing skills of students. While in Uganda, the National Council for Higher Education [NCHE] (2015) demands that scholarly writing is a compulsory course for all master's degree students, literature search has not shown how the universities are implementing the directive and how for those universities that implemented it has affected writing skills of students. This attracts the attention of this study to assess how scholarly communication training (scholarly writing) has been implemented and its influence on scholarly writing self-efficacy of students. In addition, while there has been an increase in writing user technologies,

there is lack of literature on master's degree students' use of the technologies and how they have affected students' scholarly writing self-efficacy. Therefore, this study was attracted to examine how scholarly communication training and writing self-efficacy of master's degree students was moderated by technology applications in Kyambogo University.

1.1.2 Theoretical Perspective. The Programme Theory by Bickman (1987) and Technology Acceptance Model (TAM) by Davis (1989) informed this study. The Programme Theory describes how a program should be developed and is supposed to work (Nash, 2019). The Program Theory explains that there should be explicit connection between the things done in class and the outcomes learners should attain (Finney et al., 2021). The programme theory posits that a programme should articulate what students are expected to achieve. Programming encompasses content (e.g., materials, activities) and delivery (e.g., pedagogy) (Finney et al., 2021). The Programme Theory indicates that a programme of study should specify content that materials and activities and delivery that is pedagogy. This study examined how content and pedagogy of scholarly communication training influenced writing self-efficacy of master's degree students.

On the other hand, TAM proposes that people decide to adopt a technology because of perceived use (PU) and perceived ease of use (PEU). PU is concerned with the perceived value of the new technology and PEU is about how effort free is the technology to manipulate while attempting to accomplish tasks with it (Ngoc et al., 2023). In short, TAM postulates that the PU and PEU affect the behavioural intention to use a technology, which in turn affects the actual use (Bonfanti et al., 2023). This means that if students find a technology application useful in enhancing their academic writing, they will adopt it. This study assessed how PU and PEU influence writing self-efficacy of master's degree students.

1.1.3 Conceptual Perspective. The study primarily centres on three key variables: scholarly communication training, technology applications and writing self-efficacy. Scholarly communication training (independent variable [IV]) comprises of two terms that are scholarly communication training content and strategies. Klain-Gabbay and Shoham (2018) defined, scholarly communication as the process by which research and other scholarly works are produced, assessed for quality, shared with the scholarly community and saved for later use. For training, it is the formal process of imparting knowledge in people in order to make them acquire the skills necessary to accomplish a job satisfactorily (Mugizi et al., 2020a). Therefore, scholarly communication training is the process of imparting in individual's skills of producing, assessing quality, sharing with the scholarly community and saving for later use research and other scholarly works. In this study, drawing from Programme Theory, scholarly communication training encompassed to teaching content including materials and activities, as well as delivery strategies such as pedagogical approaches (Finney et al., 2021).

Technology applications (moderating variable [MO]) refer to information communication technology (ICT) software packages and systems used to accomplish specific tasks (Sultan, 2023). In this study, technology application basing on TAM referred to applications use and ease of use. Perceived use is concerned with the perceived value of technology in writing while perceived ease of use is about how effort free is the technology to manipulate while using it to write. Writing self-efficacy (dependent variable [DV]) refers to self-appraisal to effectively carry out writing in a specific context (Mitchell et al., 2019). In this study, basing on Abo Zaid et al. (2019) writing self-efficacy referred to writing self-confidence, stamina, competence and self-regulation. The defined writing self-confidence is the ability to execute a writing activity by creating an idea to solve a problem depending on past accomplishment; writing stamina as the zeal and resilience

besides effort and resoluteness to accomplish a text; self-regulation concerns the capability to determine personal writing direction; and writing competence is perceived capability to plan, organise, and accomplish writing of a text.

1.1.4 Contextual Perspective. Kyambogo University Master's degree students were the unit of analysis. Master's programmes had a schedule of two years. However, majority of the students failed to graduate in record time. For instance, while approximately 1277 masters' students were admitted in years 2018 to 2022, but those that graduated in those years were 65(2018), 151(2019), 187(2021), and 39(2022) that is a total of 442 (34.6%) (Graduation Books 2018-2022). This suggested low completion rates as a result of failure to complete their dissertations, most likely because low writing self-efficacy among other factors including lack of fees. Yet, Kyambogo University generally offered training in scholarly communication to master's degree students. The course was in all programmes explicitly or implicitly as reflected in the NCHE (2015) benchmarks. The course in scholarly writing for masters' students who were of interest in this study covered writing and publication skills. These included knowledge and practical skills for advanced academic writing and publication of papers, thesis, books and other academic works. The course also covered key aspects that were selecting titles, making outlines, drafts, reviewing and editing. Further, the course covered types of academic writing, referencing styles and citation, logical argumentation styles, narrative styles, and presentation of statistics. The above contextual evidence showed that the University offered scholarly communication training but still writing self-efficacy of master's degree students remained low since they could not complete their dissertations in time. This led to the unanswered empirical question as to whether scholarly communication training influences writing self-efficacy. This was studied looking at the moderating effect of technology applications.

1.2 Statement of the Problem

Writing self-efficacy is a vital aspect of academic success of graduate students. Higher writing self-efficacy predicts greater research productivity and higher levels of research engagement and shorter time to completion (Jonas & Hall, 2022). Recognising the importance of writing efficacy of master's degree students, universities including Kyambogo University mandated by the National Council for Higher Education (NCHE) to teach scholarly communication or scholarly writing skills (NCHE, 2015). Despite this effort, writing self-efficacy of the students remained low because majority of them fail to complete their dissertations and other publication requirements in time. For instance, while in years 2018 to 2022 masters' degree students 1270 were admitted, those that graduated in those years were 65 (2018), 151 (2019), 187 (2021), and 39 (2022) totalling to 442 (34.6%) but including those of the previous years. This suggests low completion rates. This means that they could write their dissertations to completion besides other factors like lack of fees which prevented them from graduating. This suggested their writing efficacy was low. Previous studies (Nicholes & Reimer, 2020; Nteroke & Ramoroka, 2015; Priyadarshini et al., 2022) have attributed low completion rates to students' low writing efficacy. However, this study raised a contextual gap as one was done in the context of Uganda. If the situation of low writing self-efficacy remains with most students not graduating in time, the university will fail to attract more students at graduate level curtailing its ability to disseminate knowledge. To address this challenge this study investigated the influence of scholarly communication training on writing self-efficacy of master's degree students moderated by technology applications in Kyambogo University.

1.3 Purpose of the Study

This study investigated the influence of scholarly communication training and technology applications on writing self-efficacy of master's degree students at Kyambogo University.

1.4 Objectives of the Study

Specifically, the study sought;

- i. To examine the influence of scholarly communication training on writing self-efficacy of master's degree students at Kyambogo University.
- ii. To assess the influence of technology applications on writing self-efficacy of master's degree students at Kyambogo University.
- iii. To test the moderating effect of technology applications on the influence of scholarly writing on writing self-efficacy of master's degree students at Kyambogo University.

1.5 Research Hypotheses

The study tested the following hypotheses;

- i. Scholarly communication training has a significant influence on writing self-efficacy of master's degree students.
- ii. Technology applications have a significant influence on writing self-efficacy of master's degree students.
- iii. Technology applications have a significant moderating effect on the influence of scholarly communication training on writing self-efficacy of master's degree students.

1.6 Scope of the Study

The geographical scope of the study was Kyambogo University. Specifically, the study was carried out in the six schools that are School of Art and Industrial Design, Built Environment, Education, Computing and Information Science, Management and Entrepreneurship, and Vocational Studies, the six faculties that are Faculty of Agriculture, Arts and Humanities, Engineering, Science, Social Sciences, and Special Needs and Rehabilitation because they all have masters' students. The

content scope was scholarly communication training, technology applications and writing self-efficacy. Scholarly communication training covered scholarly communication training content and strategies. Technology applications were studied in terms of applications use and ease of use. Writing self-efficacy was looked at in terms of writing self-confidence, stamina, competence and self-regulation. The periodic scope was master's degree students from academic year 2018/2019 to 2022/2022. This is because these have already undergone scholarly communication training.

1.7 Significance of the Study

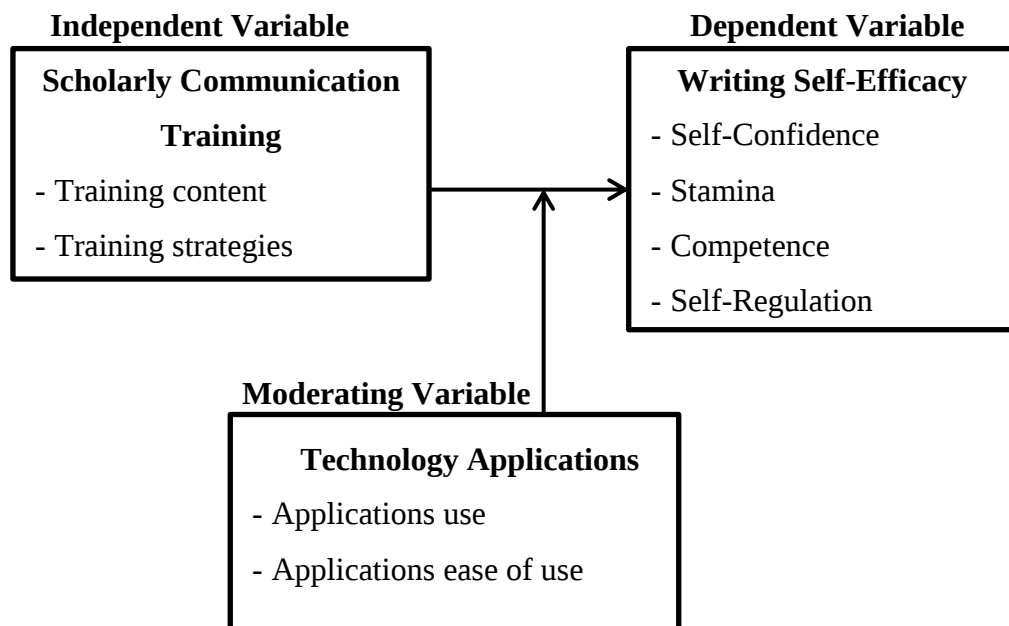
This study sought to make significant contribution to policy makers, universities, students and body of knowledge. To the policy makers that executive, parliament and the National Council of Higher Education, the findings of this study might be of help for developing policies for implementing scholarly communication training to enhance writing self-efficacy of students in universities. This is because the study reveals how scholarly communication training can be implemented to enhance writing self-efficacy. To the universities, the findings might help in unearthing the gaps in teaching of scholarly communication training and suggesting how it can be improved. This might be the basis for closing the gaps in the teaching of scholarly communication training and enhancing writing self-efficacy of students. To the students, the study reveals what they need to grasp the skills taught to improve their own writing self-efficacy. This might be the basis for students having improved writing necessary for completion of academic programmes. To the body of knowledge, this study contributes to literature scholarly communication training, technology applications and writing self-efficacy. This will provide researchers the necessary literature to carry out further research on the same and related areas.

1.8 Conceptual Framework

The conceptual framework (Figure 1) shows the link between scholarly communication training and writing self-efficacy moderated by technology applications.

Figure 1.1

Conceptual Framework



Sources: Conceptual framework basing on concepts adapted from Davis (1989), Finney et al. (2021), and Abo Zaid et al. (2019).

The conceptual framework (Figure 1) shows that scholarly communication training is the independent variable moderated by technology applications influence writing self-efficacy. The components of scholarly communication training are scholarly communication training content and strategies. Technology applications include applications use and ease of use while writing self-efficacy is in terms of writing self-confidence, stamina, competence and self-regulation.

1.9 Operational Definitions

Scholarly community: Scholarly community referred training content and strategies.

Technology applications: Technology applications referred to technology use and ease of use.

Writing self-efficacy: Writing self-efficacy referred to writing self-confidence, stamina, competence and self-regulation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is a synthesis of literature on scholarly communication training, technology applications and writing self-efficacy. The literature includes the theoretical and review of related literature. The review of related literature covers the analysis and identification of gaps in existing literature on communication training, technology applications and writing self-efficacy.

2.1 Theoretical Review

The Programme Theory by Bickman (1987) and Technology Acceptance Model (TAM) by Davis (1989) will inform this study. The Programme Theory describes how a program should be developed and is supposed to work. The programme Theory is a set of suppositions that elucidate why the scheduled actions should achieve the predetermined goals and objectives. The programme theory takes into account both the program's direct implementation of activities and the programme responses that the program's environment generates (Nash, 2019). The Program Theory explains that there should be explicit connection between the things done in class and the outcomes learners should attain. The Program Theory elucidates the association between what students learn (i.e., programming) and what they attain (Finney et al., 2021).

A strong programme provides consistent links between teaching strategies and student attainment while a weak program is premised on hunches, suppositions, or low personal experiences (Smith & Finney, 2020). The programme theory posits that a programme should articulate what students are expected to achieve. Once an achievable outcome is indicated, the underpinning causes or predictive conditions of attainment are articulated. Programming

incorporates content (e.g., learning aid, activities) and delivery (e.g., teaching approaches) (Finney et al., 2021). The Programme Theory indicates that a programme of study should specify content that materials and activities and delivery that is pedagogy. This study examined how content and pedagogy of scholarly communication training influence writing self-efficacy of master's degree students.

TAM proposes that people decide to adopt a technology because of perceived use (PU) and perceived ease of use (PEU). PEU is concerned with the perceived value of the new technology. That is, people evaluate the importance of a new technology in terms of its perceived usefulness and set their intention to accept it based on the desirability of its usefulness. PEU is about how effort free is the technology to manipulate while attempting to accomplish tasks with it (Ngoc et al., 2023). In short, TAM postulates that the PU and PEU affect the behavioural intention to use a technology, which in turn affects the actual use. This means that if individuals finding a technology application useful in enhancing their academic writing, they will adopt it (Bonfanti et al., 2023).

TAM suggests that people will definitely use a technology if they construe that it has advantages to their performance effectiveness basing on three considerations that are job effectiveness, productivity and time savings, and the contribution of the technology to one's job. People determine whether they will adopt a new technology based on its perceived usefulness and the desirability of that usefulness (Halbig et al., 2022). In short, TAM postulates that the PU and PEU affect the behavioural intention to use a technology, which in turn affects the actual use (Al-Adwan et al., 2023). This means that if students find a technology application useful in enhancing their academic writing, they will adopt it. This study investigated how TAM in terms of PU and PEU influenced scholarly writing efficacy.

2.2 Review of Related Literature

2.2.1 Scholarly Communication Training and Writing Self-Efficacy. Universities are seriously taking into consideration the increased need for supporting students in scholarly communications areas such as open access, research identity management, scholarship metrics, and related topics. Institutions have now put in place arrangements for training graduate students in scholarly communication in order to address the unique and sometimes complex research needs of their patrons (Craft & Harlow, 2020). Amador-Campos et al. (2023) revealed that training in form of mentoring led to greater research self-efficacy of students which implied their increased writing efficacy. In a quasi-experimental study, Gaber and Ali (2022) indicated that the training program was effective in improving the scientific writing skills of the students' hence improved writing self-efficacy of master's degree students based on APA 7 style.

In their study, Gupta et al. (2022) revealed integrating academic writing into the formal training of doctoral graduate students from the beginning of the program enhanced their academic writing. Therefore, scholarly communication training was related to master's degree students' writing self-efficacy. In a review, Mitchell et al. (2023) indicated that instructional training through instructor feedback and guidance enhanced efficacy of students. Mulyono et al. (2023) revealed that there was a statistical difference between instructors' academic writing creativity and self-efficacy before and after attending the academic writing training workshop. Nonetheless, academic writing training workshops had relatively low contribution to improvements academic writing self-efficacy of instructors. On the other hand, training workshops increased their ability to find ways to overcome their writing difficulties.

