

ADDIS ABABA UNIVERSITY



THE INFLUENCE OF POOR HANDWRITING IN ABALA SECONDARY
SCHOOL
STUDENTS' ACADEMIC PERFORMANCE: GRADE TEN IN FOCUS

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Addis Ababa

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**THE INFLUENCE OF POOR HANDWRITING ON STUDENTS’
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GRADE TEN IN FOCUS**

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Advisor: Dr. Melaku Wakuma

**A Thesis Submitted to Department of Foreign Languages and Literature in
Fulfillment of Master’s Degree in English Language Teaching**

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Table of Contents

CHAPTRR ONE	1
INTRODUCTION	1
1.1 Background to the Study Problems	1
1.2 Statement of the Problem	2
1.3 General Objective	2
<i>1.3.1 Specific objectives of the study</i>	<i>3</i>
1.4 Research Questions	3
1.5 Significance of the Study.....	3
1.6 Limitations and Delimitations of this Study	4
<i>1.6.1 Limitations</i>	<i>4</i>
<i>1.6.2 Delimitations</i>	<i>5</i>
CHAPTER TWO.....	6
LITERATURE REVIEW.....	6
2.1 Theoretical Review of Literature.....	6
2.2 Determinants of Poor Handwriting	6
2.3 Teacher’s Perception of Poor Handwriting.....	7
2.4 Characteristics of Poor Handwriting in Learning	9
<i>2.4.1 Measures to address poor handwriting</i>	<i>10</i>
CHAPTER THREE	12
METHODOLOGY OF THE STUDY.....	12
3.1 Research Design	12
3. 2 Location of the Study	12
3.3 Sampling Techniques and Sample Size	13
<i>3.3.1 Sampling techniques.....</i>	<i>13</i>
<i>3.3.2 Sample size</i>	<i>13</i>
3.4 Data Collection Instruments and Techniques	13
<i>3.4.1Questionnaire</i>	<i>14</i>

3.4.2 Interview	15
3.4.3 Observation	15
3.5 Data Collection Procedure	15
3.6 Data Analysis	15
3.7 Ethical Considerations during the Research	16
CHAPTER FOUR	17
PRESENTATION OF DATA ANALYSIS, RESULTS AND DISCUSSIONS	17
4.1 Characteristics of Poor Handwriting among Learners.....	18
4.1.1 Description of good or poor handwriting by respondents.....	18
4.2 Knowledge on Factors Influencing Handwriting Development Process among Learners with Poor Handwriting	23
4.2.1 Ability of the learner to develop good handwriting skills.....	23
4.2.2 Requirements for the evolution of a good handwriting	24
4.2.3 Perspectives on selected handwriting factors.....	25
4.2.4 Activities key to the developmental of a good handwriting	27
4.2.5 Ranking of effectiveness of handwriting development factors	28
4.3 Measures Taken to Address Poor Handwriting among Students.....	28
4.3.1 Tools for assessing poor handwriting	29
4.3.2 Learners physical behavior.....	29
4.3.3 Administering a written test	29
4.3.4 Learners background.....	30
4.3.5 Response to poor handwriting.....	30
4.4 Effects of Poor Handwriting on the Academic Performance	34
4.4.1 Experience of learners with poor handwriting	35
4.4.2 Challenges encountered by learners with poor handwriting.....	35
4.4.3 Association between poor handwriting and learning behaviors.....	36
4.4.4 Results of a poor handwriting	37
4.5 Chapter summary.....	39
SUMMARY, CONCLUSION AND RECOMMENDATIONS	40
5.1 Summary.....	40
5.2 Conclusion.....	41

5.3 Recommendations.....	41
5.3.1 Recommendations to teachers	41
5.3.2 Recommendations to researchers	42
5.3.3 Recommendations to policy makers.....	42
5.4 Areas of further research on the study problem	43
REFERENCES	44
APPENDIX I: QUESTIONNAIRE (To be filled by Teachers).....	45
APPENDIX 2: QUESTIONNAIRE (To be filled by Learners)	48
APPENDIX 3: INTERVIEW GUIDE	51
APPENDIX 4: OBSERVATION GUIDE/SCHEDULE	52

List of Figures

Figure 1 Perspectives on the ability to develop a good handwriting.....	24
Figure 2 Requirements for the evolution of a good handwriting	25
Figure 3 Activities undertaken to improve handwriting among respondents	27
Figure 4 Challenges encountered by learners with poor handwriting	36
Figure 5 Mean score performance for 4 subjects of 40 students for the year 2021/2022.....	38

List of Tables

Table 1 Features of handwriting.....	19
Table 2 Perspectives on factors for a good handwriting development.....	26
Table 3 Ranking of the most effective factors in handwriting development	28
Table 4 Response to poor handwriting	31
Table 5 Problems encountered by learners with poor handwriting	37
Table 6 Average score of learners with poor/good handwriting.....	37

Acronyms

AAU: Addis Ababa University

CA: Continuous Assessment

ETP: Educational Training Policy

MOE: Ministry of Education

SD: Standard Deviation

SPSS: Statistical Package for Social Science

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ABSTRACT

This study was conducted to evaluate the consequences of poor handwriting on the academic performance of students in the 10th grade at the Abala Secondary School. Writing by hand is referred to as language. It serves as a mirror that reflects each person's creativity, aptitude, patience. The goals of the study included identifying characteristics of learners' handwriting, factors that affect learners with poor handwriting, and finally identifying the effects of poor handwriting on academic performance. The sample size of 246 respondents, consisting of 34 teachers, 2 head teachers, and 210 students, was obtained through the technique of probable sampling. A combination of interviews and observations were used to gather qualitative data. On the other hand, open-ended and closed-ended questionnaires were used to gather quantitative data. Pie charts, graphs, and tables were used to display the findings of data analysis. The results showed that even if poor hand writing is affected on students' performants', the majority of respondents thought that students with poor handwriting could improve their handwriting. And, finally, the need to include handwriting instruction in the national curriculum.

Key terms: Poor handwriting, Abala secondary school, Student's performance

CHAPTRR ONE

INTRODUCTION

This chapter presents the research background, problem statement, research purpose and objectives, research question and importance of the study, limitations and boundaries of the study.

1.1 Background to the Study Problems

Globally, about 30-40% of learners experience writing problems (Mercer & Pollen, 2011). The majority of learners who face poor handwriting are at a lower level of learning. However, the problem also appears in the higher layers. This was revealed in the 2005 American College Testing Program (ACT) report, which admits that one-third of students entering college have poor handwriting. This happened at a time when written interventions were less focused (Westwood, 2011). This is also happening in the context of writing lessons increasingly losing importance as teachers and students use electronic writing devices (Mangen, Anda and Kallestén, 2015).

Writing or handwriting is a complex process (Westwood, 2011). In this process, learners use symbols and numbers to express their thoughts (Reid, 2009). The flow and fluidity of this complex process is related to several overlapping factors (Wallen, 2013). These overlapping factors include, but are not limited to motor problems, poor visual perception of letters/words, and poor visual memory. In addition, the teaching of educators is flawed and the motivation of learners is limited (Mercer and Pullen, 2011). Understanding these factors is a prerequisite for problem solving (Westwood, 2008; Mendizabal, Candida, Guzman, Immaculada, & Romero, 2016).

The problem of poor handwriting is complex and diverse (Wallen, 2013, Tamara Frijters, 2015; Mellissa, Anna, Wilmut, & Mandy, 2016). This implies that poor handwriting manifests differently. According to Mercer (2011), poor handwriting can manifest as

slow writing, wrong direction of letters and numbers, and too much or too little pencil grip. It can also manifest as spacing difficulties, messy handwriting, inability to maintain a horizontal line, and difficult letter formation. Similar views are echoed by (Berninger, Abbott, Auguburger, & Garcia, 2009; Charlotte, Parks, & Oslick, 2018; Golley 2015).

Poor writing affects learners in many ways. On top of that, it has a negative impact on learners' self-esteem and values (Bamidele, 2017). Second, it affects physical behaviors such as class attendance, sitting in class, composing and submitting assignments, and student planning strategies (Limpo, Rui, Alves, & Connelly, 2018). Ultimately, it affects the overall learning outcomes of individual learners, both in terms of quality and quantity of persuasive and cognitive writing (Santangelo & Graham, 2016).

1.2 Statement of the Problem

According to Rasugu (2010), students with writing difficulties are described as difficult to teach, lazy, slow to learn and apathetic. This causes teachers in high schools to look down on these students due to their negative attitudes towards them.

The characteristics and the impact of learners with poor handwriting on their results are not well evaluated particularly in the target study area. Beside this, teachers' attitude towards students with poor handwriting and the teachers' effort to help students to improve their handwriting is not well identified.

These studies should capture more diversity. Indeed, learning diversity goes hand in hand with diversity in capabilities, skills, resources and practices.

1.3 General Objective

The purpose of this study is to assess effects of poor handwriting on academic performance of learners in Abala secondary school grade 10 in focus.

1.3.1 Specific objectives of the study

To achieve overarching goal of the study, the following research objectives are formulated.

1. Investigate the impact of poor handwriting on students' performance
2. Finding the difficulties teachers face when correcting students' test papers
3. Finding out the efforts teachers provide to help students to improve their handwriting

1.4 Research Questions

To address and achieve the specific objectives and the important of this study, the following research questions are pursued;

1. What are the characteristics of learners with poor handwriting?
2. What is the impact of learners with poor handwriting on their results?
3. What is teachers' attitude towards students' poor handwriting?
4. What are the efforts teachers provide to help students to improve their handwriting?

