INSTITUTO SUPERIOR DE CIÊNCIAS DE EDUCAÇÃO

ISCED-HUÍLA

DEPARTAMENTO DE LETRAS MODERNAS

SECÇÃO DE INGLÊS

Exploring the Metacognitive Online Reading Strategies of Teacher Trainees of English at ISCED-HÚILA

Autor: Francisco Camati Chissuilo Makala.

Lubango

2022

INSTITUTO SUPERIOR DE CIÊNCIAS DE EDUCAÇÃO

ISCED-HUÍLA

DEPARTAMENTO DE LETRAS MODERNAS

SECÇÃO DE INGLÊS

Exploring the Metacognitive Online Reading Strategies of Teacher Trainees of English at ISCED-HÚILA

Trabalho Apresentado para a Obtenção do Grau de Licenciado em ENSINO DA *LÍNGUA INGLESA*

Autor: Francisco Camati Chissuilo Makala.

Tutor: Professor Doutor Joaquim Sapalo **Castilho Cacumba**.

Lubango

2022

DECLARAÇÃO DE AUTORIA

DECLARAÇÃO DE AUTORIA

Tenho consciência que a cópia ou o plágio, além de podem gerar responsabilidade civil, criminal e disciplinar, bem como reprovação ou a retirada do grau, constituem uma grave violação da ética académica.

Nesta base, eu *FRANCISCO CAMATI CHISSUILO MAKALA*, estudante finalista do Instituto Superior de Ciência de Educação da Huíla (ISCED-Huíla) do curso de *ENSINO DA LÍNGUA INGLESA*, do Departamento de *LETRAS MODERNAS*, declaro, por minha honra, ter elaborado este trabalho, só e somente com o suporte da bibliografia que tive acesso e dos conhecimentos adquiridos durante a minha carreira estudantil e profissional.

Lubango, 22 de Julho de 2022

O Autor

_____

Francisco Camati Chissuilo Makala

CONTENTS PAGE

CONTENTS PAGE

LIST OF GRAPHS AND TABLE

DEDICATION

DEDICATION

This Monograph is dedicated to my *parents, brothers* and *sisters* for everything they have done for me through all these years and for having pride to call me their family.

ACKNOWLEDGEMENTS

ACKNOWLEDGEMENTS

This monograph would not have been possible without the guidance and assistance of so many people who contributed, in different ways, to its successful fulfillment. Words cannot express my deepest gratitude to God, my supervisor, my tutors, my parents and classmates.

First of all, I would like to thanks *God the Father Almighty*, my Shepherd, for been involved in every aspect of my life and lead me, protect me, and supply to me the blessings and breakthroughs I need. May He continue to blessings me, keeping me, make his face shine upon me, and be gracious to me. For I will always worship him and waiting in his mercy.

I could not have undertaken this journey without my supervisor *Professor Doctor Joaquim Sapalo Castilho Cacumba*. I am extremely grateful for his marvelous supervision, guidance and encouragement. Sincere gratitude is extended to his generous participation in guiding, constructive feedback, kind support, and advice during all this process. Thank you very much Doctor for accepting my request for supervision, for been this incredible professional, role model and a source of inspiration to me.

Also, I am deeply indebted to all my tutors in English sector at ISCED-Huíla who through my formation instructed, guided, inspired and made the person and professional I am today. Special thanks to Professor *Délcio Tweuhanda, Carlos Afonso, Emanuel Piedoso, Sonia Roque, Matias Sipata* and *Felix Yamba*. I greatly appreciate you all for the knowledge and expertise shared with me.

Lastly, I would be remiss in not mentioning my parents, *Raimundo Macala* and *Adelina Junju Chissuilo*. I am really thankful for been their son, their belief in me has kept my spirit and motivation high during this process. Additional I would like to recognize all my classmates for their friendship, academic and emotional support.