In a qualitative study, Ntereke and Ramoroka (2015) assessed effectiveness of academic writing activities and instruction of the academic writing module to communication and academic

literacy skills of undergraduate students of the University of Botswana. The findings revealed that sufficient preparation of students in essay writing enhanced their academic writing literacy. On their part, Tonissen et al. (2014) probed opinions of third year undergraduate students of Biochemistry and Molecular Biology Laboratory Courses at Griffith University in Australia on scientific writing. The students indicated that undertaking writing activities in more than one class helped to further improve their writing skills. Therefore, scholarly communication training improved self-efficacy of students.

The literature above showed that scholars had made significant effort to investigate the influence of scholarly communication training on writing self-efficacy. However, evidence, population and empirical gaps emerged. For instance, while all the other studies indicated that training enhanced academic writing self-efficacy, Mulyono et al. (2023) indicated that its contribution was low. This study suggests that each study should be considered in its own right hence, studies should be carried out in different places. Further, the study by Tonissen et al. (2014) involved undergraduate students' hence more studies involving master's degree students are necessary. In addition, Gupta et al. (2022) in their limitations indicated that their findings were only limited to a Canadian university hence, the findings might not be generalizable to other contexts. Further, they pointed out that participation in the study was voluntary thus the survey respondents were not representative enough. On their part, Ntereke and Ramoroka (2015) indicated their study a small sample in one faculty. These gaps called for further study.

2.2.2 Technology Applications and Writing Self-Efficacy. The improvement of the writing skill with the help of modern computer programmes has gained considerable attention. For instance, word processing facilitates editing, revising of grammar and spelling which contributes to learner's 'awareness in their writing. Also, an error correction program gives the students the opportunity

to inspect their errors immediately (Parra & Calero 2019). Therefore, integration of technology into the teaching-learning process is vital to improving students' creative writing skills since technology is very useful in facilitating the students' understanding of complex knowledge and fostering greater engagement and motivation (Alkhaldi, 2023). In review, Alhusban (2016) revealed that due to the constant exposure to programs that essentially did the work for the students; they had difficulty in developing their writing skills. This suggested that technology applications had a negative impact writing efficacy of students.

In a study done at Al Al-Bayt University in Jordan, Alkhaldi (2023) showed that the use of technological tools had a positive role in improving students' writing performance, lexical abilities, and imagination. In a meta-analysis, Little et al. (2018) revealed that technology-based writing instruction was educationally relevant and had an impact on writing outcome. Parra and Calero (2019) revealed that automated writing evaluation tools had positive effects on the improvement of the students writing. In their study, Ismael et al. (2022) indicated that technological applications altered the nature of writing with technology correcting spelling and sentence construction writing mistakes. However, auto-correction had a negative influence on writing skills in some cases and had no effect or beneficial impact on students' writing efficacy. In a systematic review, Ramamuthie and Aziz (2022) reported that digital tools improved the students' writing skill and developed their language knowledge, particularly grammar, vocabulary, spelling and punctuation. Also, in a meta-analysis involving 20 empirical papers, Wen and Walters (2022) found that technology addressed writing issues and changed classroom writing practices.

Further, Vacalares et al. (2023) showed that students' motivation played a significant role in their writing abilities, as they were encouraged to write to express themselves and enhance their skills. In terms of practical applicability, the use of grammar checkers was useful in improving

writing skills. In their study, Yulia and Amirudin (2021) established that technology applications increased students' motivation and creativity in the teaching-learning process particularly in developing writing skills. While the studies above show that scholars have related technology applications to writing self-efficacy, evidence, methodological and contextual gaps emerged. With respect to evidence gap, the study by Ismael et al. (2022) contrary to other studies indicated technology applications negatively impacted on students writing self-efficacy. This means that studies should be considered in their own right. At methodological level, and Little et al. (2018) Ramamuthie and Aziz (2022) carried out reviews. This thus called for empirical studies especially in the context of Uganda where no study on the same existed.

2.2.3 Scholarly Communication Training, Technology Applications and Writing Self-Efficacy. There are some few studies that have assessed the moderating effect of technology on writing efficacy. For example, in a meta-analysis, Little et al. (2018) indicated that technology-based writing instruction supplement teachers' efforts to deliver instruction and provided practice time to students providing learners extra opportunities to engage with writing both in and out of the classroom. Santoso et al. (2020) established that the ability to use information technology moderated the effect of application of information technology on lecturer publication performance. Further, the ability to use technology strengthened the impact of applying information technology on improving lecturer publication performance. In meta-analysis, Wen and Walters (2022) assessed the impact of technology on students' writing performances in elementary classrooms. Their moderator analysis revealed that integration of technology in narrative writing instruction produced a large effect size followed by argumentative/opinion, and explanatory /informative. The literature above shows that technology applications have a moderating effect on writing self-efficacy. However, literature search showed that limited studies had been carried out on

moderating effect of technology applications on writing efficacy. This thus attracted this study to further test the moderating effect of technology applications on students writing self-efficacy.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covers the strategies that guide the investigations of the study. The methodologies covered include the research design and approaches, population and sample, sampling techniques, study measures, data quality control, research procedure, data analysis and ethical issues.

3.1 Research Design

This study was guided by the correlational survey research design. The correlational design seeks to determine the association between variables, that is the independent and dependent. Correlational studies reveal whether the independent and dependent variables covary or relate to one another (Bloomfield & Fisher, 2019). This helped to show the influence of the independent variable (scholarly communication training) on the dependent variable (and writing self-efficacy). In addition, the influence of the moderating variable (technology applications) was also shown. Since this study sought to establish statistical inferences, the quantitative approach was used. This involved use of statistics.

3.2 Study Population

The population was a total of 1270 masters students that undertook or are still undertaking their course work studies at Kyambogo University in the academic years 2018/2019 to 2022/2023 academic years. This is because all these students either completed their research activities or are still doing them. The target population are distributed in the six schools and six faculties that make up Kyambogo University. Thus, a sufficient sample that can provide generalizable data was obtained.

3.3 Sample Size Determination

The sample size was 295 masters' students and graduates determined basing on the table by Krejcie and Morgan (1970) for sample determination. This sample is large enough to produce generalizable results. The sample from each school or faculty was determined using proportionate sampling to ensure that each school or faculty was represented equally.

Table 3.1

Study Population, Sample and Sampling Technique

University	Population	Sample	Sampling Technique
Faculty of Engineering	302	70	Proportionate Sampling
Faculty of Science	273	63	Proportionate Sampling
Faculty of Agriculture	17	4	Proportionate Sampling
Faculty of Special Needs & Rehabilitation	101	23	Proportionate Sampling
Faculty of Arts and Humanities	108	25	Proportionate Sampling
Faculty of Social Sciences	70	16	Proportionate Sampling
School of Education	160	37	Proportionate Sampling
School of Art and Industrial Design	81	19	Proportionate Sampling
School of Management & Entrepreneurship (SOME)	135	31	Proportionate Sampling
School of Vocational Studies (SOVS)	30	7	Proportionate Sampling
Total	1277	295	

Source: School of Postgraduate Studies Records (2024)

3.4 Sampling Techniques

This study employed a multi-stage sampling technique to obtain a representative sample of students from various faculties and schools. In the first stage, the population was stratified according to faculties and schools within the university. The stratification was based on enrolment data obtained from the School of Postgraduate Studies Records (2024), covering students from the academic years 2018/2019 to 2022/2023. In the second stage, proportionate sampling was used to determine the number of participants selected from each faculty or school relative to its population size. This ensured that larger faculties were adequately represented in the sample, while smaller ones were not overrepresented. In the final stage, simple random sampling was applied within each stratum (faculty or school) to select individual respondents. Simple random sampling, a probabilistic technique, ensures that every student within each group had an equal chance of being selected (Rahaman et al., 2022). This method enhanced the representativeness and minimized bias within each subgroup. This multi-stage approach combining stratification, proportionate allocation, and simple random sampling was well-suited to the embedded research design and facilitated the generalization of findings across the broader student population.

3.5 Measurement of Variables

The study variables were writing self-efficacy (DV), scholarly communication training (IV), and technology applications (moderating variables). The variables characteristics and sources are indicated in Table 3.2.

Table 3.2*Variables Characteristics and Source*

Variable	Nature of Variable	Indicators and reliabilities	Source
Writing self-efficacy	Dependent variable	- Self-Confidence - Stamina - Competence - Self-Regulation	Abo Zaid et al. (2019)
Scholarly communication training	Independent variable	- Training content - Training strategies	NCHE (2015) Mugizi et al. (2020b).
Technology applications	Moderating variable	- Applications use - Applications ease of use	Parra and Calero 2019)

3.6 Data Collection Method/ Instrument

The study employed a self-administered questionnaire as the primary tool for data collection. This method was selected due to its effectiveness in reaching a diverse group of respondents across various faculties and schools, while ensuring consistency in data gathering. The questionnaire was organized into four key sections. The first section collected background information from participants, including demographic and academic details that were gender, age, academic year and level of progress. The subsequent sections focused on the main variables of the study, namely the dependent, independent, and moderating reflecting the conceptual framework and research objectives. Items in these sections were designed using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), allowing respondents to express the extent of their agreement with each statement. This scale format enabled the collection of ordinal data suitable for statistical analysis. The structured format of the questionnaire allowed for efficient data processing and analysis, while the self-administered nature of the instrument minimized

interviewer bias and gave participants the flexibility to respond at their convenience, thereby enhancing the reliability and accuracy of the responses.

3.7 Quality of Data Instruments

Data quality control involved calculating validity and testing reliability. Validity will enable collecting of accurate data while reliability will establish consistency in the question items for the different constructs.

3.7.1 Validity of Instrument. Validity ensured establishing construct validity. Thus, the data was subjected to Confirmatory Factor Analysis, convergent validity and discriminant validity using SmartPls. Only indicators with factor loadings of 0.40 and above were retained while those below were deleted. Convergent validity was determined using average variance extracted (AVE) and constructs with values above 0.5 was retained while discriminant validity was considered considering ratio correlations below the maximum 0.90 (Hair Jr et al., 2021). These processes ensured validity of the instrument. AVE and discriminant validity results follow in Table 3.3.

Table 3.3*AVE and Heterotrait-Monotrait Ratio of Correlations (HTMT) Discriminant Validity Assessment*

Measures	AVE	WSE	WC	WSC	WSR	WSC
WSE						
WC	0.567	0.561				
WSC	0.753	0.708	0.862			
WSR	0.594	0.550	0.430	0.440		
WSC	0.567	0.869	0.799	0.852	0.816	
Measures	AVE	SCT	TC	TS		
SCT						
TC	0.522	0.697				
TS	0.548	0.600	0.334			
Measures	AVE	TU	AEU	AU		
TU						
AEU	0.694	0.460				
AU	0.517	0.898	0.836			

AEU= Application Ease of Use, AU = Application Use, SCT = Scholarly Communication Training, TC = Training Content, TS = Training Strategies, TU = Technology Use WC = Writing Competence; WS = Writing Stamina; WSC = Writing Self-Confidence; WSR = Self-Regulation

The test results in Table 3.1 show that convergent validity was established using AVE, which measures the correlation between multiple indicators of the same construct. The AVE values were all greater than 0.5 confirming convergent validity (Shrestha, 2021). In addition, the HTMT criteria were met indicating discriminant validity since the values did not exceed 0.90 (Hair Jr et al., 2021). The AVE results above demonstrated that the constructs accurately measured the variables, while the discriminant validity results showed that the different constructs were independent.

3.7.2 Reliability of Instrument. The reliability of the instrument was carried to ensure internal consistency of the instrument. This involved calculating Cronbach's Alpha and Composite Reliability. For both measures, reliability was attained at the benchmark of 0.70 using SmartPls

(Hair Jr et al., 2021). The measures used ensured reliability of the results. Table 3.3 presents the reliability results.

Table 3.4

Reliability and Collinearity Values

Measures	α	CR	VIF
Competence	0.888	0.909	1.682
Confidence	0.844	0.886	1.836
Self-Regulation	0.672	0.859	1.968
Stamina	0.752	0.849	1.284
Training Content	0.906	0.922	1.099
Training Strategies	0.833	0.878	1.099
Application Ease of Use	0.852	0.900	1.179
Application Use	0.810	0.864	1.179

Table 3.4 presents the Cronbach's Alpha and Composite Reliability (CR) results, showing that all construct reliability values exceeded 0.7, indicating a satisfactory level of reliability for the measurement items (Shrestha, 2021). Both Cronbach's Alpha and Composite Reliability (CR) were used because while the former is very sensitive, the latter is flexible. Cronbach's Alpha can be sensitive to item count and correlations, while Composite Reliability is a more robust and flexible measure which considers the underlying factor structure. Presenting both provided a more complete picture of the reliability of the measures. Further, the absence of collinearity was confirmed by the Variance Inflation Factor (VIF) results, with values below 5, the maximum threshold (Hair Jr et al., 2021). These findings suggest that the independent variable constructs are

distinct and could be used to predict the dependent variable without any issues, ensuring the robustness of the analysis.

3.8 Data Collection Procedure

Data collection was carried out after the proposal has been approved and submitted to the Directorate of Research and Graduate Training Kyambogo University. Thereafter, a letter was obtained from the Director authorising me to proceed to data collection. Data was collected directly by distributing the questionnaires to the respondents and using online platforms namely, WhatsApp and emails.

3.9 Data Management

The analysis of data consisted of descriptive and inferential analyses. Descriptive analysis involved calculating of frequencies, percentages, and means to summarize and describe the basic characteristics of the data. Inferential analysis was performed using Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS4. This helped to identify the relationships between variables. PLS-SEM is a powerful statistical technique that offers a flexible and robust approach to data analysis. Thus, the analysis first looked at the basic characteristics of the data, and then used an advanced method to study the relationships between different variables, which allowed the results to be generalized to a larger group.

3.10 Research Ethical Consideration

The researcher took deliberate steps to uphold strong ethical principles throughout the entire research process. From the outset, participants were clearly informed about the purpose of the

study, their role in it, and their right to voluntarily participate or withdraw at any point without facing negative consequences. This process of informed consent ensured that participation was based on a clear understanding of the study. To protect the identities of the respondents, the researcher maintained strict anonymity by avoiding the collection of personal identifiers and instead using codes or general categories in data handling. Privacy was respected by limiting the questions to only those necessary for the research objectives, and by creating a comfortable environment for honest responses. All information gathered was treated with strict confidentiality; data was securely stored and accessed only for research purposes. During the analysis and reporting stages, the researcher ensured accuracy and transparency, avoiding any misrepresentation or exaggeration of the findings. The data was presented objectively, and interpretations were grounded in the actual responses received. Moreover, the study was carefully designed to ensure that it posed no risk or harm—whether emotional, psychological, or otherwise to those who participated. By prioritizing ethical responsibility, the research aimed not only to protect participants but also to produce results that are trustworthy, respectful, and beneficial to the wider community.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND ANALYSIS

4.0 Introduction

This chapter presents the results of the study on scholarly communication training, writing self-efficacy of master's degree students in Kyambogo University moderated by technology applications. The results begin with the response rate, followed by demographic characteristics of the participants, and the dependent variable (writing self-efficacy). The results on the independent variable (scholarly communication training), and moderating variable (technology applications) in relation to scholarly writing efficacy follow respectively. The chapter will provide a detailed presentation and analysis of the study's findings, highlighting the key trends, patterns, and insights that emerged from the data.

4.1 Response Rate

The initial sample size targeted for this study was 295 master's students at Kyambogo University. However, the actual number of participants who provided data was 250. Despite the slight deviation from the initial target, this sample was considered representative, as it exceeded the threshold of 50% of the initial sample size. According to Pielsticker and Hiebl (2020), a sample size of 50% or more is deemed sufficient in humanities studies, making our sample of 250 participants a reliable representation of the population.