1.5 Significance of the Study

This study provides insight into the factors affecting handwriting development among schoolchildren with poor handwriting in selected upper grades at Abala High School in the Afar Region. There is debate in the attempt to determine the role of both internal and external factors in the development of appropriate writing.

Comparatively, the study also determined teachers' perceptions of students with poor handwriting. The research also aims to help equip teachers with skills to supplement learners with literacy challenges. These facts include environmental factors, sitting

posture, poor instruction, and age of learners, lack of motivation, cognition, motor problems, visual memory as well as tools and device for writing.

Understanding the signs and symptoms of students with poor handwriting is the basis for direct interventions. To this end, the study sheds light on and provides information that may help curriculum designers in the education sector struggling with handwriting problems.

Knowledge of the effects of underdeveloped handwriting is critical to designing remedies that are unlikely to impede learners' creativity and potential. The objective of activities undertaken to correct handwriting problems will document the necessary good practices implemented by teachers to help learners overcome handwriting problems. Successful practice materials can be shared with teachers and learners in similar situations.

1.6 Limitations and Delimitations of this Study

In this subsection of the chapter, the scope of the study and factors that negatively impact the accuracy of field results are discussed. Intermediate boundaries of the knowledge range and target audience have been presented.

1.6.1 Limitations

The main obstacle to the study of literacy problems is the lack of standardized tools and guidelines to facilitate the profiling of relevant learners (Kandle, et al. 2018, & Sousa, 2001).

This study does not develop or encounter standardized tools and is more proud of the process of identifying learners with writing difficulties. This study is based on the subjective judgment of the researcher and the lecturer. This is complemented by assessing the learners' written expression, which is a subjective process. To measure academic achievement, ongoing assessment tests are administered at the school level. Unfortunately, most of these tests barely capture the reliability of the six areas of learning.

1.6.2 Delimitations

To answer the main research questions, the formation of numerals (numbers) and letters was studied. This study focused on students in the grade 10. This is necessarily because there is little empirical evidence on literacy processes beyond middle school (Westood, 2011; Melissa et al., 2013 and Ruasugu, 2013). Therefore, the focus on high school students is to ensure continuity between the literacy development of middle school students and high school students. Second, high school students tested both descriptive and persuasive writing, which required fine handwriting and organizational skills, compared with elementary school students who were tested on basic writing skills. The data collected from this group of learners fully identifies the impact of poor handwriting on academic achievement.

CHAPTER TWO

LITERATURE REVIEW

Areas examined include the theory of poor handwriting, general literature-related; remedies for poor handwriting, teachers' perceptions of poor handwriting, determinants of poor handwriting, and characteristics of learning difficulties in handwriting. In addition, empirical literature studies performed in relation to case studies are also presented.

2.1 Theoretical Review of Literature

It is essential to perform a theoretical review of the literature; first, it helps research to develop a theoretical framework that can be used to evaluate field results, as discussed in chapter four. Second, it allows verifying if the field result is valid. Finally, it provides a basis for comparing relevant research findings and then providing descriptions, discussions, evaluations and conclusions (Creswell. 2012). The evaluation analysis of the existing literature is guided by the four propositions and arguments made in the first chapter. We also try to understand dyslexia and, by extension, writing difficulties. These four research guiding recommendations are an understanding of the factors that influence handwriting development in students with poor handwriting and teachers' perceptions of poor handwriting.

2.2 Determinants of Poor Handwriting

There is a strong correlation between fine motor skills and the quality of letter, picture, and number formation. This implies that fine motor skills are precursors to fine handwriting according to Manger et al. (2015), so fine motor control; memory and learning ability are closely related and interrelated. So, “the authors note that paid employment is important.

Tamara and Frijters (2015) drew the attention of this study to the link that exists between the development of fine motor skills and cognitive processes. They observed that the quality and quantity of handwriting was a by-product of the interaction between lower-

level cognitive and motor processes and higher-level cognitive processes. Grskovic and Belfour (1996) further point out that a strong synergy exists between writing fluency and cognitive or neurological stability, as illustrated by the following views.

Students have difficulty writing, but those with poor handwriting have difficulty for different reasons. They exhibit marked weaknesses in cognitive processing and particular difficulties with the linguistic features required for accurate reading and writing. Commenting on the interdependence between fine motor skills and cognitive stability, Golly (2015) drew the attention of this study to four factors. Those four are Attention Deficit Hyperactivity Disorder (ADHD).

Brain function as a late-forming captain has been largely ignored in cognitive and cognitive studies. However, Duneland Reid (2006) and Souse (2001) warn about the important function of the brain as it is an important factor. The author received high praise from Bishop (2004) when he warned teachers that “teachers must understand that there are several factors that contribute to children not being able to read and write”. Agreeing with a similar view, Westwood (2008) reminds researchers that a clear understanding of the many causes of poor handwriting can be the first step in improving children's reading and writing skills. This goal will only be achieved if more basic and applied research is available. Research should examine poor handwriting for a clear presentation and elucidate the factors of their development, and determine how to facilitate the acquisition of such an important handwriting skill (Graham , Berninger, R., Abbot, S. & Whitaker, 1997).

2.3 Teacher's Perception of Poor Handwriting

Educators' values, skills and attitudes are important factors for the success of instructional design and intervention (Limpo et al. , 2018). A teacher who sets the highest expectations of each student and is valued will be more likely to consider appropriate measures to help learners when they are struggling (Berninger & Swanson, 1994). It begins when teachers realize that teaching methods tailored to reading and writing difficulties are capable of meeting the needs of each child (Magombo, 2015). With this in mind, Westwood (2011)

encouraged educators to adapt child-centered teaching methods to children's writing difficulties.

Saskatchewan (2003) has a similar view, stating that: "Teachers must modify teaching skills, teaching styles, resources, and teaching environments to meet the individual learning needs of all learners."

Another way to address the handwriting challenge is for teachers to recognize the importance of handwriting skills. According to Abbot and Berninger (1993), this forces teachers to realize the following. Above all, teachers must be aware that writing skills are necessary for learners to fully participate in school activities. Second, teachers must realize that learners spend up to half of their daily classroom time on paper and pencil assignments. Third, understand that the handwriting process affects a child's academic success. Finally, educators need to understand that writing plays an important role in raising children's self-esteem.

According to (Grskovic and Belfiore, 1996), "Writing is not intrinsically motivating for many students with writing difficulties." However, researchers have emphasized the need for teachers to find ways to make writing more engaging for learners and, more broadly, for those who have difficulty with writing. Again, according to Golleyb (2015), students with writing difficulties lack appropriate strategies to use when writing. This makes them depressed and do not want to continue writing. Proposing countermeasures to deal with this frustration, Lewis and Rena (1998) urge educators to develop specific tools that can help poor learners overcome these obstacles.

Providing inclusive education is a major dilemma that educators are forced to deal with. Making progress on this dilemma requires educators to interrogate statues, question existing practices, develop hands-on approaches, and reflect on teaching techniques. their teaching (Berninger et al. , 2009). Similarly, educators need to highlight their beliefs, values, and practices while being aware of the variety of abilities that define learners. In short, educators need to find the most effective research-based practices to apply. Charlotte et al. (2018) asks how an educator can improve writing instruction for students

with poor handwriting. More specifically, the author questions how teachers' values, beliefs, and practices, under the eyes of dominant pedagogies, can achieve the goal of improving learning outcomes for students, people who have difficulty with handwriting weakness. It is for this reason that this study was carried out, mainly to shed light on teachers' perceptions, values and practices rather than research questions.

2.4 Characteristics of Poor Handwriting in Learning

Writing difficulties affects both teachers and learners. Ideally, an educator interested in a student who has difficulty writing would find himself in an unfamiliar quadrant. Educators may find that the skills they possess as well as their teaching methods are redundant (Charlotte et al., 2018). It's a recipe for frustration, stagnation, and discouragement. Berninger et al. (2009) agrees with the ongoing observations and concludes that writing difficulties create a major dilemma. The authors also believe that difficulties in writing lead to depression and low morale in both learners and teachers.

Overall, writing difficulties have serious consequences for academic performance. Reid, Hangaman and Graham (2014) listed the negative effects of handwriting problems. The study noted that learners who had difficulty writing lacked attention and concentration. In addition, these learners have difficulty remembering the simplest concepts. They also don't take their success seriously, which means they project everything in their world onto outside forces. Ultimately, these learners lack faith, mistakenly thinking that no matter how hard they try at a given activity, they will not succeed. In this area, Sousa (2001) examined students with long-term poor handwriting. Partially agree with Reid et al. (2014), he noted the following about students who have difficulty writing. He laments that learners with handwriting disease are characterized by slow handwriting, inconsistent word formation, and poor reading ability. There is also letter confusion, incomplete words or letters, incorrect formatting and spacing, and odd pencil grips and hand positions. Similarly, Mather, Roberts, Hammily, and Allen (2009) found that learners who have difficulty writing quickly tire out and are unable to write in lines or margins and have difficulty organizing their thoughts on a sheet of paper.

Students with poor handwriting may find themselves in a difficult learning environment. This challenge is partially captured by Rebecca (2017) when she states: “Students with poor handwriting may not benefit from traditional teaching strategies. In this case, people with learning disabilities were at a disadvantage and had difficulty learning. This disparity stems from the fact that more than 75% of educators lack the skills to deal with writing difficulties ((Reid et al. , 2014). Others questioned the impact of poor writing skills Berninger et al. , (2009) identified difficulties in assessing written work (from the point of view of educators), as well as a decrease in the number of words as well as the length and quality of the work. These results are in agreement with the report of (Graham, Harris and Adkins, 2018). They show that poor handwriting affects spelling of words, length and quality of layout, sentence structure, and vocabulary mastery.