ABSTRACT

ABSTRACT

This study explores the use of metacognitive online reading strategies by teacher trainees of English at ISCED-Huíla. The study investigates the use of metacognitive online reading strategies as well as examines the most and least employed metacognitive online reading strategies by teacher trainees of English at ISCED-HuíLA. The on-line survey of reading strategies (OSORS) was distributed to 21 3rd year teacher trainees of English at ISCED-HÚILA enrolled in the 2021-2022 academic year. The data were analyzed through quantitative descriptive statistics. The study reveals that, firstly, 3rd year teacher trainees of English at ISCED-Huíla employ metacognitive reading strategies with different range of frequency. Secondly, they utilize problem-solving and global reading strategies in a high frequency range and support reading strategies in a moderate frequency range. Thirdly, although problem solving strategies are mostly employed by 3rd year teacher trainees of English at ISCED-Húila, the highly applied metacognitive reading strategies are global reading strategies. Lastly, the majority of least employed metacognitive reading strategies by 3rd year teacher trainees of English at ISCED-Húila are support reading strategies. Based on the findings of the study, recommendations are suggested for further investigations and for policy-makers in EFL context.

Keywords: Online Reading, Metacognition, Metacognitive Online Reading Strategies.

RESUMO

RESUMO

Este estudo explora o uso de estratégias metacognitivas de leitura online por professores estagiários de inglês no ISCED-Huíla. O estudo investiga o uso de estratégias metacognitivas de leitura online, bem como examina as estratégias metacognitivas de leitura online mais e menos empregadas por professores estagiários de inglês no ISCED-HuíLA. O inquérito on-line de estratégias de leitura (OSORS) foi distribuído a 21 professores estagiários do 3º ano de inglês do ISCED-HÚILA matriculados no ano letivo 2021-2022. Os dados foram analisados por meio de estatística descritiva quantitativa. O estudo revela que, em primeiro lugar, os professores estagiários do 3º ano de Inglês do ISCED-Huíla empregam estratégias metacognitivas de leitura com diferentes amplitudes de frequência. Em segundo lugar, eles utilizam estratégias de resolução de problemas e estratégias globais de leitura em uma faixa de alta frequência e estratégias de leitura de apoio em uma faixa de frequência moderada. Em terceiro lugar, embora as estratégias de resolução de problemas sejam maioritariamente empregadas por professores estagiários do 3º ano de inglês no ISCED-Húila, as estratégias de leitura metacognitiva altamente aplicadas são estratégias globais de leitura. Por último, a maioria das estratégias metacognitivas de leitura menos utilizadas pelos professores estagiários do 3º ano de inglês no ISCED-Húila são estratégias de leitura de apoio. Com base nos resultados do estudo, são sugeridas recomendações para futuras investigações e para os formuladores de políticas no contexto da EFL.

Palavras-chave: Leitura Online, Metacognição, Estratégias Metacognitivas de Leitura Online.

INTRODUCTION

INTRODUCTION

The current study addresses the use of metacognitive online reading strategies by teacher trainees of English at ISCED-HÚILA. Reading is an important skill for language learners and metacognitive reading strategies are crucial for an effective reading in English as a second or foreign language. (Baker, 2005; Carrell, 1989; Mokhtari, & Reichard, 2002; Mokhtari & Sheorey, 2002). More challenges have been added for language learners with the internet, because reading online texts is not the same as reading printing texts. Although some of the reading strategies are transferrable from one environment to another, learners to successfully understand the written material on the internet need to learn additional strategies. (Anderson, 2003; Coiro & Dobler, 2007; Incecay, 2013).

In recent years, there has been an increasing amount of literature on metacognitive online reading strategies. These investigations generally concentrated on aspects as: investigating and representing reading strategies used by learners in the context of reading online in English as a foreign or second language; compare the use of reading strategies in online and in printed materials; and explore the influence of reading strategies used in online reading on reading comprehension (Taki, 2016). Yet, debate continues about the use of metacognitive online reading strategies, as results often vary depending on the contexts, participants and instruments employed to conduct these studies.

As a teacher trainee of English studying at ISCED-Huíla, during the four years of the curricular part, the researcher could notice that, despite the prevalence of online reading in the university and had a specific subject focus on academic reading in the second year, he and his classmates seemed not to employ metacognitive reading strategies efficiently while reading online materials. Consequently, they appear to encounter many difficulties to complete reading tasks when the sources of information were online. Thus the current research topic is worthy of attention and interest, due to the need to advance in the understanding of reading strategies employed while reading online by teacher trainees of English at ISCED-HÚILA.