4.2 Background Characteristics

This section of the study provides details on the background information of the study participants including gender of the respondent, academic year they joined the university and level of progress. The results are presented in Table 4.1.

Table 4.1*Background Characteristics of the Respondents*

Variable	Category	Frequency	Percent
Sex	Male	155	62.0
	Female	95	38.0
	Total	250	100.0
Year joined the University	2018/2019	30	12.0
	2019/2020	35	14.0
	2020/2021	40	16.0
	2021/2022	75	30.0
	2022/2023	70	28.0
	Total	250	100.0
Level of Progress	Good progress	170	68.0
	Struggling	65	26.0
	Stalled	15	6.0
	Total	250	100.0

The results in Table 4.1 indicate that the majority of master's students who participated in the study were male (62.0%), while the females were 38.0%. Although males were more represented, the percentage of females was substantial, suggesting that the results are representative of both gender groups. The results on results on when the students joined the university, The larger percentage (30.0%) was of those who joined in 2021/2022, followed by 28.0 who joined I 2022/2023, then 16.0 who joined in 2020/2021, and 14.0% and 12.0% who joined I 2019/2020 and 2018/2019 respectively. These results indicated that the percentages of those who joined the university during different years were not highly divergent. This meant that the results were representative of students who joined the university during different years. The results on level of progress showed

that on level of progress, the majority percentage (68.0%) were on good progress while 26.0% were struggling and 6.0% had stalled. However, the factor that the majority were on good progress, this helped to show the effectiveness of scholarly communication training and application of technology use in enhancing writing efficacy of the students.

4.3 Writing Self-Efficacy

Writing self-efficacy (dependent variable) was investigated as a four-component concept that included self-confidence, stamina, competence and self-regulation. The results follow.

4.3.1 Self-confidence. Self-confidence was conceived as the first element of writing self-efficacy and was studied using six indicators. The results follow in Table 4.2.

Table 4.2

Descriptive statistics for Writing Self-confidence

Self-confidence		SD	D	MA	A	SA	Mean
I enjoy writing my master's degree work because I trust my writing skills	F	00	15	65	100	70	3.90
	%	00	6.0	26.0	40.0	28.0	
I do my best to write something on my master's degree work	F	00	10	15	120	105	4.28
	%	00	4.0	6.0	48.0	42.0	
I feel comfortable with language use while writing master's degree work	F	5	20	25	145	55	3.90
	%	2.0	8.0	10.0	58.0	22.0	
My writing language ability makes me know the flow of what I have to write	F	00	15	45	130	60	3.94
	%	00	6.0	18.0	52.0	24.0	
I expect minimal language corrections whenever my supervisor goes through my work	F	5	25	80	115	25	3.52
	%	2.0	10.0	32.0	46.0	10.0	
I am sure I satisfy the writing expectations of my supervisor	F	15	45	80	95	15	3.20
	%	6.0	18.0	32.0	38.0	6.0	

The results in Table 4.2 on whether the students enjoyed writing their master's degree work because they trusted their writing skills, cumulatively showed that the larger percentage (58.0%) agreed while 26.0% moderately agreed and 32.0% disagreed. The high mean = 3.90 close 4 which on the five-point Likert scale used in the study corresponded to agree. Therefore, students enjoyed writing their master's degree work because they trusted their writing skills. As to whether the students did their best to write something on their master's degree work, the majority (90.0%) agreed while 10.0% moderately agreed and 4.0% disagreed. The high mean = 4.28 suggested that the students agreed. Therefore, students did their best to write something on their master's degree work.

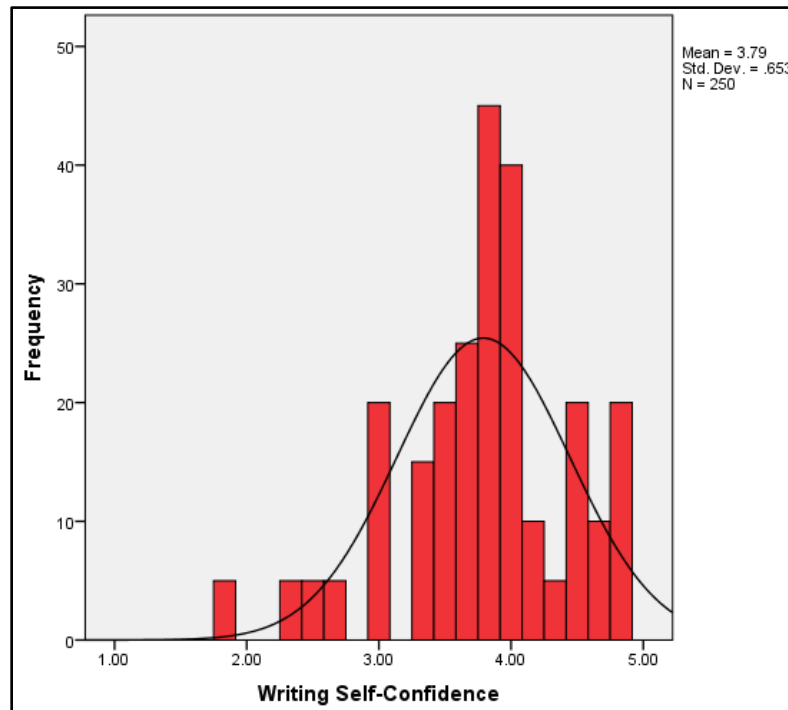
Concerning whether the students felt comfortable with language use while writing their master's degree work, the majority percentage (80.0%) agreed while 10.0% and 10.0% moderately agreed and disagreed respectively. The high mean = 3.90 suggested that fairly, the students felt comfortable with language use while writing their master's degree work. With respect to whether the students writing language ability made them know the flow of what they had to write, the majority percentage (76.0%) agreed while 18.0% moderately agreed and 6.0% disagreed. The high mean = 3.94 implied that the students writing language ability made them know the flow of what they had to write.

Further, regarding whether students expected minimal language corrections whenever their supervisors went through their work, the larger percentage (56.0%) agreed while 32.0% moderately agreed and 12.0% disagreed. The high mean = 3.52 suggested that students expected minimal language corrections whenever their supervisors went through their work. With regard to whether students were sure they satisfied the writing expectations of their supervisors, the larger percentage (44.0%) agreed while 32.0% moderately agreed and 24.0% disagreed. The average

mean = 3.20 meant that moderately, students expected minimal language corrections whenever their supervisors went through their work. To show how overall the students rated their writing self-confidence, an average index was calculated for the six indicators describing the construct. The histogram (Figure 4.1) shows the overall mean and normality shows the distribution of the responses.

Figure 4.1

Histogram for Writing Self-confidence



The results in Figure 4.1 show a mean score of 3.79 and a standard deviation of 0.653. The high mean indicates that students reported a high level of writing confidence. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.3.2 Stamina. Stamina was conceived as the second element of writing self-efficacy and was studied using eight indicators. The results follow in Table 4.3.

Table 4.3

Descriptive Statistics for Writing Stamina

Writing Stamina		SD	D	MA	A	SA	Mean
I am rarely distracted when writing	F	30	65	80	65	10	2.84
on master's degree work	%	12.0	26.0	32.0	26.0	4.0	
Whenever I encounter a problem	F	00	20	60	140	30	3.72
when I am writing master's degree	%	00	8.0	24.0	56.0	12.0	
work, I am able to find a solution							
I exert high effort without giving up	F	00	20	40	105	85	4.02
when writing my master's degree	%	00	8.0	16.0	42.0	34.0	
work							
I keep writing even when the writing	F	00	15	25	130	80	4.10
tasks are challenging	%	00	6.0	10.0	52.0	32.0	
I keep writing on my masters work	F	5	30	40	110	65	3.80
even pressure from other areas is high	%	2.0	12.0	16.0	44.0	26.0	
I am able to keep working on my	F	00	20	30	130	70	4.00
master's work until I complete the	%	00	8.0	12.0	52.0	28.0	
task at hand							
I keep pushing on my master's work	F	00	5	30	115	100	4.24
for I believe I have the ability to	%	00	2.0	12.0	46.0	40.0	
submit the required work successfully							
The time limits keep focussed on my	F	00	20	50	135	45	3.82
master's work to complete it as soon	%	00	8.0	20.0	54.0	18.0	
as possible							

The results in Table 4.3 on whether the students were rarely distracted when writing on their master's degree work, cumulatively showed that the larger percentage (38.0%) disagreed while 32.0% moderately agreed and 30.0% agreed. The just below average mean = 2.84 close 3 which on the five-point Likert scale used in the study corresponded to moderately. Therefore, the students moderately got distracted when writing on their master's degree work. As to whether whenever the students encountered problems when writing their master's degree work, they were able to find solutions, the majority (68.0%) agreed while 24.0% moderately agreed and 8.0% disagreed. The high mean = 3.72 suggested that the students agreed. Therefore, whenever the students encountered problems when writing their master's degree work, they were able to find solutions.

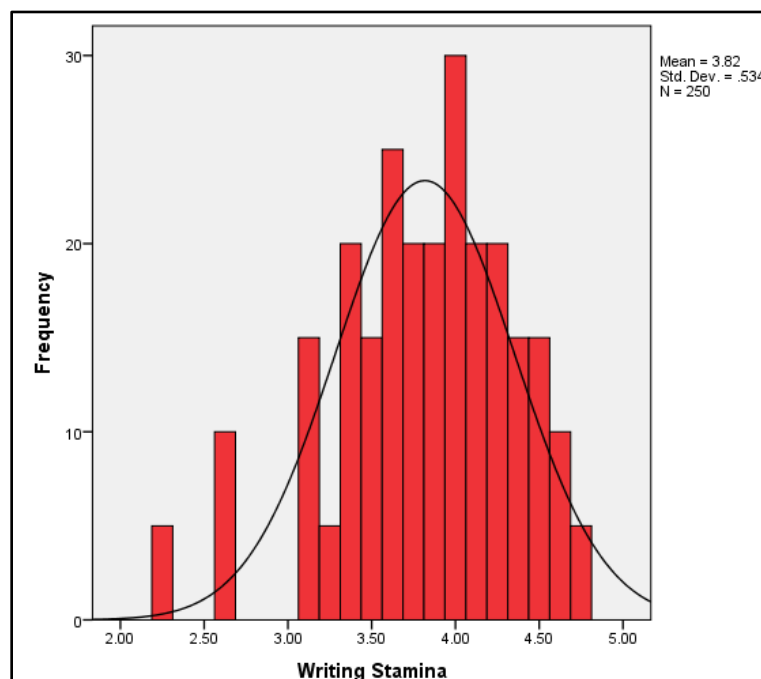
Concerning whether when writing their master's degree work the students exerted high effort without giving up, the majority percentage (76.0%) agreed while 16.0% and 8.0% moderately agreed and disagreed respectively. The high mean = 4.02 suggested that when writing their master's degree work the students exerted high effort without giving up. With respect to whether the students kept writing even when the writing tasks were challenging, the majority percentage (84.0%) agreed while 10.0% moderately agreed and 6.0% disagreed. The high mean = 4.10 implied that the students kept writing even when the writing tasks were challenging.

Regarding whether students kept writing on their masters work even pressure from other areas was high, the larger percentage (70.0%) agreed while 16.0% moderately agreed and 14.0% disagreed. The high mean = 3.80 suggested that students kept writing on their masters work even pressure from other areas was high. With regard to whether students were able to keep working on their master's work until they completed the task at hand, the majority percentage (80.0%) agreed while 12.0% moderately agreed and 8.0% disagreed. The high mean = 4.00 meant that students were able to keep working on their master's work until they completed the task at hand.

Further, as to whether students kept pushing on their masters' work for they believed they had the ability to submit the required work successfully, the larger percentage (86.0%) agreed while 12.0% moderately agreed and 2.0% disagreed. The high mean = 4.24 suggested that students kept pushing on their masters' work for they believed they had the ability to submit the required work successfully. With regard to whether the time limits kept students focused on their master's work to complete it as soon as possible, the majority percentage (82.0%) agreed while 20.0% moderately agreed and 8.0% disagreed. The high mean = 3.82 meant that the time limits kept the students focused on their master's work to complete it as soon as possible. To show how overall the students rated their writing stamina, an average index was calculated for the eight indicators describing the construct. The histogram (Figure 4.2) shows the overall mean and normality shows the distribution of the responses.

Figure 4.2

Histogram for Writing Stamina



The results in Figure 4.2 show a mean score of 3.82 and a standard deviation of 0.651. The high mean indicates that students reported a high level of Writing Stamina. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.3.3 Writing Competence. Writing competence was conceived as the third element of writing self-efficacy and was studied using 10 indicators. The results follow in Table 4.4.

Table 4.4*Descriptive Statistics for Writing Competence*

Writing Competence		SD	D	MA	A	SA	Mean
The work I send to my superiors	F	5	40	50	120	35	3.56
usually has minimal spelling mistakes	%	2.0	16.0	20.0	48.0	14.0	
My supervisor usually detects minor	F	20	15	35	110	70	3.78
punctuation challenges in my work	%	8.0	6.0	14.0	44.0	28.0	
The paragraphing of my work is	F	10	45	85	80	30	3.30
always perfect	%	4.0	18.0	34.0	32.0	12.0	
My supervisors always find my work	F	5	30	115	90	10	3.28
clearer and well explained	%	2.0	12.0	46.0	36.0	4.0	
The work I send to my supervisors	F	10	15	90	105	30	3.52
always has minor grammatical mistakes	%	4.0	6.0	36.0	42.0	12.0	
The terms and words I include in my	F	5	5	60	135	45	3.84
work are always suitable for my study	%	2.0	2.0	24.0	54.0	18.0	
My work always has minor errors	F	10	40	75	110	15	3.32
	%	4.0	16.0	30.0	44.0	6.0	
I competently follow the rules of	F	5	20	70	100	55	3.72
writing recommended by the university	%	2.0	8.0	28.0	40.0	22.0	
The ideas I present are always well	F	5	15	90	115	25	3.56
organized	%	2.0	6.0	36.0	46.0	10.0	
My writing style has been improving	F	5		25	85	135	4.38
since I started writing on my master's degree work (e.g. in the structuring of sentences and vocabulary)	%	2.0		10.0	34.0	54.0	

The results in Table 4.4 on whether the work students sent to their superiors usually had minimal spelling mistakes cumulatively showed that the majority percentage (62.0%) agreed while 20.0% moderately agreed and 18.0% disagreed. The high mean = 3.56 close 4 which on the five-point Likert scale used in the study corresponded to agreed. Therefore, the work students sent to their superiors usually had minimal spelling mistakes. As to whether supervisors usually detected minor punctuation challenges in the students' work, the majority (72.0%) agreed while 14.0% moderately agreed and 14.0% disagreed. The high mean = 3.78 suggested that supervisors usually detected minor punctuation challenges in the students' work.

Concerning whether the paragraphing of students' work was always perfect, the larger percentage (44.0%) agreed while 34.0% and 22.0% moderately agreed and disagreed respectively. The average mean = 3.30 suggested that fairly, the paragraphing of students' work was always perfect. With respect to whether the supervisors always found their work clearer and well explained, the larger percentage (36.0%) moderately agreed while 40.0% agreed and 14.0% disagreed. The average mean = 3.28 implied that fairly, the supervisors always found their work clearer and well explained.