Westwood (2011) drew our attention to the impact of poor handwriting on learners' physical behavior, which in the long run has become a serious learning problem. The author said in the study that students with writing difficulties were more likely to drop out, sit back in class, barely submit papers for assessment, lag behind in class activities, and have high absenteeism rates at school.

2.4.1 Measures to address poor handwriting

A learner who has difficulty writing deserves special attention. However, this particular attention is hardly evident. The main reasons why learners with special learning needs find themselves in difficult situations are discussed elsewhere in this chapter. However, this involves additional planning and required resources (LImpo et al. , 2018). Magombo (2015) is quick to add that the level of literacy achievement reflects a child's willingness to cooperate and teaching methods that respond to individual learning needs and learners' strengths.

Westwood (2008) agrees with the author's argument and comments that children's reading and writing abilities depend on appropriate teaching methods and teaching aids. Tankersley (2003) adopted these suggestions and followed in the footsteps of his predecessor who asserted that handwriting interventions have great potential for

improving reading and writing skills. Finally, Brooks (2002) summarizes the serious debate about practical approaches to interventions by lamenting that failure to intervene in students with writing difficulties represents a failure, on the part of the teacher and, therefore, fail in the success of these children.

Interventions have shown remarkable results in turning learners' destinies; including those with learning difficulties. Graham and Santangelo (2016) further elaborated on this argument: “from kindergarten through 9th grade, students with good handwriting benefit from clear instruction in handwriting”. However, the effectiveness of the measures applied to solve the handwriting problem varies. So, Charlotte et al. (2018) called for more research on best practices, while Beninger et al. (2009) has enhanced research to provide appropriate models and interventions for a variety of capacities.

Finding effective strategies for planning, composing, and revising plays will help students who write poorly become more competent writers (Golley, 2015). An argument is supported by Saskatchewan (2004), who observed that occasional difficulties in reading and writing do not become a permanent impediment to learning. It is essential, to paraphrase Rebecca (2017), that students be provided with appropriate strategies for planning and revising assignments and papers. Reid (2007) cautions against over-engineering existing response measures. He proposed that existing measures on the handwriting problem should be prescriptive, technical, and structured. The danger of these measures is that they remove the teacher or reduce the teacher's engagement with the subject. He therefore relied on the measure devised by Charlotte et al (2018) when the author stated: “By asking an adult to work individually on handwriting with a student, that adult not only has can correct the student's letter formation and word spacing, but also the student's pencil grip, which is often the cause of motor control difficulties.

Examining the handwriting problem debate has proven that the problem can be improved upon. He also advocates for interventions to enhance teachers' skills and their commitment to the subject.

CHAPTER THREE

METHODOLOGY OF THE STUDY

This chapter begins by outlining the research design to answer the research questions. The basis for choosing a specific research tool, instruments and methods is presented. Methods of data collection and analysis are articulated. Finally, the principles and ethical aspects of reliability are presented. According to Silverman (2020), the methodological part systematically provides a clear and open picture of how the researcher draws conclusions.

3.1 Research Design

Research design is a framework that brings together different parts of a research problem in an organized, systematic and coherent manner (Trochim, 2005). According to Blakstad (2016), research design refers to the overall strategy that the researcher chooses to incorporate. The various components of the research in a coherent and logical manner, thereby ensuring that it effectively address the research problem; it is a model for data collection, measurement and analysis.

This study is mainly quantitative in method and cross-sectional design. The cross-sectional study design helps the researcher to determine the effect of poor handwriting on student achievement. Questionnaire and mixed methods were used in this study. Classroom interviews and observations were also used with research data.

3. 2 Location of the Study

The study was carried out in Abalala High School in the Abala woreda, Kilbati Resu zone of the Afar Regional State. The school was purposefully chosen for this study because the researcher had been teaching in the School for longer time and knew the participants and the region well, which would have made it easier for him to access valid data. It also

helps the researcher to obtain a significant number of samples for the study. This type of research has never been done at this school by other researchers.

3.3 Sampling Techniques and Sample Size

Using proper sampling techniques is crucial to making a research project meaningful, and successful. Alvi's previous statement (2016) informed the researcher about the sampling technique that would achieve a representative sample size and population; therefore, sampling techniques and sample sizes are discussed below.

3.3.1 Sampling techniques

The probable sampling method was used in this study. This approach was chosen because the aim of the study was to uncover poor handwriting and provide insight into the problem. Probabilistic sampling techniques have proven to be useful in gathering the study population needed for this task. In particular, stratified sampling technique was deployed in this study.

3.3.2 Sample size

Abala Secondary School has a total of 420 10th grade students divided into 7 blocks. As a result, 50% of students from each section were selected to answer the questionnaire and 3% of students from each section were selected for an interview.

Those participants were selected using stratified sampling technique. The subject of the study is grade 10 students and their teachers in Ababa high school.

3.4 Data Collection Instruments and Techniques

Data on students' strategic use were collected through questionnaires and interviews. Questionnaire made at Abala High School for clarification. The items in the questionnaire relate to poor handwriting and difficulty in writing. Classroom interviews and observations were also used for data collection. This is because:

- A. One of the goals of this study was to study the impact of poor handwriting on students' academic performance. This is done by managing different data collection tools and different data analysis techniques.
- B. Some students choose to answer questionnaires rather than interview and vice versa. An interview with a student is very important to get in-depth information. Some students choose to answer questionnaires rather than interview and vice versa. An interview with a student is very important to get in-depth information.
- C. Classroom observations were also used to find answers to questions that participants had not answered in interviews and questionnaires.
- D. Because some students responded poorly to questions and interviews, triangulation was used to determine whether poor question answers reflected careless use of the term; but students have an accurate basic understanding of what they are talking about, or whether unanswered questions reflect a real lack of conceptual distinction between concepts in the student's mind.

3.4.1 Questionnaire

A questionnaire is a set of written questions that respondents must answer. These responses become the main data for the survey. According to Krishan Kumar (1992), "A questionnaire is a written document that lists a series of questions related to a research problem that an interviewer is asked to answer". This technique consists of written questions to which respondents must write individual answers without the guidance of the researcher. The questionnaire has two forms, an open-ended questionnaire that requires respondents to respond at will. This method is used to collect information from teachers and school principals.

Close-ended questionnaire which was limited the respondents to answer "YES" or "NO"
This method was employed to teachers.

3.4.2 Interview

Seale et al. (2004) define an interview as a social encounter in which speakers collaborate to give narratives or flashback and future versions of their parts or of actions or experiences.

In this study, the researcher used the unstructured interview form because of the flexibility in asking questions. Researchers use this type of interview because it gives both researchers and respondents the opportunity to discuss, it also serves time with complete information, and can be modified or applied as appropriate.

3.4.3 Observation

According to Martyn Denscombe (2003), observation gives the researcher a distinct way of collecting data and it does not depend on what people say they do or what they say they think.

It is more direct to rely on direct evidence. So, to observe what is really going on in the classroom, the direct observation method has been used in all 10th graders of the school.

3.5 Data Collection Procedure

Before starting data collection, the researcher accessed permission letters from the school administration and the relevant district office of education. Thereafter, data collection continued after a confirmation letter and a guaranteed pilot study. Data for the pilot study were collected by the researcher from randomly selected students from Abala High School.

3.6 Data Analysis

Data analysis refers to the process of examining the data that has been collected. In this study, qualitative and quantitative methods were used to analyze the data collected in the field.

After collection and verification, data were coded for statistical procedures using the Package of Social Science Statistics (SPSS). Data collected and coded for statistical procedures were analyzed using descriptive statistics such as mean and standard deviation.

By taking a qualitative approach, which describes students and teachers' perceptions of poor writing ability, and by a quantitative approach, the researcher examined the data numerically, including the number or percentage of hundred people answered.

3.7 Ethical Considerations during the Research

The main study intervention was actually implemented after the proposal was approved by the advisors and reviewers and received letters of approval from the relevant district officials. The purpose and objectives of the study were clearly stated to the subjects of the study, and all responses were kept confidential. All works of other scholars cited, cited, referenced in this work have also been acknowledged and no works can be used directly without the legal consent of the owners.

CHAPTER FOUR

PRESENTATION OF DATA ANALYSIS, RESULTS AND DISCUSSIONS

The purpose of this study was to assess poor handwriting and its impact on academic performance. The study was conducted at Abala Secondary School, based on the perspectives and practices of teachers and learners on learning issues. As discussed in Chapter Three, this study was designed on two levels, using both qualitative and quantitative techniques to answer the research questions. Ideally, a mixed design would capture respondents' views and existing practices on the issue.

This chapter presents the direct sharing of teachers and learners using both qualitative and quantitative data. Qualitative data were collected using semi-structured interviews and observations. In addition, the questionnaire manual is a tool to collect quantitative data.

To answer the main research question, the following sub-questions were asked:

1. What is the teacher's knowledge on factors influencing poor handwriting among learners in Abala Secondary School grade ten in focus?
2. Which activities do teachers undertake to help learners with poor handwriting?
3. What are the problems of poor handwriting on the students' academic performance of students?

As mentioned, this study used both qualitative and quantitative techniques. Qualitative analysis began after two groups of participants were studied. An ensemble in this study consisted of a teacher and a learner. Encrypted data to identify common or recurring themes; Key themes or clauses were selected to highlight similarities or differences among respondents using a continuous comparison tool (Anfara, Brown & Mangione, 2002).