The purpose of the current study is to explore the use of metacognitive online reading strategies by teacher trainees of English at ISCED-HÚILA. This research purpose led to the formulation of two research objectives:

- To investigate the use of Metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA;
- To examine the most and least employed metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA.

The research objectives arose the following research questions:

- What types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using?
- What are the most and least used metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA?

The data necessary to answer the aforementioned research questions were collected through the on-line survey of reading strategies (OSORS) designed by Anderson (2003) which was integrated in a research instrument called teacher trainees questionnaire which was distributed to 21 3rd year teacher trainees of English at ISCED-HÚILA enrolled in the 2021-2022 academic year. The data gathered from the respondents is analyzed through quantitative descriptive statistics.

In the context of this investigation, no research was found that focused on the use of metacognitive online reading strategies by teacher trainees of English at ISCED-Huíla. Despite of this fact, two studies conducted at ISCED-Huíla are worthy of mention, Cacumba (2014) and Sangongo (2020), because they inquired the use of reading strategies by teacher trainees of English at ISCED-Huíla in the recent years, therefore they were of a significant importance as reliable references to consult while carrying out this study. Cacumba (2014) proposed a framework for determining the academic reading needs of teacher trainees of English at *ISCED-Huíla*. The participants of the investigation were 45 first-year teacher trainees 33 males (72.1%) and 12 females (27.9%), and 5 teacher trainers. Two of the five research questions of the study (questions number two and three) were: “what reading strategies do teacher

trainees claim to use when reading an academic text?" and "what is the relationship between teacher trainees' academic reading proficiency and their strategy use?". To answer these questions an accuplacer test and the Survey of Reading Strategies (SORS), as a part of teacher trainee questionnaire structured in five sections, were distributed to the teacher trainees. The results revealed that, for the research question number two, the reading strategies that teacher trainees report to employ mostly are cognitive reading strategies, then support strategies and metacognitive strategies. For the research question three: There was a disagreement between reported use of strategy and their performance on the academic literacy test. Similarly, Sangongo (2020) inquired the reading strategies used by 4th year teacher trainees at ISCED-Húila to promote efficient comprehension. The major findings of the study were: firstly, 4th year teacher trainees employ diverse reading strategies to improve their comprehension problems; Secondly, due to inaccurate reading aim, absence of material and master of academic vocabulary, reading motivation, little reading strategies awareness and conventional schemata of the text to be read, 4th years teacher trainees of English at ISCED-Huíla experienced some problems to reach efficient reading comprehension; Thirdly, the use of reading strategies is related with efficient comprehension; Lastly, reading strategy should explicitly be taught to teacher trainees of English at ISCED-Huíla.

It is believed that the findings of this study can add to the understanding of how reading strategies are employed by foreign or second language learners in the context of reading online. Particularly, for the participants, this study may help them improving their use of metacognitive online reading strategies, for policy-makers, this study may give some suggestions on how to develop means to increase learners' use of metacognitive online reading strategies and for other researchers, this study may fill a gap on the research about metacognitive online reading strategies in the Angolan context, more specific to teacher trainees of English at ISCED-Huíla.

The current study has three main chapters. The first chapter reviews and summarizes relevant previous investigations on metacognitive online reading strategies. The

second chapter describes the research methodology employed to conduct this investigation. The third chapter analyze and discuss the main results presented in the methodology chapter, then contrast them with those reported in the relevant studies discussed in the literature review chapter. Then, based on the findings of the study, conclusions are drawn and recommendations are suggested.

.

CHAPTER ONE: LITERATURE REVIEW

CHAPTER ONE: LITERATURE REVIEW

1.0. INTRODUCTION

This chapter reviews and summarizes relevant investigations conducted on metacognitive online reading strategies. It is organized in five main sections. The first section defines key terms relevant to the investigation; the second section discusses about online reading practices and the connection between online reading and new literacies perspective; the third section focus on the constituent elements of metacognition and on how metacognition is associated to other concepts; The fourth section concentrates on metacognitive reading strategies; and the fifth section presents a summary of previous studies on metacognitive online reading strategies.

1.1. DEFINING TERMINOLOGY

This section attempts to provide definitions to the four key terms relevant to the investigation (online reading, metacognition, reading strategies and metacognitive reading strategies).