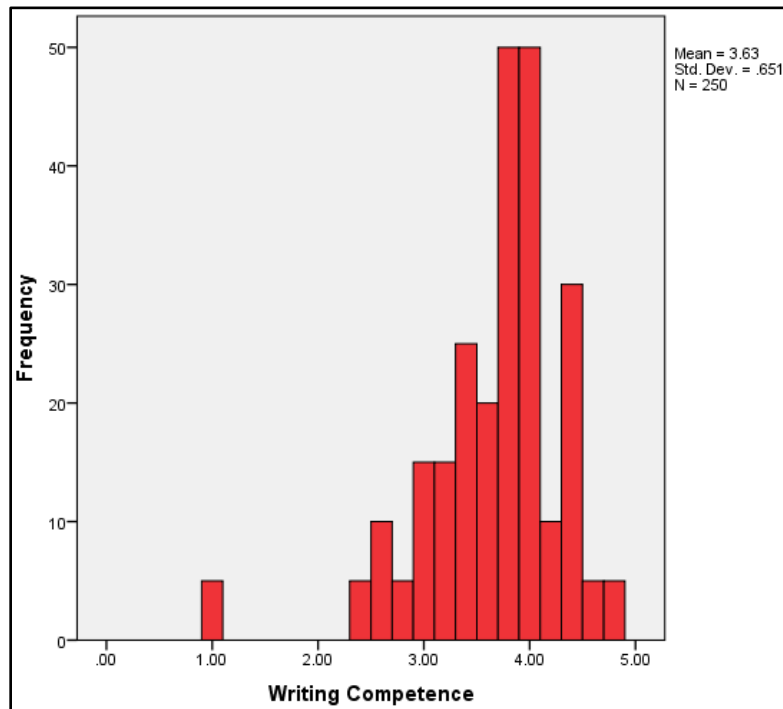
Regarding whether the work students sent to their supervisors always had minor grammatical mistakes, the larger percentage (54.0%) agreed while 36.0% moderately agreed and 10.0% disagreed. The high mean = 3.52 suggested that the work students sent to their supervisors always had minor grammatical mistakes. With regard to whether the terms and words they included in their work were always suitable for their study, the majority percentage (72.0%) agreed while 24.0% moderately agreed and 4.0% disagreed. The high mean = 3.84 meant that the terms and words they included in their work were always suitable for their study.

As to whether students work always had minor errors, the larger percentage (50.0%) agreed while 30.0% moderately agreed and 20.0% disagreed. The average mean = 3.32 suggested that fairly, the students work always had minor errors. With regard to whether the students competently followed the rules of writing recommended by the university, the majority percentage (62.0%) agreed while 28.0% moderately agreed and 10.0% disagreed. The high mean = 3.72 meant that students competently followed the rules of writing recommended by the university.

With respect to whether the ideas he students presented were always well organised, the majority percentage (56.0%) agreed while 36.0% moderately agreed and 8.0% disagreed. The high mean = 3.56 suggested that the ideas he students presented were always well organised. With regard to whether the students writing style had been improving since they started writing on their master's degree work (e.g. in the structuring of sentences and vocabulary), the majority percentage (88.0%) agreed while 10.0% moderately agreed and 2.0% disagreed. The high mean = 4.38 meant that the students writing style had been improving since they started writing on their master's degree work. To establish how overall the students rated their writing competence, an average index was calculated for the ten indicators describing the construct. The histogram (Figure 4.3) shows the overall mean and normality shows the distribution of the responses.

Figure 4.3

Histogram for Writing Competence



The results in Figure 4.3 show a mean score of 3.63 and a standard deviation of 0.651. The high mean indicates that students reported a high level of writing competence. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.3.3 Self-Regulation. Self-regulation was conceived as the fourth element of writing self-efficacy and was studied using 10 indicators. The results follow in Table 4.5.

Table 4.5*Descriptive Statistics for Self-Regulation*

Self-Regulation		SD	D	MA	A	SA	Mean
When I am writing on master's degree work, I keep reflecting how my study is unique	F	00	00	45	160	45	4.00
	%	00	00	18.0	64.0	18.0	
I ensure in have internalised what exists and how to use it when writing on master's degree work	F	00	10	70	145	25	3.74
	%	00	4.0	28.0	58.0	10.0	
I take time to evaluate what I have written to ascertain whether it is good	F	00		50	140	60	4.04
	%	00		20.0	56.0	24.0	
I make self-reflection on how I write to assess my writing skills development	F	00	10	40	160	40	3.92
	%	00	4.0	16.0	64.0	16.0	
When under pressure from my supervisors, I use my time efficiently to beat deadlines	F	00	10	80	85	75	3.90
	%	00	4.0	32.0	34.0	30.0	
I take time to reflect on my reason for writing before I embark on the same	F	00	15	55	140	40	3.82
	%		6.0	22.0	56.0	16.0	
Whenever I am embarking on writing, I plan how to proceed by making outlines and brainstorming in my mind on the ideas under consideration	F	10	5	65	135	35	3.72
	%	4.0	2.0	26.0	54.0	14.0	
I push myself to write even when I have no appetite for what I am writing about	F	30	30	50	95	45	3.38
	%	12.0	12.0	20.0	38.0	18.0	
When writing, I forget about everything else	F	30	55	85	60	20	2.94
	%	12.0	22.0	34.0	24.0	8.0	
I monitor my writing progress and adjust my methods and strategies whenever necessary	F	00	20	65	125	40	3.74
	%	00	8.0	26.0	50.0	16.0	

The results in Table 4.5 on whether when writing their masters, work students kept reflecting how their study was unique cumulatively showed that the majority percentage (82.0%) agreed while 18.0% moderately agreed. The high mean = 4.00 close 4 which on the five point Likert scale used in the study corresponded to agreed. Therefore, when writing their masters work, students kept reflecting how their study was unique. As to whether the students ensured they internalised what existed and how to use it when writing on their master's degree work, the majority (68.0%) agreed while 28.0% moderately agreed and 4.0% disagreed. The high mean = 3.74 suggested that the students ensured they internalised what existed and how to use it when writing on their master's degree work.

Concerning whether students took time to evaluate what they wrote to ascertain whether it was good, the larger percentage (80.0%) agreed and 20.0% moderately agreed and disagreed respectively. The high mean = 4.04 suggested that students took time to evaluate what they wrote to ascertain whether it was good. With respect to whether students made self-reflection on how they wrote to assess their writing skills development, the larger percentage (80.0%) moderately agreed while 16.0% agreed and 4.0% disagreed. The high mean = 3.92 implied that students made self-reflection on how they wrote to assess their writing skills development.

Regarding whether when under pressure from their supervisors, students use their time efficiently to beat deadlines, the larger percentage (64.0%) agreed while 32.0% moderately agreed and 4.0% disagreed. The high mean = 3.90 suggested that when under pressure from their supervisors, students use their time efficiently to beat deadlines. With regard to whether students take time to reflect on their reason for writing before they embark on the same, the majority percentage (72%) agreed while 22.0% moderately agreed and 6.0% disagreed. The high mean =

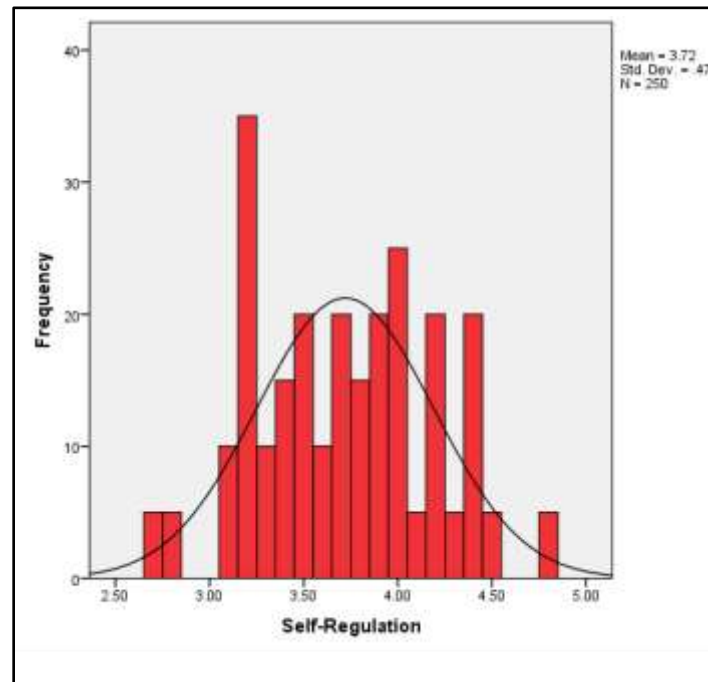
3.82 meant that students take time to reflect on their reason for writing before they embark on the same.

As to whether whenever students embarked on writing, they planned how to proceed by making outlines and brainstorming in their mind on the ideas under consideration, the larger percentage (78.0%) agreed while 26.0% moderately agreed and 6.0% disagreed. The high mean = 3.72 suggested that students embarked on writing, they planned how to proceed by making outlines and brainstorming in their mind on the ideas under consideration. With regard to whether the students pushed themselves to write even when they had no appetite for what they were writing about, the majority percentage (46.0%) agreed while 20.0% moderately agreed and 24.0% disagreed. The average mean = 3.38 meant that, moderately the students pushed themselves to write even when they had no appetite for what they were writing about.

With respect to whether when writing, they forgot about everything else, the higher percentage (34.0%) moderately agreed while 32.0% agreed and 24.0% disagreed. The average mean = 2.94 suggested that moderately, when writing, they forgot about everything else. With regard to whether the students monitored their writing progress and adjusted their methods and strategies whenever necessary, the majority percentage (56.0%) agreed while 26.0% moderately agreed and 8.0% disagreed. The high mean = 3.74 meant that the students monitored their writing progress and adjusted their methods and strategies whenever necessary. To assess how overall the students rated their self-regulation, an average index was calculated for the ten indicators describing the construct. The histogram (Figure 4.4) shows the overall mean and normality shows the distribution of the responses.

Figure 4.4

Histogram for Self-Regulation

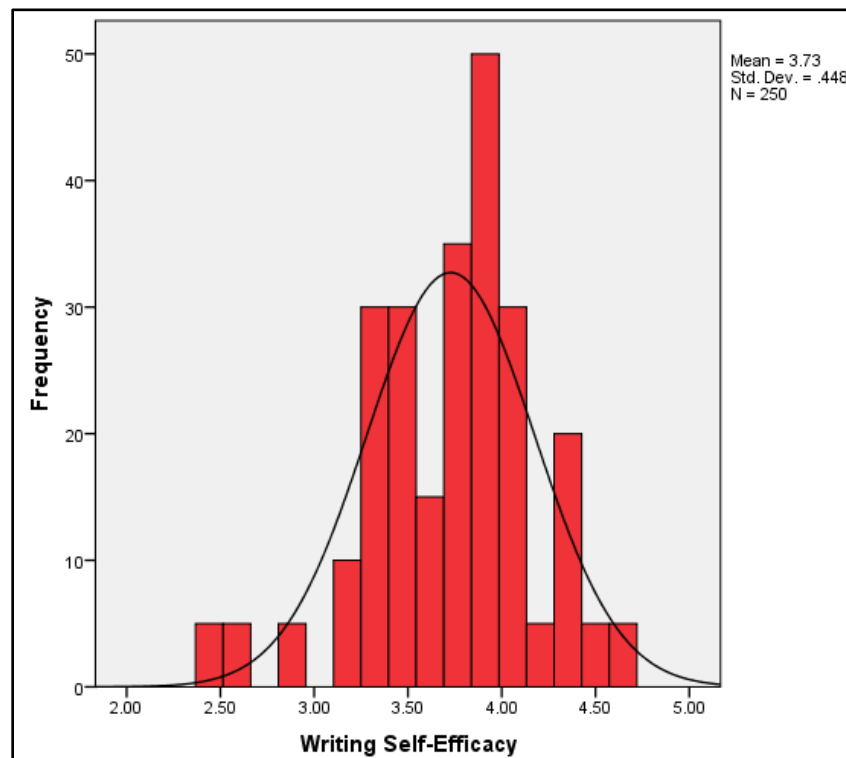


The results in Figure 4.4 show a mean score of 3.72 and a standard deviation of 0.47. The high mean indicates that students reported a high level of self-regulation. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.3.4 Writing self-efficacy. To find out how overall masters' students rated their writing self-efficacy, an average index was calculated for the indicators of four constructs measuring the variable. The histogram (Figure 4.5) presents the overall mean and shows the normality of the results.

Figure 4.5

Histogram for Writing Self-Efficacy



The values in Figure 4.5 indicate a mean = 3.73 and standard deviation = 0.448 confirmed the normality of the results. The high mean meant writing self-efficacy of the students was high while low standard deviation indicated normality of the results. With the results normally distributed, they confirmed the parametric condition of normality hence appropriate for linear analysis. The results were the basis for developing the structural model for writing self-efficacy.

4.3.4 Writing Self-Efficacy Structural Model. To establish the measures of students writing self-efficacy, a structural equation model was developed. Figure 5 shows the appropriate indicators of the constructs measuring the variable.

Figure 4.4

Writing Self-Efficacy Model

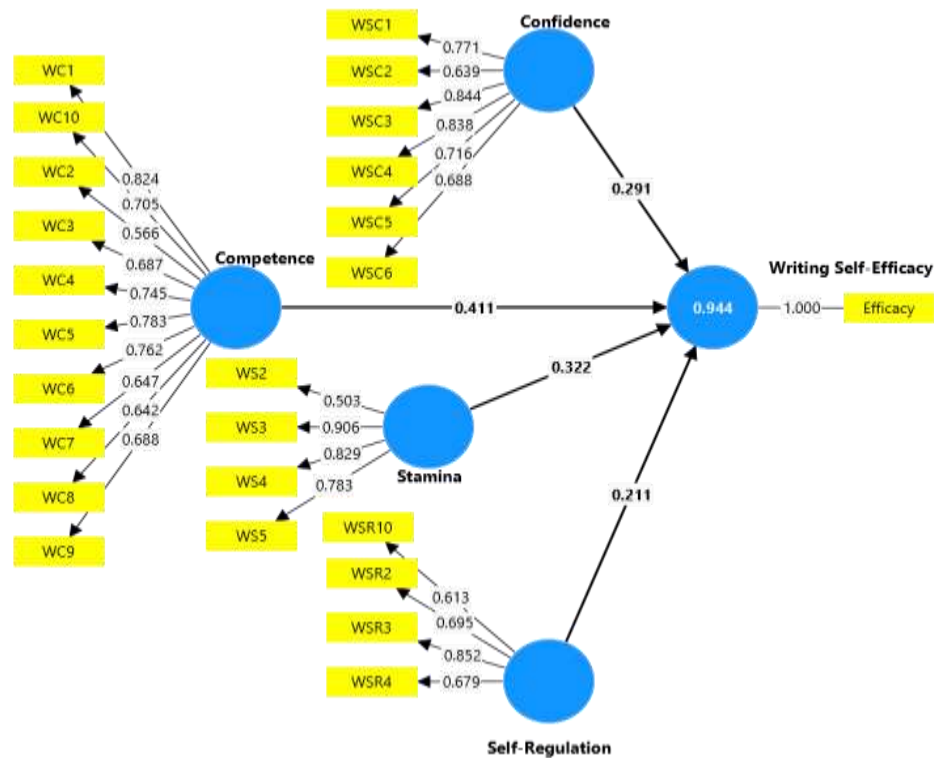


Figure 4.6 shows that that writing self-efficacy was considered a four-dimensional concept covering writing self-confidence, writing stamina, writing competence and self-regulation. Factor loadings show that for writing self-confidence, all the six indicators were retained (WSC1-WSC6). For writing stamina, four (WS2-WS5) out of eight indicators were retained while for writing competence all the 10 indicators (WC1-WC10). For self-regulation four indicators out 10 (WSR2-WSR4 and WSR10) were retained. All the indicators retained had factor loadings of above 0.50 which is the lowest accepted level (Hair Jr. et al (2021)). Therefore, the retained indicators for the different dimensions in the model were valid measures of the respective writing self-efficacy measures.