This means that in qualitative analysis, the process of analyzing data begins as soon as it is collected and emphasis or concern is placed on the meaning and value that individuals attach to a phenomenon or certain experiences (Litchman, 2006). This approach allows the researcher to be interactive and human while openness and flexibility are essential to

safeguard the measures incorporated in this approach. The strategy used in this analysis is inductive and the results are descriptive.

Qualitative analysis begins with the creation of a database, before that, the data cleaning by checking the completeness and accuracy of the questionnaire. Thus, encryption was performed and the strategy used in the process was deductive. Tables, graphs and diagrams are used to summarize and present field results. They were then analyzed inferentially to determine their statistical significance. After describing the design process and data analysis process; the report begins by highlighting the demographic characteristics of the respondents.

4.1 Characteristics of Poor Handwriting among Learners

The main objective of this study is to assess the poor handwriting characteristics of learners. Data is collected from learners and teachers. The purpose is to compare and contrast the views of different respondents on the factors that contribute to learners' poor handwriting. The research questions for this purpose are what are the characteristics of poor handwriting in students with poor handwriting? To achieve this goal, it is hypothesized that text readability and writing speed are largely characteristics of poor handwriting in learners with poor handwriting.

4.1.1 Description of good or poor handwriting by respondents

To assess learners' poor handwriting characteristics, respondents were encouraged to describe what constitutes good or poor handwriting in some learners. It's about getting a diverse perspective by probing respondents' thoughts from different angles. All opinions about good or poor handwriting constitute important or prominent features of poor handwriting among the subjects studied. Table 1 illustrates a summary of the main themes gathered from respondents' perceptions of good or poor articles. For teachers, readability is a defining feature of good or poor handwriting. This is not the case for students studied who consider speed and sharpness to be essential functions of fluent handwriting. However, both respondents agreed that speed is an essential aspect of good writing.

Movements involving both body posture and the direction of letters and numbers are the least common among teachers and learners.

Table 1 Features of handwriting

Themes	Description	Disaggregated count by respondents	
		Teacher (34)	Learners (210)
Legibility problems	Size, letter shape, letter formation, pseudo letters, cursive letter, style, awkward lettering, invisible letters.	28	81
Neatness problems	Crowded, inconsistency in spacing, letter proportion, inappropriate placement, scribbles wavy lines, mix up, clumsiness, poor sequencing, irregular	16	198
Speed problems	Dragging, sluggish, slowly, unfinished words/numbers, gaps in notes, incongruence between spoken and writing process, longer pausing, request for repetition during dictation,	26	191
Movement problem	Poor muscular adjustment, poor control of fingers, wrist and hand, strange pencil grip, inappropriate hand position, tire quickly, zigzag lettering, incorrect letter directionality, inability to stay horizontal, too much or too little pressure on pencil	16	51

Source; Fieldwork 2023

The sections below provide detailed descriptions of the four main themes that make up respondents' perception of writing difficulty. In qualitative data analyses, verbatim and interpretation (in in vivo terms) is an important principle or pillar of the analytical process. In vivo terms are vivid images, including many local interpretative meanings (Jenny, 2013). These terms are hardly forgotten because they are dramatic or imposing. They bring great analytical power to the report because respondents use them with perfect flair and attach a deep meaning to them (Hermann, 2013). The sections below provide a clear and systematic route for the researcher to arrive at the four topics.

Legibility

Several variables constitute the fluency or readability of handwriting. It is about the size and shape of the letters or numbers. Respondents also mentioned pseudo-script, writing style, and cursive when discussing readability issues. “Some students write very small, very small letters or words or extremely large words. It makes their writing awkward or difficult to read,” commented one participant in the study. A representative of teachers' views lamented: “A large portion of those who are difficult to write have problems with proper word or word ratio. They make very small or very large letters. Their letters or numbers rarely follow basic conventional standards. One teacher involved in the study noted that “students with writing difficulties lack a sense of symmetry in numbering or writing. They alternate between very small and large letters. They lack uniformity in letter formation, which is related to inadequate automatic letter or word development.

When it comes to handwriting readability, several key similarities were noted among respondents. From the perspective and intellect of the interviewee, the writing process can be described as legible or illegible. Therefore, when respondents talked about legible handwriting, they had certain criteria or indicators in mind to verify their claim. Basically, they think about the shape and size of letters or numbers, ingenuity in letter/word writing, and adherence to the usual letter/word symbols.

Neatness

Sharpness as a subject elicited tremendous responses both converging and divergent. Ideally, when discussing a topic, participants use a variety of terms to describe it. There is spacing, letter proportions, scribbles, wavy lines, awkward styles or directions. Furthermore, there is a poor mix of correspondence and work, clutter and embarrassment. Finally, the participants pointed out inconsistent letters, irregular formatting, and inconsistent letter and word sequences.

The following response from a student in this study eloquently separates the topic of cleanliness. “Part of my classmates fills in books with phrases or numbers. They have difficulty creating spaces between sentences or words. For them, writing in a straight line or in a certain space is a real challenge. They create irregular and zigzag sentences while good writing has to be linear, hierarchical, and fluid. At this point, one participating reviewer agreed and weighed in on the clean topic. “I find it difficult to judge scripts that are poorly formatted, lacking in presentation and style. I'm referring to messy, clumsy, dirty, messy, rushed scenarios and jumbled sentences or letters. This type of writing causes nausea and boredom in the exam. At this point, the study turned to another teacher to document the reviewer's point of view, and he received this response. “Presentation is an important part of the writing process. Failure in this respect can manifest in improper arrangement of letters, poor linearity or hierarchy, inappropriate spacing, messy and clumsy work. At first glance, this may imply that the learner is lazy, but in reality, it may be a developmental disability. In this study, when discussing the topic of cleanliness, respondents seemed to draw a clear line between this topic and the one related to readability. However, the study suggests that it is appropriate to discuss these two entities differently. The main reason for doing this was clearly explained in chapter 4 of this study and revolved around the perceptual and visual perceptual functions of handwriting generation (Kandel et al. , 2017)).

Speed

Participants reported the number of words generated per minute and cited this as an important aspect of handwriting generation. However, the speed involves in generating a

few words per minute or the slow handwriting process. In fact, manifestations such as unusually slow writing speed, sluggish speed, lag when copying notes or performing writing work, slow hand movements took the place of participants. Similarly, respondents identified incomplete words or letters as well as large differences in speaking and writing skills as causes of speed problems. One learner representing the voices of the participating learners echoed the following views on the topic of speed. “Many of us can't handle the speed of handwritten notes. The situation is further aggravated when teachers resort to dictation of notes. This process creates a lot of stress, a lot of sweat, and frustration. One language teacher interviewed complained about the writing style. She notes that when taking oral notes, she observes that learners just look at blanks and other omitted words or phrases. Unless otherwise noted, she notes that her observations may indicate her inability to process speed notes. A teacher echoing the views of other subject teachers, talks about gaps between words, sentences, or a series of unfinished assignments. He added that if the teacher moves at a normal speed, it is necessary to test the students' writing skills.

Body Posture

Motion as a subject, although closely related to speed, sharpness, and readability, is worth discussing as another topic. Movement mainly consists of lettering direction or angle, sitting style, tire level, pencil grip, position of the pencil in the index finger and pressure on the writing material. Participants identified a tendency to fatigue very quickly and related to excessive pressure on the pencil, improper sitting posture, and poor grip. Elsewhere, participants indicated too much or too little inclination of the pencil or hand. However, the debate on the subject of body movement has revealed a narrow gap between previously discussed or contemporary topics. At the same time, the aspect of persistently sitting, holding a pen, pressing on the writing material convinced the author of the normative background to discuss it as a separate topic. The reasons why this objective hypothesis is accepted or disputed will be presented in this chapter. The next section presents an analysis of the participants' knowledge of the factors affecting handwriting development.

4.2 Knowledge on Factors Influencing Handwriting Development Process among Learners with Poor Handwriting

This goal was achieved through administering a guiding questionnaire and conducting in-depth interviews with teachers and principals. The data collected allows to significantly answering the question of what is the student's poor handwriting.

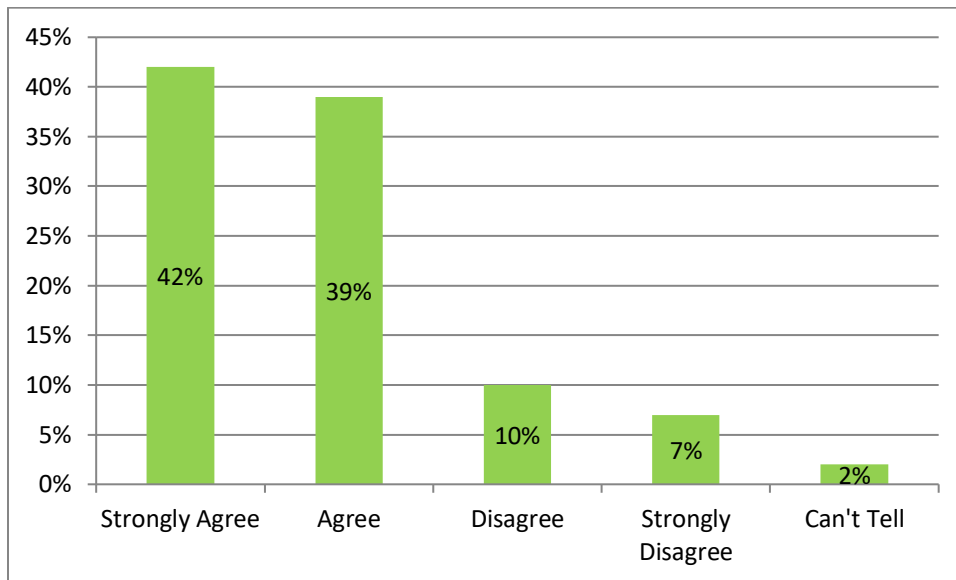
This question generates qualitative data that requires the formulation of assumptions, although this does not eliminate the need for one. The overall aim of this objective was to determine whether respondents considered writing development to be a purely mechanistic process or the interaction of several factors, namely cognitive factors, motor, cognitive and language (Bara & Gentaz, 2011). To do this, knowledge, behaviour, principles and practices are the most important factors influencing the learning process (Graham, 2000; Berninger, 2008).