4.4 Scholarly Training and Writing Self-Efficacy

The first objective of the study sought to examine the influence of scholarly communication training on writing self-efficacy of postgraduate students at Kyambogo University. Scholarly communication training was studied in terms of training content and training strategies. The descriptive results in the two constructs follow. The average index is presented thereafter followed by inferential analysis examining the influence of scholarly communication training on writing self-efficacy of postgraduate students.

4.4.1 Training content. Training content was conceived as the first element of scholarly writing training and was studied using 11 indicators. The results follow in Table 4.6.

Table 4.6*Descriptive Statistics for Training Content*

Training Content		SD	D	MA	A	SA	Mean
I received training on writing and publication during the course	F	13	46	48	102	41	3.45
	%	5.2	18.4	19.2	40.8	16.4	
I was taught on how to select study titles during the course	F	16	19	37	108	70	3.79
	%	6.4	7.6	14.8	43.2	28.0	
I received training on making document outlines during the course	F	16	47	77	80	30	3.24
	%	6.4	18.8	30.8	32.0	12.0	
I was taught on how to draft a scholarly document during the course	F	13	34	99	82	22	3.26
	%	5.2	13.6	39.6	32.8	8.8	
I received training on how to carry out academic writing during the course	F	12	15	80	99	44	3.59
	%	4.8	6.0	32.0	39.6	17.6	
I received training on how to cite and reference properly using the style followed by the university	F	5	11	50	123	61	3.90
	%	2.0	4.4	20.0	49.2	24.4	
I was trained on how to write an effective literature review during the course	F	6	36	69	106	33	3.50
	%	2.4	14.4	27.6	42.4	13.2	
I was taught how to carry out a review and editing of academic documents during the course	F	13	36	66	88	47	3.48
	%	5.2	14.4	26.4	35.2	18.8	
I was trained on how to develop logical statements and arguments during the course	F	13	29	82	99	27	3.39
	%	5.2	11.6	32.8	39.6	10.8	
I received training on how to present results during the course	F	11	14	25	93	107	4.08
	%	4.4	5.6	10.0	37.2	42.8	
I was taught how to develop a power point presentation during the course	F	4	12	49	130	55	3.88
	%	1.6	4.8	19.6	52.0	22.0	

The results in Table 4.6 on whether students received training on writing and publication during the course cumulatively showed that the larger percentage (57.2%) agreed while 19.2% moderately agreed and 23.6% disagreed. The average mean = 3.45 close 3 which on the five point Likert scale used in the study corresponded to moderately agreed. Therefore, fairly the students received training on writing and publication during the course. As to whether the students were taught on how to select study titles during the course, the majority (71.2%) agreed while 14.8% moderately agreed and 14.0% disagreed. The high mean = 3.79 suggested that the students were taught on how to select study titles during the course.

Concerning whether students received training on making document outlines during the course, the larger percentage (44.0%) agreed, 30.8% moderately agreed and 25.2% disagreed respectively. The average mean = 3.24 suggested that fairly, students received training on making document outlines during the course. With respect to whether students were taught on how to draft a scholarly document during the course, the larger percentage (41.8%) agreed while 39.6% moderately agreed and 15.8% disagreed. The average mean = 3.26 implied that moderately, students were taught on how to draft a scholarly document during the course.

Regarding whether students received training on how to carry out academic writing during the course, the larger percentage (57.2%) agreed while 32.0% moderately agreed and 10.8% disagreed. The high mean = 3.59 suggested that received training on how to carry out academic writing during the course. With regard to whether students received training on how to cite and reference properly using the style followed by the university, the majority percentage (73.6%) agreed while 20.0% moderately agreed and 6.4% disagreed. The high mean = 3.90 meant that students received training on how to cite and reference properly using the style followed by the university.

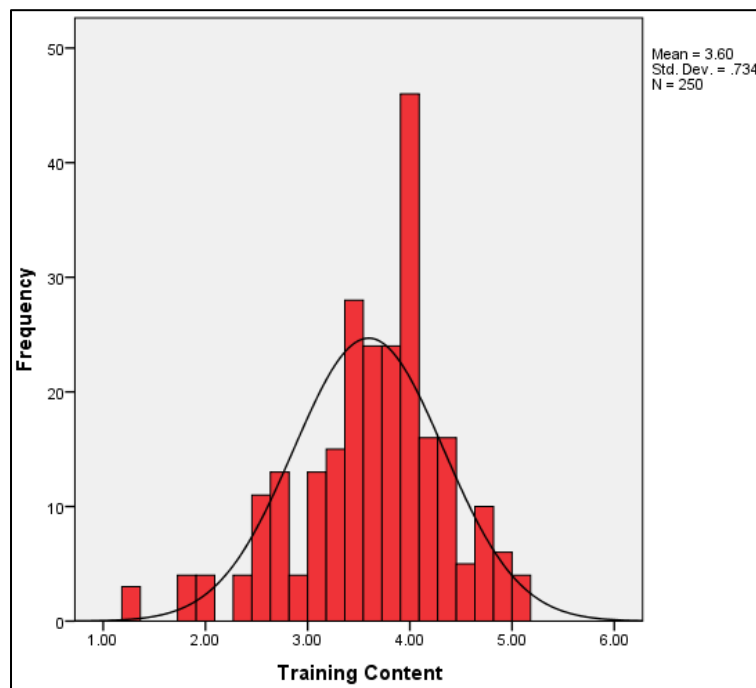
As to whether were trained on how to write an effective literature review during the course, the larger percentage (55.6%) agreed while 27.6% moderately agreed and 16.8% disagreed. The high mean = 3.50 suggested that students were trained on how to write an effective literature review during the course. With regard to whether the students were taught how to carry out a review and editing of academic documents during the course, the majority percentage (54.0%) agreed while 26.4% moderately agreed and 19.6% disagreed. The average mean = 3.48 meant that, moderately the students were taught how to carry out a review and editing of academic documents during the course.

With respect to whether students were trained on how to develop logical statements and arguments during the course, the higher percentage (50.4%) agreed while 32.8% moderately agreed and 16.8% disagreed. The average mean = 3.39 suggested that moderately, trained on how to develop logical statements and arguments during the course. With regard to whether the students received training on how to present results during the course, the majority percentage (80.0%) agreed while 10.0% moderately agreed and 10.0% disagreed. The high mean = 4.08 meant that the students received training on how to present results during the course.

As to whether the students were taught how to develop a power point presentation during the course, the majority percentage (74.0%) agreed while 19.6% moderately agreed and 6.4% disagreed. The high mean = 3.88 meant that the students were taught how to develop a power point presentation during the course. To assess how overall the students rated the training content they received, an average index was calculated for the 11 indicators describing the construct. The histogram (Figure 4.6) shows the overall mean and normality shows the distribution of the responses.

Figure 4.6

Histogram for Training Content



The results in Figure 4.6 show a mean score of 3.60 and a standard deviation of 0.734. The high mean indicates that students reported a high level of training content. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.4.2 Training strategies. Training strategies was conceived as the second element of scholarly training and was studied using eight indicators. The results follow in Table 4.7.

Table 4.7*Descriptive Statistics for Training Strategies*

Training Strategies		SD	D	MA	A	SA	Mean
Lecturers involved us in practically writing academic documents	F	00	15	65	100	70	3.90
	%	00	6.0	26.0	40.0	28.0	
Lecturers involve us in discussions about academic documents	F	00	10	15	120	105	4.28
	%	00	4.0	6.0	48.0	42.0	
Lecturers availed us scholarly materials to help us learn how to write	F	5	20	25	145	55	3.90
	%	2.0	8.0	10.0	58.0	22.0	
We were given course works involving producing scholarly documents	F	00	15	45	130	60	3.94
	%	00	6.0	18.0	52.0	24.0	
The lecturers taught knowledge relevant to writing articles, proposals and dissertations	F	5	25	80	115	25	3.52
	%	2.0	10.0	32.0	46.0	10.0	
The lecturers provided appropriate feedback to academic writing assignments	F	15	45	80	95	15	3.20
	%	6.0	18.0	32.0	38.0	6.0	
We are made to practice writing in group assignments	F	30	65	80	65	10	2.84
	%	12.0	26.0	32.0	26.0	4.0	
The size of writing groups was appropriate to enable individual participation	F	00	20	60	140	30	3.72
	%	00	8.0	24.0	56.0	12.0	

The results in Table 4.7 on whether lecturers involved students in practically writing academic documents cumulatively showed that the larger percentage (68.0%) agreed while 26.0% moderately agreed and 6.0% disagreed. The high mean = 3.90 close 4 which on the five point Likert scale used in the study corresponded to agreed. Therefore, lecturers involved students in practically writing academic documents. As to whether the lecturers involve students in

discussions about academic documents, the majority (90.0%) agreed while 6.0% moderately agreed and 4.0% disagreed. The high mean = 4.28 suggested lecturers involve students in discussions about academic documents.

Concerning whether lecturers availed students' scholarly materials to help us learn how to write, the larger percentage (80.0%) agreed, 10.0% moderately agreed and 10.0% disagreed respectively. The high mean = 3.90 suggested that lecturers availed students' scholarly materials to help us learn how to write. With respect to whether students were given course works involving producing scholarly documents, the larger percentage (76.0%) agreed while 18.0% moderately agreed and 6.0% disagreed. The high mean = 3.94 implied that students were given course works involving producing scholarly documents.

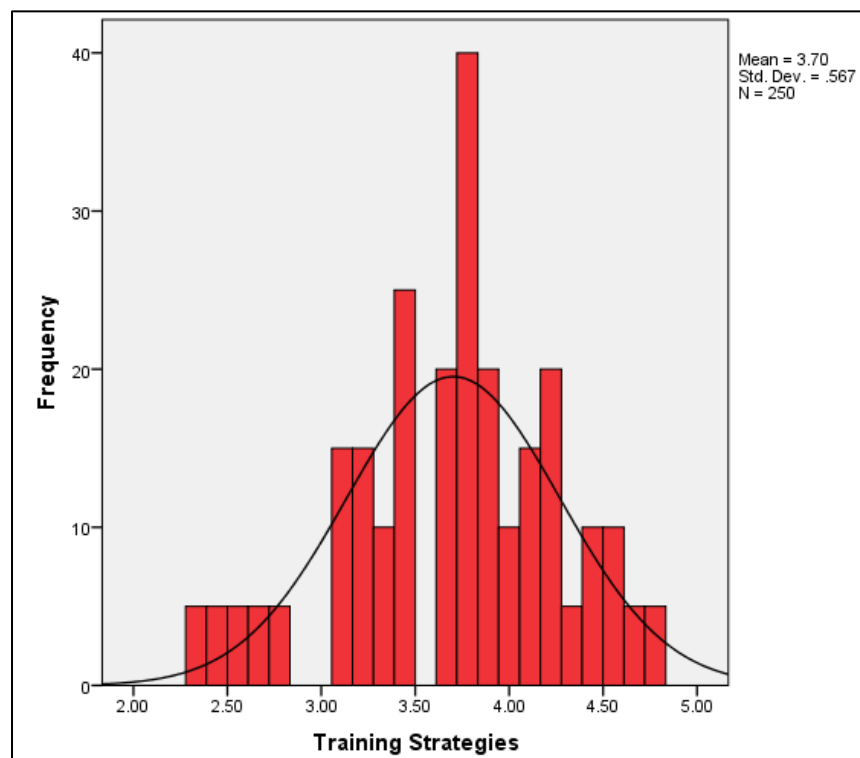
Regarding whether the lecturers taught knowledge relevant to writing articles, proposals and dissertations, the larger percentage (56.0%) agreed while 32.0% moderately agreed and 12.0% disagreed. The high mean = 3.52 suggested that the lecturers taught knowledge relevant to writing articles, proposals and dissertations. With regard to whether students received training on how to cite and reference properly using the style followed by the university, the majority percentage (44.0%) agreed while 32.0% moderately agreed and 24.0% disagreed. The average mean = 3.20 meant that fairly, the lecturers provided appropriate feedback to academic writing assignments.

As to whether students were made to practice writing in group assignments, the larger percentage (38.0%) disagreed while 32.0% moderately agreed and 30.0% agreed. The average mean = 2.84 suggested that fairly, students were made to practice writing in group assignments. With regard to whether the size of writing groups were appropriate to enable individual participation, the majority percentage (78.0%) agreed while 24.0% moderately agreed and 8.0% disagreed. The high mean = 3.72 meant that the size of writing groups were appropriate to enable

individual participation. To determine how overall the students rated the training strategies used to teach them scholarly writing, an average index was calculated for the nine indicators describing the construct. The histogram (Figure 4.7) shows the overall mean and normality shows the distribution of the responses.

Figure 4.7

Histogram for Training Strategies

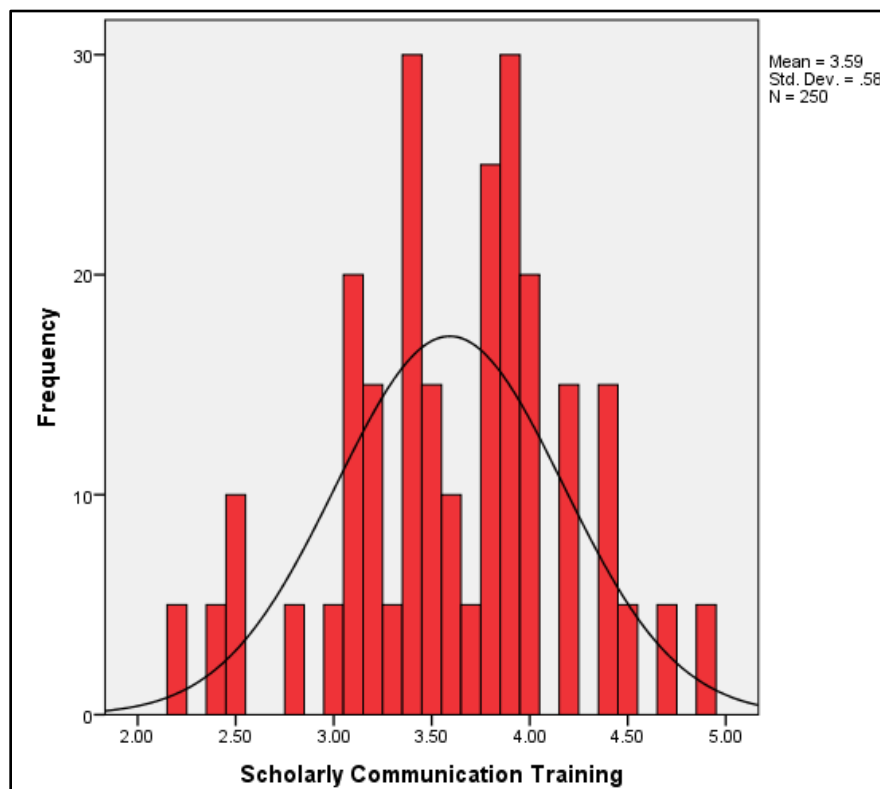


The results in Figure 4.7 show a mean score of 3.70 and a standard deviation of 0.567. The high mean indicates that students reported a high level of training strategies. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.4.3 Scholarly Communication Training. To find out how overall masters' students rated scholarly communication training they received, an average index was calculated for the indicators of four constructs measuring the variable. The histogram (Figure 4.8) presents the overall mean and shows the normality of the results.

Figure 4.8

Histogram for Scholarly Communication Training



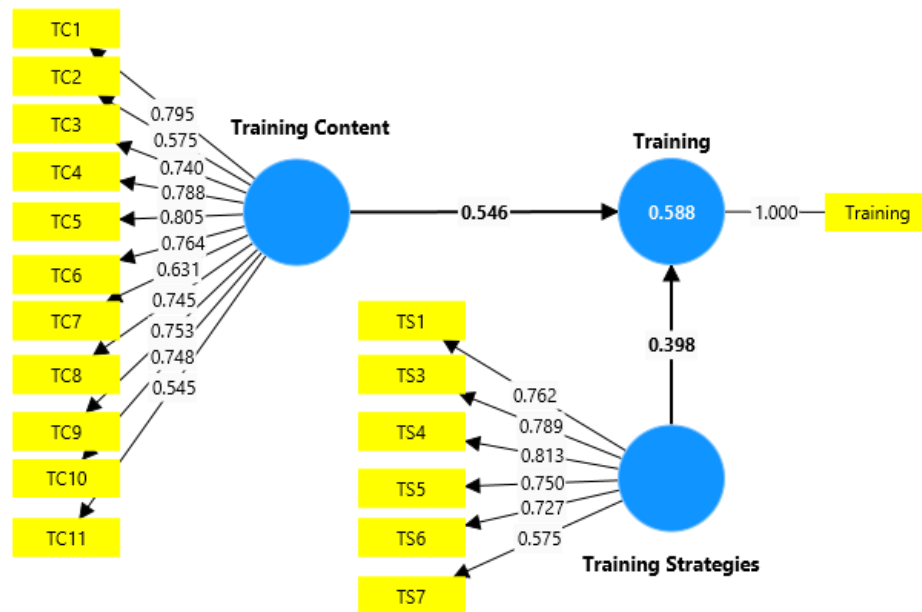
The values in Figure 4.8 indicate a mean = 3.59 and standard deviation = 0.58 confirmed the normality of the results. The high mean meant writing scholarly communication training of the students was high while low standard deviation indicated normality of the results. With the results normally distributed, they confirmed the parametric condition of normality hence appropriate for

linear analysis. The results were the basis for developing the structural model for writing self-efficacy.

4.4.4 Scholarly Communication Training Structural Model. To establish the measures of scholarly communication training, a structural equation model was developed. Figure 9 shows the appropriate indicators of the constructs measuring the variable.

Figure 4.9

Scholarly Communication Training



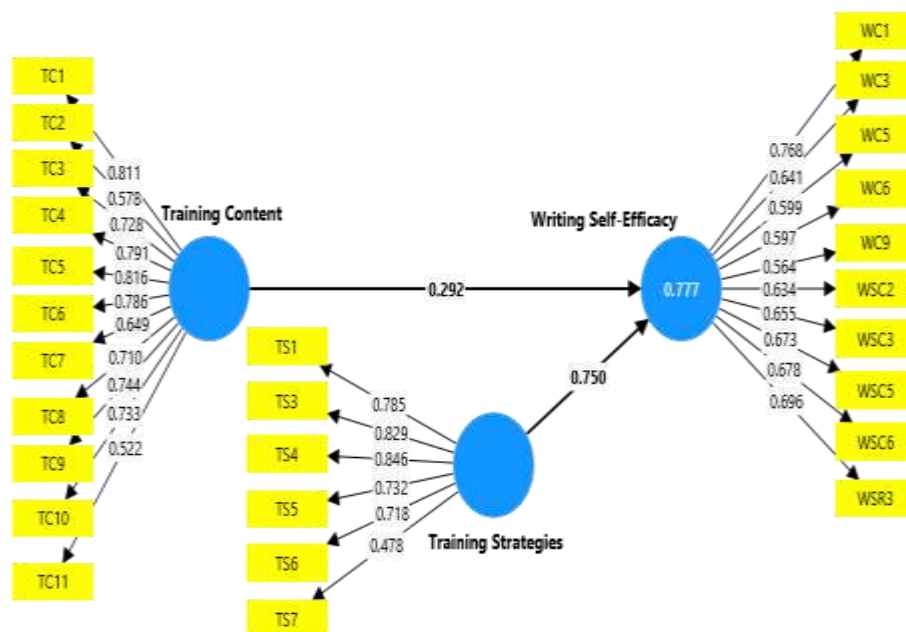
The results in Figure 4.9 shows that scholarly communication training was considered a bi-dimensional concept covering writing training content and strategies. Factor loadings show that for training, all the 11 indicators were retained (TC1-TC11). For training strategies, six (TS1, TS3-TS7) out of eight indicators were retained with 2 indicators (TS2 and TS8) dropped. All the indicators retained had factor loadings of above 0.50 which is the lowest accepted level (Hair Jr.

et al (2021). Therefore, the retained indicators for the two dimensions in the model were their valid measures.

4.4.5 Structural Equation Model for Scholarly Communication Training and Students Writing Efficacy. To examine the influence of scholarly communication training on students' writing efficacy, a structural equation model was developed. The structural equation model (Figure 4.10) displays the influence of scholarly communication training on students writing efficacy.

Figure 4.10

Structural Equation Model for Scholarly Communication Training and Students Writing Efficacy



The structural equation model (Figure 4.10) for scholarly communication training and students writing efficacy reveals that in the model scholarly communication training comprised of two measures that are training content and training strategies. Student writing self-efficacy comprised three components, namely writing self-confidence, writing competence and self-regulation with

the measure of writing stamina dropped. The model results (Table 4.8) include beta coefficients (β s), coefficients of determination (R^2 and adjusted R^2), t statistics and the p-values. The coefficients of determination reveal the predictive power of scholarly communication training on writing self-efficacy. Two hypotheses to the effect that training content (H1) and training strategies (H2), have a significant influence on students writing self-efficacy were examined. The structural equation model estimates are presented in Table 4.8.

Table 4.8

Structural Equation Model for Scholarly Communication Training and Students Writing Self-Efficacy

	β	Mean	STD	T	p
Training Content -> Writing Self-Efficacy	0.292	0.294	0.057	5.098	0.000
Training Strategies -> Writing Self-Efficacy	0.750	0.748	0.047	16.050	0.000
$R^2 = 0.777$					
R^2 Adjusted = 0.775					

The structural equation model estimates (Table 4.8) indicate that training content ($\beta = 0.292$, $t = 5.098$, $p = 0.000 < 0.05$) and training strategies ($\beta = 0.750$, $t = 16.050$, $p = 0.000 < 0.05$) had a positive and significant influence on students writing self-efficacy. Adjusted R^2 showed that the two scholarly communication training aspects, explained 77.5% (adjusted $R^2 = 0.775$). The magnitude of respective betas showed that training strategies had a more significant influence on student writing efficacy than training content. However, with both aspects of scholarly

communication training having a positive and significant influence on writing self-efficacy, it was suggested that the hypothesis to the effect that scholarly communication training has a significant influence on writing self-efficacy of master's students was accepted.

4.5 Technology Applications and Writing Self-Efficacy

The second objective of the study sought to examine the influence of technology applications on writing self-efficacy of postgraduate students at Kyambogo University. Technology applications use was studied in terms of applications use and applications ease of use. The descriptive results in the two constructs follow. The average index is presented thereafter followed by inferential analysis examining the influence of technology applications use on writing self-efficacy of postgraduate students.

4.5.1 Applications Use. Applications use was conceived as the first element of technology applications use and was studied using seven indicators. The results follow in Table 4.9.

Table 4.9*Descriptive Statistics for Applications Use*

Applications Use		SD	D	MA	A	SA	Mean
The computer and internet applications (e.g., Grammarly, QuillBot Grammar Checker, etc.) are useful in checking grammar errors	F	24	53	74	68	31	3.12
	%	9.6	21.2	29.6	27.2	12.4	
The computer and internet applications give useful error analysis (e.g. article, prepositions, and word choice)	F	1	17	60	133	39	3.77
	%	0.4	6.8	24.0	53.2	15.6	
The computer and internet applications give useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others)	F	00	18	40	110	82	4.02
	%	00	7.2	16.0	44.0	32.8	
The computer and internet applications offer useful error analysis of text organization development	F	1	14	35	124	76	4.04
	%	0.4	5.6	14.0	49.6	30.4	
The computer and internet applications have improved my writing ability	F	4	28	41	106	71	3.85
	%	1.6	11.2	16.4	42.4	28.4	
Computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) help me to manage plagiarism	F	00	18	30	126	76	4.04
	%	00	7.2	12.0	50.4	30.4	
Computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) help be to carry out citation and referencing	F	00	6	33	108	103	4.23
	%	00	2.4	13.2	43.2	41.2	

The results in Table 4.9 on whether the computer and internet applications (e.g. Grammarly, QuillBot grammar checker, etc.) were useful in checking grammar errors cumulatively showed

that the larger percentage (39.6%) agreed while 29.6% moderately agreed and 30.8% disagreed. The average mean = 3.12 close 3 which on the five-point Likert scale used in the study corresponded to moderately agreed. Therefore, students indicated that the computer and internet applications (e.g. Grammarly, quill Bot grammar checker, etc.) were useful in checking grammar errors. As to whether the computer and internet applications give useful error analysis (e.g. article, prepositions, and word choice), the majority (68.8%) agreed while 24.0% moderately agreed and 7.1% disagreed. The high mean = 3.77 suggested students agreed that the computer and internet applications give useful error analysis (e.g. article, prepositions, and word choice).

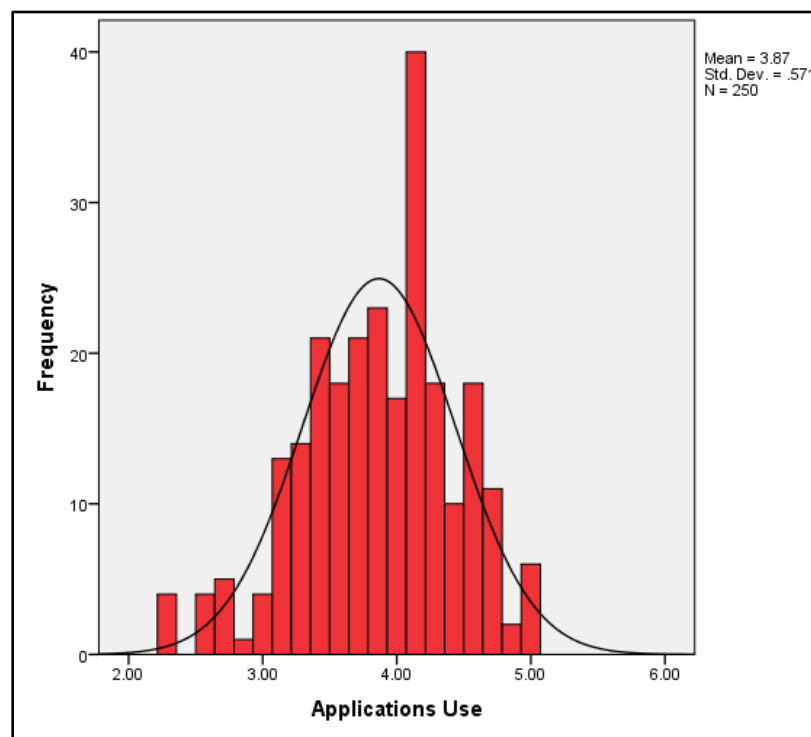
Concerning whether the computer and internet applications gave useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others), the larger percentage (76.8%) agreed, 16.0% moderately agreed and 7.2% disagreed respectively. The high mean = 4.02 suggested that the computer and internet applications gave useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others). With respect to whether the computer and internet applications offer useful error analysis of text organization development, the larger percentage (80.0%) agreed while 14.0% moderately agreed and 6.0% disagreed. The high mean = 4.04 implied that the computer and internet applications offer useful error analysis of text organisation development.

Regarding whether the computer and internet applications had improved students writing ability, the larger percentage (70.8%) agreed while 16.4% moderately agreed and 12.8% disagreed. The high mean = 3.85 suggested that the computer and internet applications had improved students writing ability. With regard to whether computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) helped students to manage plagiarism, the majority percentage (80.8%) agreed while 12.0% moderately agreed and 7.2% disagreed. The high mean = 4.04 meant that

computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) helped students to manage plagiarism. With regard to whether computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) helped to carry out citation and referencing the majority percentage (84.4%) agreed while 13.2% moderately agreed and 2.4% disagreed. The high mean = 4.23 meant that computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) help be to carry out citation and referencing. To determine how overall the students rated their computer applications use, an average index was calculated for the seven indicators describing the construct. The histogram (Figure 4.11) shows the overall mean and normality shows the distribution of the responses.

Figure 4.11

Histogram for Computer Applications Use



The results in Figure 4.11 show a mean score of 3.87 and a standard deviation of 0.571. The high mean indicates that students reported a high level of compute applications use. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.5.2 Computer Applications Ease of Use. Computer applications ease of use was conceived as the second element of technology applications use and was studied using seven indicators. The results follow in Table 4.10.

Table 4.10*Descriptive Statistics for Computer Applications Ease of Use*

Applications Ease of Use		SD	D	MA	A	SA	Mean
I effectively use technology applications (Grammarly, quill Bot grammar checker, etc.) to write	F	5	15	45	105	80	3.96
	%	2.0	6.0	18.0	42.0	32.0	
I easily use computer and internet applications (e.g. Grammarly, quill Bot grammar checker, etc.) to checking grammar errors	F	5	25	35	95	90	3.96
	%	2.0	10.0	14.0	38.0	36.0	
I find using computer and internet applications for error analysis easy (e.g. article, prepositions, and word choice)	F	5	30	55	90	70	3.76
	%	2.0	12.0	22.0	36.0	28.0	
I easily use computer and internet applications to carry out useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others)	F	00	35	45	110	60	3.78
	%	00	14.0	18.0	44.0	24.0	
I find it easy to use the computer and internet applications to carry out error analysis of text organisation development	F	5	40	65	90	50	3.56
	%	2.0	16.0	26.0	36.0	20.0	
It is easy for me to use the computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) to manage plagiarism	F	10	15	65	85	75	3.80
	%	4.0	6.0	26.0	34.0	30.0	
I find it easy to use computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) to carry out citation and referencing	F	10	25	45	80	90	3.86
	%	4.0	10.0	18.0	32.0	36.0	

The results in Table 4.10 on whether students effectively used technology applications (Grammarly, quill Bot grammar checker, etc.) to write cumulatively showed that the larger percentage (74.0%) agreed while 18.0% moderately agreed and 8.0% disagreed. The high mean = 3.96 close 4 which on the five-point Likert scale used in the study corresponded to agreed. Therefore, students effectively used technology applications (Grammarly, quill Bot grammar checker, etc.) to write. As to whether students easily used computer and internet applications (e.g. Grammarly, quill Bot grammar checker, etc.) to checking grammar errors, the majority (64.0%) agreed while 14.0% moderately agreed and 12.0% disagreed. The high mean = 3.96 suggested that students agreed that students easily used computer and internet applications (e.g. Grammarly, quill Bot grammar checker, etc.) to checking grammar errors.