4.2.1 Ability of the learner to develop good handwriting skills

Regarding the ability of learners to develop good writing, less than 50% of respondents completely disagree and disagree, more than 50% of respondents completely agree and agree that students write poorly. Therefore, people who have positive beliefs in the ability to develop good handwriting make up the majority. Smaller percentage has the opposite belief, as shown in Figure 1.

Figure 1 Perspectives on the ability to develop a good handwriting

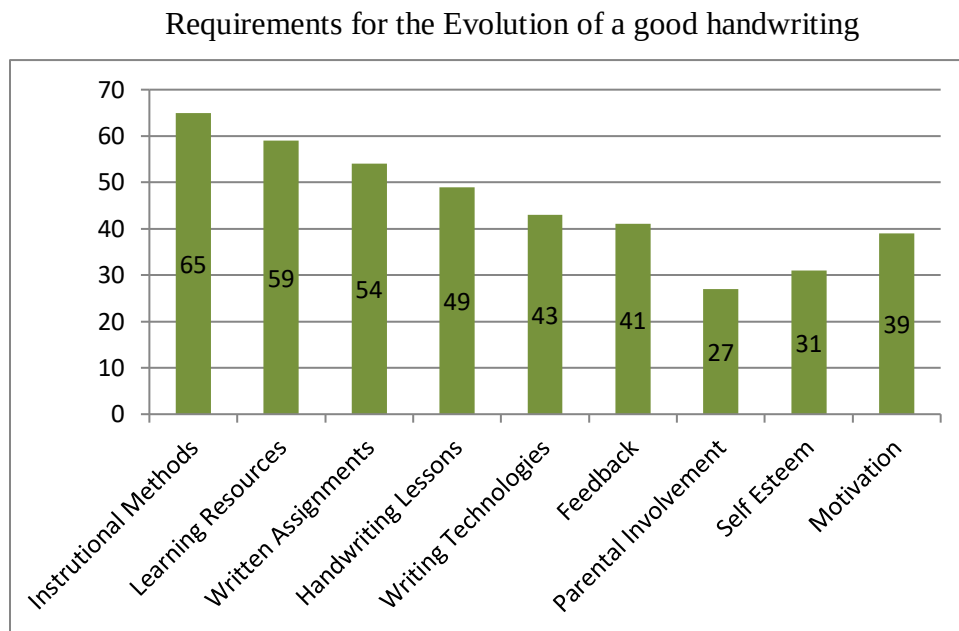
Perspectives on the Ability to Develop a Good Handwriting



4.2.2 Requirements for the evolution of a good handwriting

After determining that the majority of respondents had positive beliefs about achieving change in learners with poor handwriting, the researcher allowed them to understand their views on the development of literacy skills. Systematic steps are necessary to achieve good writing. The responses were varied and revolved around student-sensitive teaching methods, applying a variety of teaching methods, and providing a variety of teaching and learning resources. Participants also mentioned improving learners' self-esteem, access to convenient writing technologies, parental involvement and learner motivation, increasing literacy competitions and put feedback mechanism in the teaching and learning process. Figure 2 provides statistics on the handwriting development observed by respondents. More than 50% of respondents identified applying a variety of teaching and learning resources, while handwriting courses and handwriting competitions were 54% and 49%, respectively. Parent involvement and active learner self-esteem development; although required, lags behind at 27% and 31%, respectively.

Figure 2 Requirements for the evolution of a good handwriting



4.2.3 Perspectives on selected handwriting factors

Respondents were given a list of factors believed to influence handwriting development. Their views were recorded using a Likert scale. This tool helps to come up with the strongest or most profound beliefs about the phenomena studied. Therefore, Table 2 presents perspectives on handwriting development factors in order to capture respondents' strongest views on the factors listed. The responses reflect a high degree of agreement with the factors with the highest percentages in Figure 2. Basically, the teaching method emerged as the dominant factor, with the majority of respondents agreeing completely, followed by the learning material which was mostly in agreement. As a result, sitting or body posture and hand manipulation caused the least positive responses, with a small number of respondents completely agreeing on this. Respondents were also asked to express their views on motivation as a factor, learner health, age, gender, and parental involvement, as summarized in Table 2.

Table 2 Perspectives on factors for a good handwriting development

Factor	Strongly agree	Agree	Strongly-disagree	Disagree	Can't tell
Teaching- Methodology	63%	22%	6%	4%	5%
Learning Resources	49%	37%	5%	6%	3%
Sitting position/posture	7%	21%	31%	27%	14%
Movement of hands	12%	19%	44%	19%	6%
Motivation	45%	23%	14%	11%	7%
Health Status	42%	18%	15%	13%	11%
Learning Disability	37%	12%	35%	14%	2%
Background Language	29%	15%	46%	7%	3%
Age	22%	25%	28%	18%	7%
Gender	47%	29%	11%	9%	4%
Parental Involvement	15%	17%	45%	19%	4%

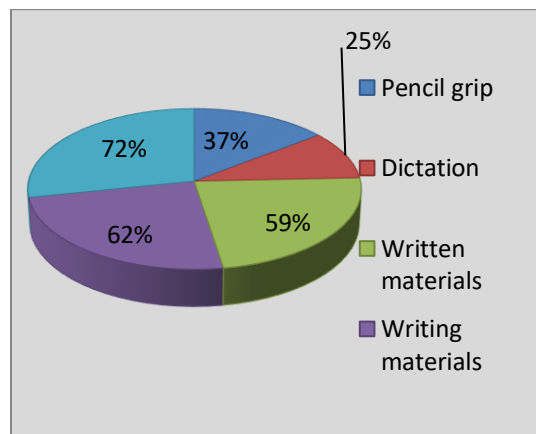
For the handwriting development perspective, the study investigated whether respondents considered handwriting development the product of a single factor or the interaction of multifaceted factors. Therefore, respondents must demonstrate knowledge of whether environmental factors, individual uniqueness, body coordination, health, and learning support are provided to learners. From the responses, it seems that learners, regardless of their unique personalities, can master good handwriting skills. They simply need appropriate teaching methods, in accordance with their weaknesses.

There is a tendency to regard the handwriting process as a purely mechanical process. However, respondents who seemed to think otherwise when sitting and being physically active received the fewest positive affirmations. Although researchers consider the health and learning difficulties of learners to be central to literacy development, respondents still emphasized that a well-organized teaching strategy can help problem solving.

4.2.4 Activities key to the developmental of a good handwriting

In Figure 3, respondents expressed a deep understanding that it is possible to write well in students with poor handwriting. They also demonstrate extensive knowledge of the factors that influence the development of handwriting. In this case, the study aimed to establish the specific activities carried out within their influence and that played an important role in the development of handwriting. In response, the participants offered training and modeling on lettering and letter formation, along with numerous literacy lessons, providing appropriate writing material (lined or lined paper), in addition providing a pencil with the allowed font/width. Training to hold a pen, write, and spell at home has emerged. Hands-on training on lettering received the most support, followed by literacy lessons. Other activities that scored above average were providing lined or lined writing materials and writing exercises. The least common are pencil grip training and a series of articles. Their response, summarized in Figure 3, sheds light on the process of handwriting as more of a cognitive phenomenon than a mechanical one. Kandel et al. (2013) and Bara and Gentaz (2011) essentially agree that handwriting is a cognitive phenomenon, although they hasten to add that other physical and cognitive abilities are equally important for literacy development of handwriting. However, the formation of letters and letters in freehand depends on cognitive, perceptual, and motor coordination. These functions must be coordinated and sequenced to achieve a smooth writing process.

Figure 3 Activities undertaken to improve handwriting among respondents



Source, Fieldwork, 2023

4.2.5 Ranking of effectiveness of handwriting development factors

The quantitative approach to research requires rigor and involves asking the same question from different angles (Kumar, 2013). In this case, respondents were asked to rate on a scale of 1 to 5 what they considered the most effective factor in handwriting development. Table 3 presents the ranking of the most effective factors in literacy development and the practice of educators predominating in first place with 21/36 possible points. Then there is the learning material with 9 accounts in the first place and the intrinsic motivation of the learners. With 6 counts, learning environment and age rank lowest in literacy development. Factor effectiveness ratings further affirm the central role that educators' practices, instructional materials and, to a considerable extent, learners' intrinsic motivation role in the development of handwriting. The learning environment data (the facilities in the learning environment) was barely enhanced during the development of handwriting. In short, the origin of fluent crosswords lies in the attitude of the teacher, as reflected in the pedagogical strategies he employs.