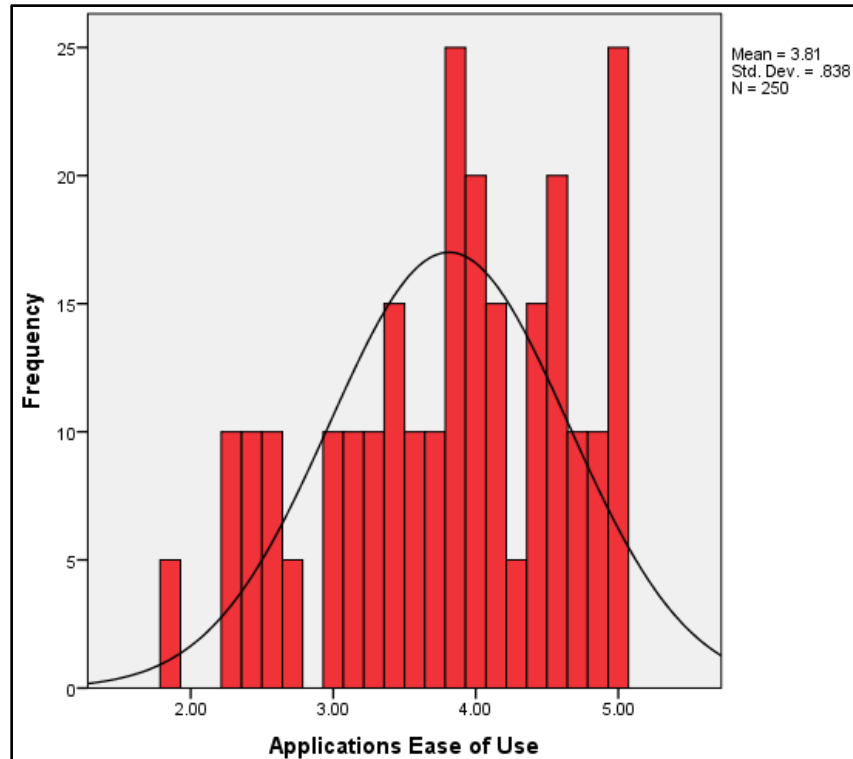
Concerning whether students found using computer and internet applications for error analysis easy (e.g. article, prepositions, and word choice), the larger percentage (64.0%) agreed, 22.0% moderately agreed and 14.0% disagreed respectively. The high mean = 3.76 suggested that students found using computer and internet applications for error analysis easy (e.g. article, prepositions, and word choice). With respect to whether students easily used computer and internet applications to carry out useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others), the larger percentage (68.0%) agreed while 18.0% moderately agreed and 14.0% disagreed. The high mean = 3.78 implied that students easily used computer and internet applications to carry out useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others).

Regarding whether students found it easy to use the computer and internet applications to carry out error analysis of text organisation development, the larger percentage (56.0%) agreed while 26.0% moderately agreed and 18.0% disagreed. The high mean = 3.56 suggested that

students found it easy to use the computer and internet applications to carry out error analysis of text organisation development. With regard to whether it was easy for students to use the computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) to manage plagiarism, the majority percentage (64.0%) agreed while 26.0% moderately agreed and 10.0% disagreed. The high mean = 3.80 meant that it was easy for students to use the computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) to manage plagiarism. With regard to whether students found it easy to use computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) to carry out citation and referencing, the majority percentage (68.0%) agreed while 18.0% moderately agreed and 14.0% disagreed. The high mean = 3.86 meant that students found it easy to use computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) to carry out citation and referencing. To determine how overall the students rated their computer applications ease of use, an average index was calculated for the seven indicators describing the construct. The histogram (Figure 4.12) shows the overall mean and normality shows the distribution of the responses.

Figure 4.12

Histogram for Computer Applications Ease of Use

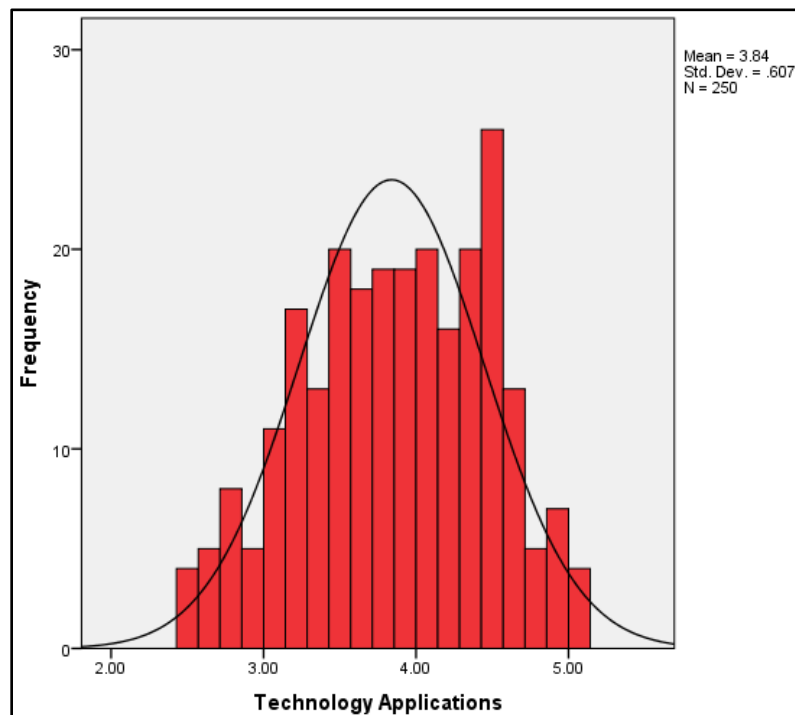


The results in Figure 4.12 show a mean score of 3.81 and a standard deviation of 0.838. The high mean indicates that students reported a high level of applications ease of use. The low standard deviation suggested that the data are normally distributed, confirming the assumption of normality required for parametric analysis. Therefore, the data are suitable for linear analysis.

4.5.3 Technology Applications. To find out how overall masters' students rated technology applications, an average index was calculated for the indicators of four constructs measuring the variable. The histogram (Figure 4.13) presents the overall mean and shows the normality of the results.

Figure 4.13

Technology Applications

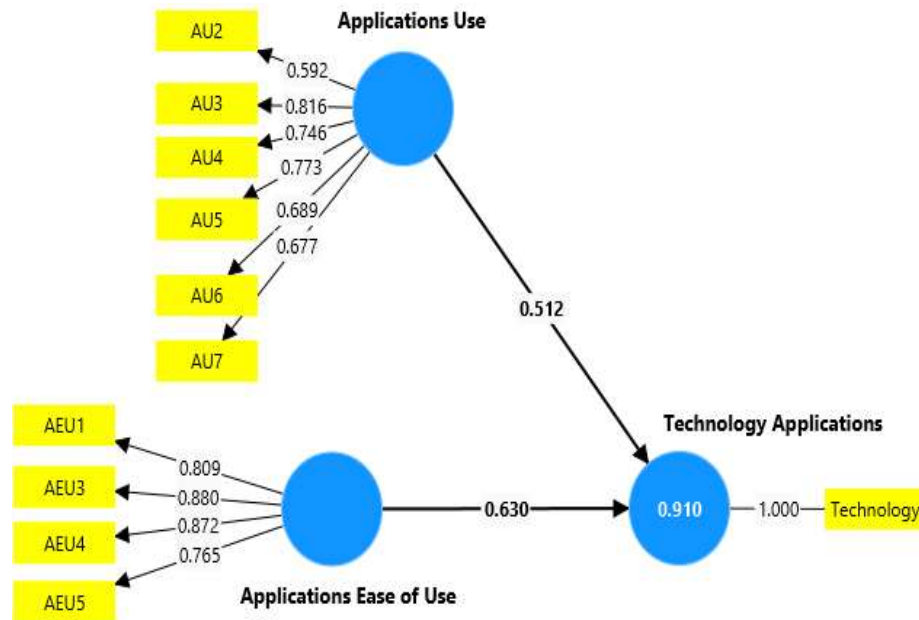


The values in Figure 4.13 indicate a mean = 3.84 and standard deviation = 0.60 confirmed the normality of the results. The high mean meant the students rated technology applications as being good while low standard deviation indicated normality of the results. With the results normally distributed, they confirmed the parametric condition of normality hence appropriate for linear analysis. The results were the basis for developing the structural model for writing self-efficacy.

4.5.4 Technology Applications Structural Model. To establish the measures of technology applications, a structural equation model was developed. Figure 13 shows the appropriate indicators of the constructs measuring the variable.

Figure 4.13

Technology Applications



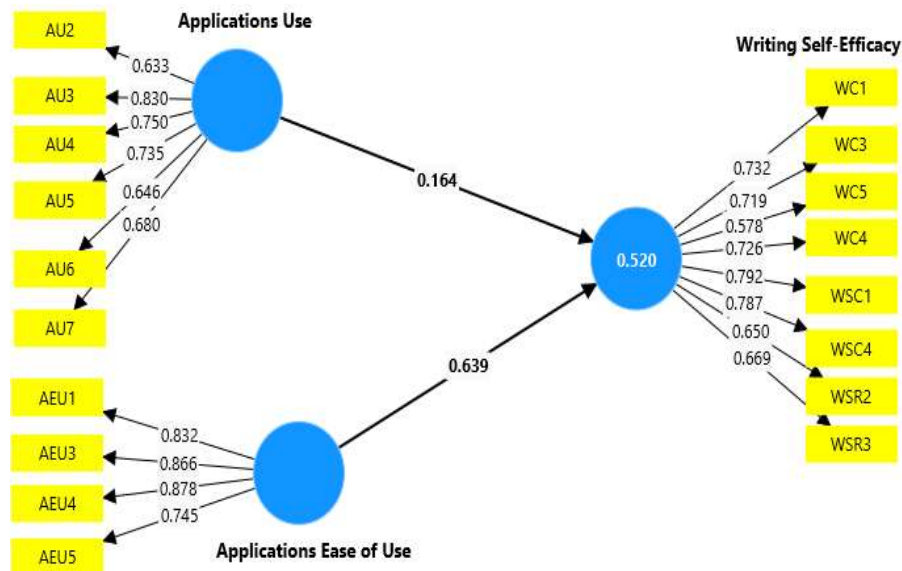
The results in Figure 4.13 show that technology applications covered technology applications use and ease of use. Factor loadings show that for applications use, six indicators out of seven were retained (AU2-AU7) and one was dropped (AU1). For applications ease of use, four indicators (AEU1, AEU3-AEU5) out of seven indicators were retained with 3 indicators (AEU2, AEU6-AEU7) dropped. All the indicators retained had factor loadings of above 0.50 which is the lowest accepted level (Hair Jr. et al (2021)). Therefore, the retained indicators for the two dimensions in the model were their valid measures.

4.5.5 Structural Equation Model for Technology Applications and Students Writing Efficacy.

To examine the influence of technology applications on students writing efficacy, a structural equation model was developed. The structural equation model (Figure 4.14) displays the influence of technology applications on students writing efficacy.

Figure 4.14

Structural Equation Model for Technology Applications and Students Writing Efficacy



The structural equation model (Figure 4.10) for technology applications and students writing efficacy reveals that in the model writing self-efficacy comprised of two measures that are training content and training strategies. Writing self-efficacy comprised three components, namely writing self-confidence, writing competence and self-regulation with the measure of writing stamina dropped. The model results (Table 4.8) include beta coefficients (β s), coefficients of determination (R^2 and adjusted R^2), t statistics and the p-values. The coefficients of determination reveal the predictive power of technology applications on writing self-efficacy. Two hypotheses to the effect that technology applications use (H1) and ease of use (H2), have a significant influence on students writing self-efficacy were examined. The structural equation model estimates are presented in Table 4.11.

Table 4.11*Structural Equation Model for Technology Applications and Students Writing Self-Efficacy*

	B	Mean	STD	t	P
Applications Use -> Writing Self-Efficacy	0.639	0.641	0.049	12.935	0.000
Applications Ease of Use -> Writing Self-Efficacy	0.164	0.168	0.049	3.346	0.001
$R^2 = 0.520$					
$R^2 \text{ Adjusted} = 0.516$					

The structural equation model estimates (Table 4.11) indicate that applications use ($\beta = 0.639$, $t = 12.935$, $p = 0.000 < 0.05$) and ease of use ($\beta = 0.164$, $t = 3.346$, $p = 0.001 < 0.05$) had a positive and significant influence on students writing self-efficacy. Adjusted R^2 showed that the two computer applications, explained 51.6% (adjusted $R^2 = 0.516$). The magnitude of respective betas showed that applications use had a more significant influence on student writing efficacy than applications ease of use. However, with both aspects of technology applications having a positive and significant influence on writing self-efficacy, it was suggested that the hypothesis to the effect that technology application has a significant influence on writing self-efficacy of master's students was accepted.

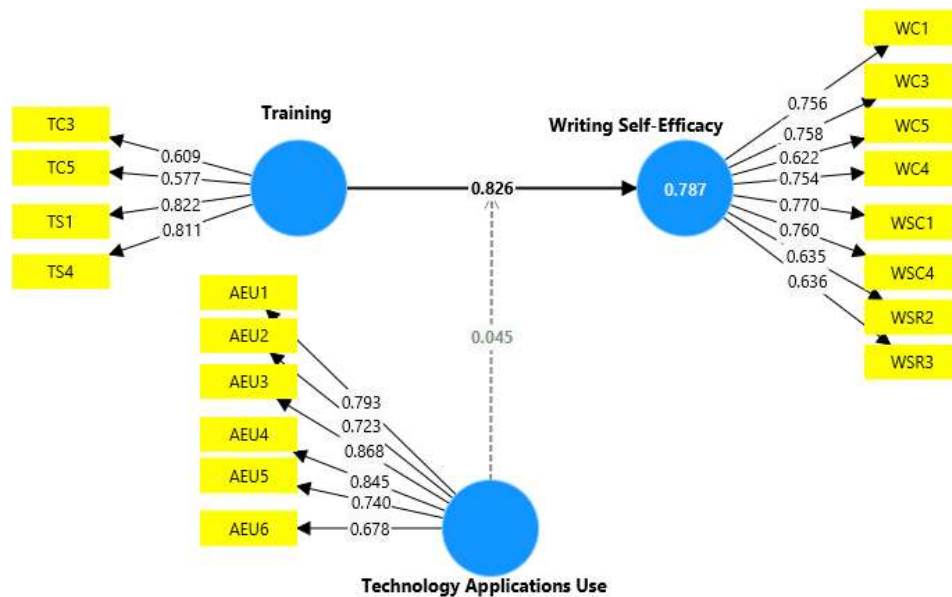
4.6 Scholarly Communication Training on Writing Self-Efficacy Moderated by Technology Applications

This third objective investigated technology applications as a moderator between scholarly communication training on writing self-efficacy. This objective led to the null hypothesis that technology applications have a significant moderating effect on the influence scholarly

communication training on writing self-efficacy of master's degree students. The structural equation model (Figure 4.15) and the path estimates table (Table 4.12) present the results.

Figure 4.15

Structural Equation Model for Scholarly Communication Training and Writing Self-Efficacy Moderated by Technology Applications



The structural equation model (Figure 4.15) describes the moderating effect of technology applications on the effect of scholarly communication training on writing self-efficacy. Table 4.12 presents structural equation path estimates for the moderating effect of technology applications on the effect of scholarly communication training on writing self-efficacy.

Table 4.12

Path Estimates for Scholarly Communication Training and Writing Self-Efficacy Moderated by Technology

	β	Mean	STD	T	P
Scholarly Communication Training -> Writing Self-Efficacy	0.826	0.827	0.050	16.686	0.000
Technology Applications Use -> Writing Self-Efficacy	0.088	0.089	0.062	1.417	0.157
Technology Applications x Training -> Writing Self-Efficacy	0.045	0.044	0.023	1.941	0.052
R ² = 0.787					
R ² Adjusted = 0.784					

The moderation structural equation estimates (Table 4.12) indicate that scholarly communication training ($\beta = 0.826$, $t = 16.686$, $p = 0.000 < 0.05$) had a positive and significant influence on writing self-efficacy. However, technology applications ($\beta = 0.088$, $t = 1.417$, $p = 0.157 > 0.05$) had a positive but insignificant influence on writing self-efficacy. The moderation test results showed that the moderating effect of technology applications ($\beta = 0.045$, $t = 2.090$, $p = 0.037 < 0.05$) on the influence of scholarly communication training and writing self-efficacy was positive but insignificant. Technology applications insignificantly moderated the influence of scholarly communication training on writing self-efficacy. Adjusted R^2 showed that the significant factors accounted for 78.4% (R^2 Adjusted = 0.784) of the variation in writing self-efficacy.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter discusses the findings of the study and presents the conclusions, and recommendations on scholarly communication training, technology applications, and writing self-efficacy. The chapter also identified the limitations of the study and suggests potential questions for future research. The discussion of the findings was carried out in the context of existing literature.

5.1 Discussion

This section presents a detailed discussion of the findings of the study, aligned with the research objectives. The discussion is informed by a thorough analysis of the data and is contextualised within the existing literature, ensuring a rich understanding of the results and their implications.

5.1.1 Scholarly Communication Training and Writing Self-Efficacy. The first objective of the study sought to examine the influence of scholarly communication training on writing self-efficacy of master's degree students in Kyambogo University. The hypothesis derived from this objective was to the effect that technology applications have a significant influence on writing self-efficacy of master's degree students. Hypothesis test showed that scholarly communication training in terms of training content and strategies had a positive and significant influence on writing self-efficacy of master's degree students. This finding was consistent with the Programme Theory on which this study was based that a programme of study should specify training content. The finding of the study was also consistent with the findings of such as Amador-Campos et al. (2023) who established that training in form of mentoring led to greater research self-efficacy of students which

implied their increased writing efficacy. Similarly, Gaber and Ali (2022) reported that the training program was effective in improving the scientific writing skills of the students' hence improved writing self-efficacy of master's degree students based on PA 7 style.

Consistent with the finding of the study, Gupta et al. (2022) revealed integrating academic writing into the formal training of doctoral graduate students from the beginning of the program enhanced their academic writing. Therefore, scholarly communication training was related to students' writing self-efficacy. Also, Mitchell et al. (2023) indicated that instructional training through instructor feedback and guidance enhanced efficacy of students. In the same vein, Mulyono et al. (2023) found out that there was a statistical difference between instructors' academic writing creativity and self-efficacy before and after attending the academic writing training workshop. Accordingly, training workshops increased their ability to find ways to overcome their writing difficulties.

Further, the finding of the study is consistent with Ntereke and Ramoroka (2015) who established that sufficient preparation of students in essay writing enhanced their academic writing literacy. Also, Tonissen et al. (2014) indicated that undertaking writing activities in more than one class helped to further improve their writing skills. Therefore, scholarly communication training improved self-efficacy of students. With the finding of the study being consistent with previous scholars, it can be surmised that scholarly communication training has a significant influence on writing self-efficacy of students.

5.1.2 Technology Applications and Writing Self-Efficacy. The second objective of the study assessed the influence of technology applications on writing self-efficacy of master's degree students in Kyambogo University. The hypothesis derived from this objective was to the effect that technology applications have a significant influence on writing self-efficacy of master's

degree students. Hypothesis test showed that technology applications in terms of applications use and ease of use had a positive and significant influence on writing self-efficacy of master's degree students. This finding concurred with the Technology Acceptance Model (TAM) by Davis (1989) which posits that PU and PEU affect the behavioural intention to use a technology, which in turn affects the actual use (Al-Adwan et al., 2023). Hence, if students find a technology application useful in enhancing their academic writing, they will adopt it. The finding of the study also concurred with other scholars such as Alkhaldi (2023) who reported that the use of technological tools had a positive role in improving students' writing performance, lexical abilities, and imagination. Relatedly, Little et al. (2018) revealed that technology-based writing instruction was educationally relevant and had an impact on writing outcomes.

The finding of the study also concurred with Parra and Calero (2019) who revealed that automated writing evaluation tools had positive effects on the improvement of the students writing. In the same vein, Vacalares et al. (2023) indicated that the use of grammar checkers was useful in improving writing skills. Relatedly, Yulia and Amirudin (2021) established that technology applications increased students' motivation and creativity in the teaching-learning process particularly in developing writing skills. Relatedly, Ramamuthie and Aziz (2022) reported that digital tools improved the students' writing skill and developed their language knowledge, particularly grammar, vocabulary, spelling and punctuation. Also, Wen and Walters (2022) found that technology addressed writing issues and changed classroom writing practices.

Nonetheless, this finding contradicts Alhusban's (2016) research, which showed that constant exposure to technology that performs tasks for students hinders their writing skill development. Similarly, Ismael et al. (2022) found that auto-correction features can have a negative impact on writing skills in some cases, and either no effect or a positive impact in others.

However, despite these inconsistencies, the present findings of the study concur with the majority of previous studies, suggesting that technology applications are essential for enhancing students' writing self-efficacy.

5.1.3 Scholarly Communication and Writing Self-Efficacy Moderated by Technology

Applications. The third objective of the study tested the moderating influence of technology applications on writing self-efficacy of master's degree students in Kyambogo University. The hypothesis derived from this objective was to the effect that technology applications have a significant moderating effect on the influence scholarly communication training on writing self-efficacy of master's degree students. Hypothesis test showed that technology applications had a positive insignificant moderating effect on the influence of scholarly communication training on writing self-efficacy. The finding that technology applications had a positive insignificant moderating effect on the influence of scholarly communication training on writing self-efficacy was contrary with the findings of previous scholars. For example, Little et al. (2018) indicated that technology-based writing instruction supplement teachers' efforts to deliver instruction and provided practice time to students providing learners extra opportunities to engage with writing both in and out of the classroom.

The finding of the study also contrary with Santoso et al. (2020) who established that the ability to use information technology moderated the effect of application of information technology on lecturer publication performance. Further, the ability to use technology strengthened the impact of applying information technology on improving lecturer publication performance. In the same vein, Wen and Walters (2022) revealed that integration of technology in narrative writing instruction produced a large effect size followed by argumentative/opinion, and explanatory /informative. This meant technology applications had a moderating effect on writing self-efficacy.

With the finding of the study contrary to the findings of previous scholars, it can be deduced that technology applications do not enhance the effect on influence of scholarly communication writing on writing self-efficacy.

5.2 Conclusions

The discussion above led to the following conclusions on scholarly communication training and writing self-efficacy moderated by technology applications.

1. Scholarly communication training is essential in enhancing the writing self-efficacy of students. This is when the programme covers academic writing and publication skills, including selecting study titles, creating outlines, drafting scholarly documents, proper citation and referencing, writing literature reviews, reviewing and editing documents, developing logical arguments, presenting results, and creating PowerPoint presentations. This is also when students receive practical experience through writing exercises, access to scholarly materials, coursework that involves producing scholarly documents, feedback on their writing assignments, and participation in group projects.
2. Technology applications play a vital role in enhancing writing self-efficacy of students. This is because they help students to learn how to carry out valuable error analysis, style error analysis, text organisation development feedback, managing plagiarism and assisting with citation and referencing. Technology applications also improve students' ability through to write better texts using tools such as Grammarly and Quill Bot Grammar Check.
3. Combining scholarly communication and technology applications does not boost students' writing self-efficacy. Thus, technology applications use and being able to use the technologies does not support providing of relevant training content and use of effective training strategies in enhancing students writing self-efficacy.

5.3 Recommendations

The findings on the influence of scholarly communication training on writing self-efficacy moderated by technology applications led to the following recommendations:

1. University curriculum should emphasise scholarly communication training to enhance the writing self-efficacy of students. The course content should cover academic writing and publication skills, including selecting study titles, creating outlines, drafting scholarly documents, proper citation and referencing, writing literature reviews, reviewing and editing documents, developing logical arguments, presenting results, and creating PowerPoint presentations. The teaching strategies should involve practical activities such as writing exercises, access to scholarly materials, coursework that involves producing scholarly documents, feedback on writing assignments, and participation in group projects.
2. Universities should access students' technology applications that support the development of writing self-efficacy. These should be technologies that help students in error analysis, style error analysis, text organisation development feedback, managing plagiarism and assisting with citation and referencing. The technologies should also be those that improve students' ability to write better texts such as grammarly and quill bot grammar check.
3. University scholarly communication courses should not over integrate technology applications. Providing relevant training content and using effective teaching strategies like practical activities can largely enhance students writing self-efficacy without the necessity of adding technology tools.

5.4 Limitations and Recommendations for Further Research

This study makes a significant contribution by demonstrating the impact of scholarly communication training and technology applications on students' writing self-efficacy. However, the findings also highlight areas for further research. Notably, the results showed that technology applications insignificantly moderate the relationship between scholarly communication training and writing self-efficacy, contrary to previous scholars. This suggests that further investigation is needed in diverse settings, such as multiple universities in Uganda or among different populations like academic staff. Additionally, the study's quantitative design limited its ability to capture exploratory insights, emphasizing the need for future studies to adopt a mixed-methods approach or qualitative design to provide a more comprehensive understanding of the phenomenon.

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APPENDICES

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	168	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	198	3000	341
80	66	420	201	2500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: *N* = population size
S = sample size

Source: Krejcie and Morgan (1970).

**APPENDIX B: QUESTIONNAIRE FOR MASTER’S DEGREE STUDENTS OF
KYAMBOGO UNIVERSITY 2018/2019-2022/2023**

Kyambogo University

P.O. Box 1,

Kyambogo, Uganda

September 2023

Dear participant

I am Stella Zawedde undertaking a Master’s Degree at Kyambogo University in Education in Policy, Planning, and Management. I am collecting data on “Scholarly communication training, technology applications and writing self-efficacy of master’s degree students at Kyambogo University”. Your participation in this study by providing data is voluntary and only necessary for compilation of the study. All data provided will be handled with confidentiality and will not endanger you in any way. Thank you for accepting to provide data.

Yours Faithfully

Stella Zawedde

Background Variables

Please, provide on yourself on the following questions;

A1 Gender: 1 = Male () 2 = Female ()

A2 Academic year joined Kyambogo: 1 = 2018/2019 (), 2 = 2019/2020 (), 3 = 2020/2021 (), 4 = 2021/2022 (), 5 = 2022/2023 ().

A3 Level of Progress: 1 = Good progress () 2 = Struggling () 3 = Stalled ()
3= PhD

Section B: Writing Self-Efficacy (DV)

The variable of writing self-efficacy will be studied as a multi-dimensional concept covering Writing Self-Confidence (WSC), Stamina (WS), Competence (WC) and Self-Regulation (WSR). Please, provide your responses on the same basing on the questions provided using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3= Moderately Agree (MA) 4= Agree (A) 5= Strongly Agree (SA)

WSC	Writing Self-Confidence	SD	D	MA	A	SA
		1	2	3	4	5
WSC1	I enjoy writing my master's degree work because I trust my writing skills					
WSC2	I do my best to write something on my master's degree work					
WSC3	I feel comfortable with language use while writing master's degree work					
WSC4	My writing language ability makes me know the flow of what I have to write					
WSC5	I expect minimal language corrections whenever my supervisor goes through my work					
WSC6	I am sure I satisfy the writing expectations of my supervisor					
WS	Writing Stamina	SD	D	MA	A	SA

		1	2	3	4	5
WS1	I am rarely distracted when writing on master's degree work					
WS2	Whenever I encounter a problem when I am writing master's degree work, I am able to find a solution					
WS3	I exert high effort without giving up when writing my master's degree work					
WS4	I keep writing even when the writing tasks are challenging					
WS5	I keep writing on my masters work even pressure from other areas is high					
WS6	I am able to keep working on my master's work until I complete the task at hand					
WS7	I keep pushing on my masters work for I believe I have the ability to submit the required work successfully					
WS8	The time limits keep focussed on my master's work to complete it as soon as possible					
WC	Writing Competence	SD	D	MA	A	SA
		1	2	3	4	5
WC1	The work I send to my superiors usually has minimal spelling mistakes					
WC2	My supervisor usually detects minor punctuation challenges in my work					
WC3	The paragraphing of my work is always perfect					
WC4	My supervisors always find my work clearer and well explained					
WC5	The work I send to my supervisors always has minor grammatical mistakes					

WC6	The terms and words I include in my work are always suitable for my study					
WC7	My work always has minor errors					
WC8	I competently follow the rules of writing recommended by the university					
WC9	The ideas I present are always well organised					
WC10	My writing style has been improving since I started writing on my master's degree work (e.g. in the structuring of sentences and vocabulary)					
WSR	Self-Regulation	SD	D	MA	A	SA
		1	2	3	4	5
WSR1	When I am writing on master's degree work, I keep reflecting how my study is unique					
WSR2	I ensure in have internalised what exists and how to use it when writing on master's degree work					
WSR3	I take time to evaluate what I have written to ascertain whether it is good					
WSR4	I make self-reflection on how I write to assess my writing skills development					
WSR5	When under pressure from my supervisors, I use my time efficiently to beat deadlines					
WSR6	I take time to reflect on my reason for writing before I embark on the same					
WSR7	Whenever I am embarking on writing, I plan how to proceed by making outlines and brainstorming in my mind on the ideas under consideration					
WSR8	I push myself to write even when I have no appetite for what I am writing about					
WSR9	When writing, I forget about everything else					

WSR10	I monitor my writing progress and adjust my methods and strategies whenever necessary					
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Section C: Scholarly Writing Training (IV)

The variable of scholarly writing training will be studied as a bi-dimensional concept covering training content (TC) and TS (Training strategies). Please, provide your responses on the same basing on the questions provided using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3= Moderately Agree (MA) 4= Agree (A) 5= Strongly Agree (SA)

TC	Training Content	SD	D	MA	A	SA
		1	2	3	4	5
TC1	I received training on writing and publication during the course					
TC2	I was taught on how to select study titles during the course					
TC3	I received training on making document outlines during the course					
TC4	I was taught on how to draft a scholarly document during the course					
TC5	I received training on how to carry out academic writing during the course					
TC6	I received training on how to cite and reference properly using the style followed by the university					
TC7	I was trained on how to write an effective literature review during the course					
TC8	I was taught how to carry out a review and editing of academic documents during the course					

TC9	I was trained on how to develop logical statements and arguments during the course					
TC10	I received training on how to present results during the course					
TC11	I was taught how to develop a power point presentation during the course					
TS	Training Strategies	SD	D	MA	A	SA
		1	2	3	4	5
TS1	Lecturers involved us in practically writing academic documents					
TS3	Lecturers availed us scholarly materials to help us learn how to write					
TS4	We were given course works involving producing scholarly documents					
TS5	The lecturers taught knowledge relevant to writing articles, proposals and dissertations					
TS6	The lecturers provided appropriate feedback to academic writing assignments					
TS7	We are made to practice writing in group assignments					
TS8	The size of writing groups were appropriate to enable individual participation					
TS9	Facilities to enable scholarly writing were used during learning					

Section D: Technology Applications (MO)

The variable of technology applications will be studied as a bi-dimensional concept covering applications use (AU) and applications ease of use (AEU). Please, provide your responses on the same basing on the questions provided using the scale where 1= Strongly Disagree (SD) 2= Disagree (D) 3= Moderately Agree (MA) 4= Agree (A) 5= Strongly Agree (SA)

AU	Applications Use	S D	D	M A	A	S A
		1	2	3	4	5
AU1	The computer and internet applications (e.g. grammarly, quillbot grammar checker, etc.) are useful in checking grammar errors					
AU2	The computer and internet applications give useful error analysis (e.g. article, prepositions, and word choice)					
AU3	The computer and internet applications give useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others)					
AU4	The computer and internet applications offer useful error analysis of text organization development					
AU5	The computer and internet applications have improved my writing ability					
AU6	Computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) help me to manage plagiarism					

AU7	Computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) help be to carry out citation and referencing					
EU	Applications Ease of Use	S	D	M	A	S
		D		A		A
		1	2	3	4	5
AEU1	I effectively use technology applications (grammarly, quillbot grammar checker, etc.) to write					
AEU3	I find using computer and internet applications for error analysis easy (e.g. article, prepositions, and word choice)					
AEU4	I easily use computer and internet applications to carry out useful style error analysis (e.g., poorly constructed sentences, wrong words and tense, and repeated words among others)					
AEU5	I find it easy to use the computer and internet applications to carry out error analysis of text organisation development					
AEU6	It is easy for me to use the computer and internet applications (e.g. Turnitin, paraphrasing tools, etc.) to manage plagiarism					
AEU7	I find it easy to use computer applications (e.g. Mendeley, Endnote, goggle scholar cite etc.) to carry out citation and referencing					

End

Thank you for participating in the study.