Table 3 Ranking of the most effective factors in handwriting development

Factor	Ranking Count					Total
Ranking scale 1-5	1	2	3	4	5	36
Teachers' Attitudes	21	9	4	1	1	36
Learning Materials	9	14	7	2	4	36
Learner's motivation	6	11	8	5	6	36
Gender	6	13	7	5	5	36
Age (Grade)	5	4	5	3	19	36
Learning environment	3	2	3	4	24	36

Source; Fieldwork, 2023

4.3 Measures Taken to Address Poor Handwriting among Students

How to address the challenge of poor handwriting in students, a question that allows the researcher to collect data on the third objective of this study? The questionnaire was aimed

at teachers and used in-depth interviews and observations to collect data. The hypothesis that interventions in the case of literacy difficulties are limited to literacy lessons is given. This approach generates qualitative data that drives thematic analysis through an inductive process. The handwriting problem will not go away unless deliberate steps are taken to solve the problem (Westwood, 2011).

4.3.1 Tools for assessing poor handwriting

The most important step in treating handwriting problems is to make an accurate diagnosis, which also requires the right tools to speed up the diagnostic process (Reid, et al., 2013).

To this end, the research seeks to know the participants' views on developing tools to isolate the problem or their accessibility with any useful conventions for isolating the problem subject. The data mainly provides qualitative tools for assessing handwriting problems. In fact, observing learners' writing behavior is the most notable tool used to identify writing difficulties in study subjects. In addition, there is a referral to specialists, a written test and last but not least an analysis of family and school history.

4.3.2 Learners physical behavior

Participants developed a checklist to assist them in the process of identifying handwriting problems. They mentioned late or not late writing work, unfinished words/letters or sentences, repetitive gaps in written text, frequent changes in sitting posture, and discomfort when handling documents certain writing material or style. Other causes are absences from class, stress, lack of concentration, and random peeking or snooping on neighbor's homework while taking notes.

4.3.3 Administering a written test

The participants pointed to the spelling, a written test, using both closed and open questions. Teachers have noted that forcing learners to do writing assignments can reveal a number of potential handwriting problems. By testing using oral, written or objective

questions or applying both methods, the speed aspect will be established. Testing also establishes letter-forming, visual or listening skills. One teacher involved had this to say about different aspects of speed: “Writing is a linear process that is completely consistent with breathing, mental processes, and necessary physical intervals. If there is a difference in heart rate then there is a serious problem. When compared with the writing speed of other learners and the sensitivity illustrated by the teacher, we need to rethink and begin the treatment process. All of this can be known by taking the time to examine the learner’s writing process.

4.3.4 Learners background

Participants emphasized the important role that prior academic experience and family background play in documenting resume writing difficulties. Past education includes past teaching methods, learning aids, preparing children to begin writing, assessment methods, learning resources, and last but not least, the environment study. In addition, family background requires assessment of language experience, motivation, exposure to books and reading culture as well as socioeconomic characteristics of the household as a whole. It is important to note that prior education and family background, as analytical tools, are closely related and complementary. They demonstrate the role of different support systems in solving handwriting problems.

4.3.5 Response to poor handwriting

The existence of tools to diagnose handwriting problems is an important step in the data collection process. This requires the researcher to investigate whether a specific remedy is then applied to solve the problem. The responses in Table 4 appropriately reflect the magnitude of the problem and the respondent's plan for remediation. According to the table, pedagogical and pedagogical approaches are the most applied mitigation and adaptation measures. The lowest rate was in teacher capacity development, with 15 teachers out of 34 participants.

Table 4 Response to poor handwriting

Theme	Description	Count	Disaggregated by counts	
			Teachers	Head teachers
Instructional materials	Size and thickness of pencil, thick chunky crayons, makers, paint brushes, sidewalk chalk, pavements, play dough, squirt toys, sponges, bread dough to knead, eraser, ruled or lined paper, word cards are provided.		24	2
Teaching methods	Modeling, coaching, demonstration, guided practices, adapted teachings, exposure to more words/letters, learners centered, illustrations/displaying written words, integrating lettering and wording, plenty of independent exercises, allowing learners to explore and discover, frequent daily handwriting lessons, explicit and direct instructional methods.		25	2
Evaluation methods	Use of feedbacks on letter formation, regular checking of notes/assignments, encourage learner self-evaluation, interplay between closed and open-ended questions, short and long quizzes, oral assignments		22	2
Capacity	Change in attitude/practices,		13	2

development	seminars, workshops, orientation, induction, refresher courses, benchmarking, motivational speakers, short term courses			
Self-belief and patience	Plenty of time, more time to exercise, assignment in accept that mistakes occurs, create supportive enabling environment, involvement in writing activities, use positive statements or comments		19	2

Source; Fieldwork, 2023

A detailed description of the five themes gathered from the respondents follows in the subsections below.

4.3.5.1 Instructional materials

The nature and type of written material emerged as a prominent theme during data analysis. In discussing this topic, respondents identified pencil size or thickness, the use of pencils, markers, and large, thick crayons as essential elements in lettering. Female respondents reported providing surfaces and spaces for learners to doodle, draw, and print at their will or convenience. In addition to materials that improve letter formation, respondents described materials that enhance motor function as an essential factor. The already mentioned word map is necessary for the handwriting development process.

4.3.5.2 Teaching methods

Teaching methods determine how much change and progress is achieved when engaging learners with learning difficulties (Graham, 2007). Participants in this study agreed to this algorithm. In the review of the proposal, statements such as paper modeling and pencil clamps as well as paper placement were used. There are also guided practice activities, responsive, learner-centred teaching, writing presentations, using letter formation feedback, and concurrent integration of letter/phrase instruction. Words and stand-alone exercises allow learners to explore different writing styles, with regular daily writing lessons that are clear and direct teaching methods.

4.3.5.3 Evaluation methods

Regarding the topic of teaching methods, assessment methods emerged as an important topic. Topic discussion revolves around regularly checking learners' handwriting, doing extra homework to promote handwriting development, assessing learners' writing ability, using positive feedback mechanisms and encourage learners to self-assess. In addition, respondents suggested an interaction between short and long writing exercises, speaking and writing exercises, and the application of closed and open questions as a means of adaptation and problem mitigation about writing.

4.3.5.4 Teachers capacity development

Participants agree with the existing literature that educators' practices, attitudes, and knowledge are critical in alleviating handwriting problems. Research milestones highlighting teacher competency development include, but are not limited to, attendance at seminars/workshops, refresher courses, benchmarking and coaching. Others involve mentoring with more experienced staff, the participation of a motivational speaker, and short courses on emerging topics in special education. "Teachers' skills and abilities are a solid foundation for helping struggling students.

4.3.5.5 Self-confidence and patience

Poor handwriting won't disappear as suddenly as raisins in the sun. This requires patience and trust in the learner's ability to respond to the interventions given. Participants were aware of this common sense argument and the following story demonstrated their deep beliefs on the topic of confidence and patience. They talk about giving learners enough time to copy and practice, spending more time on writing lessons, having regular daily lessons, and encouraging learners to spend time forming letters. Teachers and learners should appreciate the central role that good attitude and confidence play in developing writing fluency. Participants note that young people need to be encouraged to understand that handwriting problems or errors are common and are not limited to any individual. Specifically simple gestures such as suggesting and encouraging children to write thank you notes to friends and family members, creating a favorable environment for home practice, and encouraging development-stimulating activities muscle and body coordination. Activities that have a positive impact on self-esteem are

encouraged and include recognition, praise, joint activities, and involving learners in decision-making regarding solving problems they face.

Analyses and presentations on four themes highlighted the role of valuable and practical measures taken by participants in helping learners cope with literacy difficulties. The analysis shows that the teachers are not complacent, but take extraordinary measures to tackle the literacy problem. They say they have moved beyond the traditional approach to handwriting and consider measures that are both empirical and valid. It is for these reasons that the hypothesis that preceded the analysis was rejected and the study therefore concluded that there are many tiered approaches to handwriting problems in the region study. After analyzing and drawing conclusions about the previous goal, the curtain fell on the research problem that focused on the effect of poor handwriting on the academic performance of students with literacy difficulties. In the next section, data and discussion on the effect of handwriting difficulty on the student's academic achievement will be presented and analyzed.

4.4 Effects of Poor Handwriting on the Academic Performance

To answer this central question about this goal, quantitative data were collected using an instructional questionnaire, involving teachers and learners. Learners' undetectable and observable behaviors were examined to determine whether they affected or impaired the learner's ability to concentrate on the task at hand. The data is imperceptible indicating an impact on calmness or confidence during executive tasks. On the other hand, physical behaviors affect attendance or class attendance and grade point average or grade point average leads to pronounced effects of poor handwriting. The presentation of data on the impact of poor handwriting is forewarned by Shield's (2013) that how we see learners is what they become in the long run, or how learners perceive what they end up being will become, as described in the subsection below.

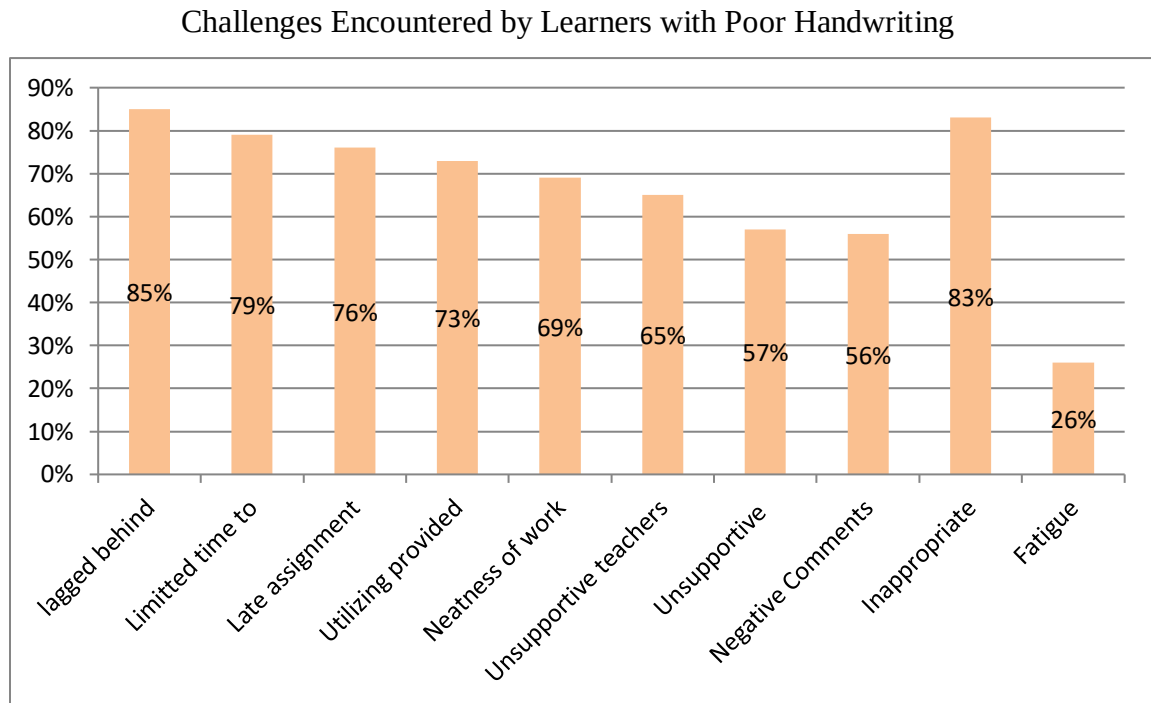
4.4.1 Experience of learners with poor handwriting

Usually, the process of writing letters puts learners under great pressure. The situation is much more complicated for learners with learning difficulties. According to the majority of respondents, these learners have a lot of trouble taking notes. Some learners felt pressured, abandoned, demoralized and annoyed, stressed, anxious and tired according to the average number of respondents. This experience is not good for the learning process. To learn effectively, learners need to calm down and assert control over their bodies and cognitive functions. When they become yielded to negative bodily functions, it means that they lack control over their body plan and easily succumb to external stimuli.

4.4.2 Challenges encountered by learners with poor handwriting

Those who learn to write poorly will face a lot of difficulties. These problems ranged from late taking notes, not presenting assignments, and taking longer to take notes or complete assignments to late submission of assignments, as noted by the majority of respondents. They also argue that the problem is not being able to write in the space provided or make proper use of the space provided as well as the cleanliness of their work according to the average number of respondents. Lack of teacher support, uncooperative classmates, negative teacher feedback, inappropriate teaching strategies are also listed. The list of problems is fatigue, limited teaching materials, and finally, limited time to complete tasks. The responses obtained showed that the problems of learners with poor handwriting stem mainly from inadequate teaching materials and teachers' practice methods, in short, teaching strategies and handwriting development problems.

Figure 4 Challenges encountered by learners with poor handwriting



4.4.3 Association between poor handwriting and learning behaviors

Respondents were asked to repeat their views on the impact of literacy difficulties on a certain aspect of learning. Of the identified aspects of schoolwork, homework completion seems to be affected the most. So, in general, some respondents strongly agree, while a few agree that the completion of the paper is due to poor writing. In addition to the completion of the work, the quality of the written text and the quantity of the text produced were rated above 75 % in terms of strong or partial agreement. The least common on the Likert scale are class attendance at 25% and sitting at 9%. A summary of this information can be found in Table 5.

Table 5 Problems encountered by learners with poor handwriting

Ranking of factors affected	Strongly Agree	Agree	Strongly Disagree	Disagree	Can't Tell
Assignment completion	55%	35%	11%	3%	1%
Quality of written texts	42%	41%	11%	3%	3%
Class attendance	37%	23%	29%	10%	1%
Sitting position	12%	11%	72%	5%	-
Writing speed	45%	23%	28%	3%	1%

Source; Fieldwork, 2023

4.4.4 Results of a poor handwriting

This section collects data on the impact of poor handwriting on learners' physical behavior at school and its overall impact on classroom activities. Indeed, if handwriting problems are not properly identified and expressed, the situation can lead to a more complex problem (Worthington, 2011). Low grades and little involvement in learning activities ranked first in more than 69% of the problems studied. Both responses were closely followed by absenteeism and average response frustration. Poor handwriting is not likely to cause school dropouts, as observed by more than 90% of respondents rated handwriting as low. It also does not lead to indiscipline, fatigue and isolation.

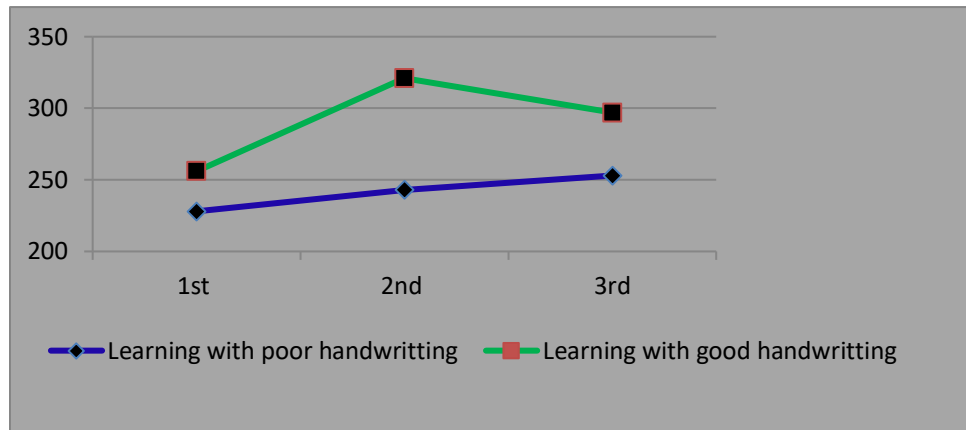
Table 6 Average score of learners with poor/good handwriting

Term	Mean Score Performance		
	1st Term	2nd Term	3rd
Learners with poor handwriting	228	243	253
Learners with good handwriting	256	321	297

Source; Fieldwork, 2023

Figure 5 provides information and a clear visual impression of mean attainment between 20 learners with poor handwriting and their counterparts 20 learners with good handwriting taking their four subject results.

Figure 5 Mean score performance for 4 subjects of 40 students for the year 2021/2022



	1 st	2 nd	3 rd
Learning with poor handwriting	228	243	253
Learning with good handwriting	256	321	297

For a clear and visual impression, the line graph shows how academically well-written students outperformed poorly-written students in term1, term 2, and average of both terms 2021/2022. From the redundancy table and line chart above, a performance difference was noted. Therefore, it is imperative for the study to statistically examine these differences. Since learner is a dichotomous variable (students with poor handwriting and learners with good handwriting) and academic performance with three variables (academic results in semesters 1, 2 and average), this leads to 2x3 factorial study design. Accordingly, an analysis of variance was conducted to test whether there is a statistically significant effect between learners who write poorly and learners who write well on their learning outcomes.

Learners with poor handwriting have great difficulty writing to communicate their ideas. They may have difficulty forming sentences, using punctuation in sentences, and using grammatically acceptable vocabulary and paragraph organization. It may be difficult for someone to read their handwriting because some of them write the letters upside down or reflect the handwriting. Most of them make a lot of typos in their writing. Faced with these problems, they still face poor academic performance, as cited by (Ogano, 2012).

4.5 Chapter summary

In this chapter, the research results of the problem are presented mainly to determine the influence of poor handwriting on students' academic performance. The study produced data that needed qualitative and quantitative analysis. Qualitative analysis requires periodic regrouping of assertions to arrive at major themes. In addition, quantitative analysis requires the use of descriptive statistics. The form or legibility of letters, speed of writing, neatness of writing, and body orientation emerge as the main signs of poor handwriting. Strategies used by teachers to address poor handwriting include spending more time on handwriting assignments, providing appropriate written materials, sensitive instructional materials, and exposure to multiple assignments. The effects of poor writing focus on late assignment, incomplete assignments, poor grades, truancy, absenteeism, isolation, and lack of engagement. Other aspects of learning that are affected are learner confidence and poor ability to manage learning problems.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents a summary of the research findings that have been presented based on the research objectives. It also includes conclusions reached and recommendations for future implementation as well as suggestions for further research in education. Handwriting has been described as the language used by the hand and a mirror of creativity, ability, and organization (Feder, 2007, Graham, 2000). Even so, handwritten lessons are slowly disappearing from formal curricula and are sometimes used as a special measure by teachers (Waring, 2007). Most learners with writing problems have learning disabilities (Reid et al., 2003).

This study was conducted to evaluate the effects of poor handwriting in Abala Secondary School (students' academic performance: summary is grade 10). Teacher and learner perspectives provided both qualitative and quantitative data on the problem under study. In this chapter, a discussion of the field results is made and consistent with the results of other studies.

Then, conclusions are drawn, areas for further research are identified, and finally, recommendations are made. Discussions are then followed, guided by the literature reviewed and general research questions intended to facilitate the data collection and analysis process.

5.1 Summary

Most teachers find that handwriting is not reflected in the school timetable as a subject. The lack of handwritten lessons in the subjects will always overwhelm students who are not academically well prepared. Some handwriting defects are attributed to the physical environment that greatly contributes to the development of handwriting. Teachers also report that students with poor handwriting often fail to complete their assignments. These learners also reported slower learning progress. Learners with poor handwriting will take notes at a slower pace/tempo. Finally, these students have low class attendance rates. Principals say teachers perceive students with poor handwriting as careless, lazy and slow. Poor handwriting contributes to poor grades on classroom tests. This proposal is supported by the majority of

teachers. Learners with good handwriting feel motivated to learn. On the other hand, re-evaluators reported disappointment in grading students with poor handwriting.

5.2 Conclusion

The study concluded that related factors influence learners with poor handwriting, such as the quality of handwriting tools that contribute to handwriting development and handwriting speed that affects handwriting performance. The acquisition of complete and poor writing skills involves spacing between letters and words.

The shape of letters and numbers is also said to be a difficulty affecting those who learn to write poorly. First, the consistency between overall test scores and teachers' poor writing is strongly correlated. In addition, students with good handwriting scored significantly higher on all assessment criteria. It was discovered that writing difficulties became a serious problem that prevented learners from expressing themselves accurately and clearly in written form. Therefore, appropriate adjustments are needed to help learners with poor handwriting.

5.3 Recommendations

Research shows that learners with handwriting difficulties face significant learning challenges. However, teachers, values and practices are at the heart of finding lasting solutions to problems. There are always sound policies based on applied research and a solid theoretical foundation of research. Research is only as good as the theory behind it. Therefore, the recommendations are made aimed at three units operating in the field of education and human development. The first level of recommendation is for teachers and school administrators. Policymakers and researchers are other stakeholders targeted by the recommendations.

5.3.1 Recommendations to teachers

Teachers are key players in the learning process, and helping learners acquire good transcription skills has a profound impact on their academic success. In order for teachers to effectively engage learners with handwritten challenges, the following recommendations are made:

1. It must be acknowledged that poor handwriting is an integral part of the learning process. Awareness of this will increase the level of acceptance and clarification of learners' concerns about the problem, leading to constructive and productive engagement in the search for lasting solutions.
2. Learners with handwriting difficulties should be actively interpreted and their situation should emphasize learning rather than restricting it.
3. Teachers need to consider how their own teaching practices may exacerbate handwriting problems and respond by adopting teaching methods that reflect learners' abilities and uniqueness.

5.3.2 Recommendations to researchers

Researchers have an important and vital role to play in finding sustainable and acceptable solutions to handwriting problems. They have a role to play;

1. Promote research on good methods and good pedagogy in writing development and strengthen mechanisms for information sharing and dissemination.
2. Develop local standard tools and assessment processes to enhance profiling and assist learners with literacy difficulties.
3. Expand research coverage and document the impact of cultural factors, differences in abilities, individual backgrounds, languages, technology levels, and resources on the handwriting process.

5.3.3 Recommendations to policy makers

The policy framework reflects the official position on the issue, communicates acceptable standards and practices, and provides a normative foundation for formal debate. Therefore, the following recommendations are made.

1. There is a need to institutionalize handwriting lessons in the national curriculum.
2. Increase incentives for literacy programs through formal handwriting competitions, educational material design, and staff development programs.

3. Find alternative mechanisms to assess learners with literacy problems in order to exploit the potential stagnation they may harbor.

5.4 Areas of further research on the study problem

1. How poor handwriting characteristics impact on lifelong learning, vocational development, and career choices.
2. How poor handwriting characteristics impact on performance across individual subjects in school.
3. Perception of learners on poor handwriting corrective measures.
4. Learners' perception of colleagues with poor handwriting.
5. The effectiveness of poor handwriting corrective measures

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APPENDIX I: QUESTIONNAIRE (To be filled by Teachers)

THE INFLUENCE OF POOR HANDWRITING IN ABALA SECONDARY SCHOOL STUDENT'S PERFORMANCE: GRADE 10 IN FOCUS

Dear Respondent,

This structured questionnaire aims to collect data to help assess poor handwriting and how it affects learner performance. You are asked to participate in the survey by completing a questionnaire to the best of your knowledge. This process will only take you about 8 minutes. The information you provide will be kept confidential and researched exclusively for academic purposes.

Please do not indicate your name in the questionnaire.

Thank you very much for taking your time to complete this survey. Your input will go a long way in enhancing academic performance on learners with poor handwriting.

PART A

PERSONAL DATA

Please tick or circle the most appropriate answer according to you in respect to the following:

1. Gender

(a) Male (b) Female

2. Length of time in the teaching profession (for teachers)

- a. Less than 1 year
- b. 1-5 years
- c. Above 5 years

PART B

The statements in numbers 1, 2 and 3, are based on Likert scaling of 5-1.

Where: 5 = Strongly Agree, 4 = Somehow Agree, 3 = Neutral, 2=

Somehow Disagree, 1= Strongly Disagree.

Please indicate your views on each of the following statements by ticking the choice that best represents your opinion.

1. Factors influencing the development of learner's handwriting

	Parameter	1	2	3	4	5
a	Teachers' uncaring attitude about the way students write could contribute to their poor handwriting					
b	Handwriting is not reflected in the school timetable by many teachers as a subject.					
c	Lack of proper supervision of student's work at early stage of schooling could contribute to their poor handwriting formation.					
d	Lack of trained teachers to teach handwriting could affect student's handwriting fluency.					
e	Many teachers do not see handwriting as a skill that students should be taught to enable them to do well					
f	Physical environment contributes to handwriting development					
g	Quality of writing tools e.g. pen, paper etc. contributes to handwriting development					

2. Signs/ symptoms learners are likely to have poor handwriting exhibit

	Parameter	1	2	3	4	5
a	They usually do not complete assignments					
b	They indicate slowed progress					
c	They do not take notes					
d	They have poor class attendance					

3. How does quality of handwriting impact an overall development of a learner?

	Parameter	1	2	3	4	5
a	Poor handwriting contributes to poor grades in class tests					
b	Pupils with good handwriting feel motivated to learn					
c	Examiner are frustrated in marking work with poor handwriting					
d	Teachers form negative attitude on pupils with poor handwriting					

4a. Are there any measures put in place to help learners with poor handwriting realize their full potential and overcome this challenge_____?

4b. If yes in 4a above, what are these measures?

4c. If NO, what measures do you think should be put in place?

THANK YOU

APPENDIX 2: QUESTIONNAIRE (To be filled by Learners)

THE INFLUENCE OF POOR HANDWRITING IN ABALA SECONDARY SCHOOL STUDENT'S PERFORMANCE: GRADE 10 IN FOCUS

Dear Respondent,

This structured questionnaire aims to collect data to help assess poor handwriting and how it affects learner performance. You are asked to participate in the survey by completing a questionnaire to the best of your knowledge. This process will only take you about 8 minutes. The information you provide will be kept confidential and researched exclusively for academic purposes.

Please do not indicate your name in the questionnaire.

Thank you very much for taking your time to complete this survey. Your input will go a long way in enhancing academic performance on learners with poor handwriting.

PART A

PERSONAL DATA

Please tick or circle the most appropriate answer according to you in respect to the following:

1. Gender

(a) Male (b) Female

PART B

The statements in numbers 1, 2 and 3, are based on Likert scaling of 5-1.

Where: 5 = Strongly Agree, 4 = Somehow Agree, 3 = Neutral, 2=

Somehow Disagree, 1= Strongly Disagree.

Please indicate your views on each of the following statements by ticking the choice that best represents your opinion.

1. Factors influencing the development of learner's handwriting

	Parameter	1	2	3	4	5
a	learners uncaring attitude about the way students write could contribute to their poor handwriting					
b	Handwriting is not reflected in the school timetable as a subject.					
c	Lack of proper supervision of student's work at early stage of schooling could contribute to their poor handwriting formation.					
d	Lack of trained teachers to teach handwriting could affect student's handwriting fluency.					
e	Many students do not see handwriting as a skill that students should be taught to enable them to do well					
f	Physical environment contributes to handwriting development					
g	Quality of writing tools e.g. pen, paper etc. contributes to handwriting development					

2. Signs/ symptoms learners are likely to have poor handwriting exhibit

	Parameter	1	2	3	4	5
a	They usually do not complete assignments					
b	They indicate slowed progress					
c	They do not take notes					
d	They have poor class attendance					

3. How does quality of handwriting impact an overall development of a learner?

	Parameter	1	2	3	4	5
a	Poor handwriting contributes to poor grades in class tests					
b	Pupils with good handwriting feel motivated to learn					
c	Examiner are frustrated in marking work with poor handwriting					
d	Teachers form negative attitude on pupils with poor handwriting					

THANK YOU

APPENDIX 3: INTERVIEW GUIDE

INTERVIEW FOR TEACHERS

1. How long have you worked in Abala secondary school_____?
2. Are there measures undertaken by you to improve learners' handwriting?

3. Are there measures undertaken by the school to improve learner's handwriting?
4. If yes in 2 and 3 above, what are these measures

5. Do you think you have a role to play in developing learners' handwriting?

6. Should handwriting be included on school timetable?

7. What is your opinion about learners who write poorly?

APPENDIX 4: OBSERVATION GUIDE/SCHEDULE

Kindly comment on the following and its impact on handwriting based on the observations made by teachers and learners

1. Legibility _____
2. Neatness _____
3. Speed _____
4. Controlling fingers _____
5. Quality of device used (pen/pencil) _____
6. Lighting of classroom _____
7. Size of class _____
8. Class attendance _____
9. Other interference with teaching and learning