1.1.1. Online Reading

Coiro (2012) defined online reading as " read on the Internet, independently or with a partner, for information about self-selected or teacher/researcher-selected topics, and for purposes including acquiring knowledge, synthesizing information, or being entertained " (p.413). It is an operation of problem-based investigation that includes extra skills, strategies, dispositions, and social procedures that are essential as people utilize the internet to resolve problems and answer questions (Leu et al., 2004).

1.1.2. Metacognition

Flavell (1979) initially created the concept of Metacognition, in the tardy 1970s, to express “knowledge and cognition about cognitive phenomena” or more clearly “thinking about thinking” (p. 906). The employment of the concept, in succeeding metacognition researches, has remained to some extent attached to the earliest meaning assigned by Flavell. For instance, Cross and Paris (1988) define metacognition as “the knowledge and control children have over their own thinking

and learning activities" (p. 131). Similarly, Paris and Winograd (1990) refer to metacognition as "knowledge about cognitive states and abilities that can be shared among individuals while at the same time expanding the construct to include affective and motivational characteristics of thinking" (p. 15).

1.1.3. Reading Strategies

Oxford (2017) defined reading strategies as " teachable, dynamic thoughts and behaviors that learners consciously select and employ in specific contexts to improve their self-regulated, autonomous L2 reading development for effective task performance and long-term proficiency " (p. 272). Similarly, Richards and Schmidt (2010) refer to reading strategies as " ways of accessing the meanings of texts, which are employed flexibly (awareness and purpose) and selectively (intention) in the course of reading and which are often under the conscious control of the reader " (p.485). They reflect a reader's intention to address a problem or a specific goal while reading, and are potentially open to conscious reflection (Grabe & Stoller, 2013).

1.1.4. Metacognitive Reading Strategies

Anderson (2002) defines Metacognitive Reading strategies as "thinking processes applied to self-monitoring and self-regulating that the reader uses to choose among different reading strategies in various contexts and for various reading purposes" (p.4). Accordingly, Griffth and Ruan (2005) point out that metacognitive Reading Strategies are deliberate strategies applied for planning (setting goals, previewing, and activating background information, etc.), monitoring (selective attention, predicting, making inferences, interpreting ideas and integrating with personal experience, etc.) and evaluating (self-questioning, self-correcting and reflecting, etc.).

Having defined the key terminology used through this study, the discussion now looks at the issues related to online reading, Metacognition, metacognitive reading strategies and research on metacognitive online reading strategies.

1.2. ONLINE READING

The internet is changing the social practices of literacy and learning (Lankshear & Knobel, 2006) and rapidly turning into a significant modern reading environment (McVerry, 2013). Furthermore, no literacy device has disseminated quicker and faster than the internet with an exponential growth (Lankshear & Knobel, 2006; Coiro, Knobel, Lankshear, & Leu, 2008). The internet is now-a-day a leading source of complex information at high levels (Lyman & Varian, 2003). This section addresses, first the online reading practices and secondly discus the connection between online reading and new literacies perspective.

1.2.1. Online Reading Practices

Researchers have identified five practices that take place during the online reading operation: identifying important questions; locating information; critically evaluating information; synthesizing information; and communicating information (Leu et al., 2007).

The first practice, identifying important questions, is the foundation of other operational practices of online reading. Leu et al. (2007) stated that online reading comprehension usually initiate with a question to answer or problem to solve and it may be a crucial source to make distinction between online and offline reading.

The second practice, locating information, is viewed as a crucial “gatekeeper” skill that greatly decides the efficacy of online reading comprehension because the internet possesses a huge quantity of information and demands novel online reading comprehension skill and strategies to localize relevant information (Henry, 2006). Leu et al, (2007) reported four major categories of reading skills related with the location of information on the Internet: 1) knowing how to use a search engine to locate information; 2) reading search engine results; 3) reading a Web page to locate information that might be present there; and 4) making an inference about where information is located by selecting a link at one site to find information at another site.

Thirdly, critically evaluate information plays a central role in online reading comprehension. Coiro (2007) has found five different categories of evaluation that occur during online reading comprehension: 1) Evaluating understanding; 2) Evaluating relevancy; 3) Evaluating accuracy; 4) Evaluating reliability; 5) Evaluating bias. Although all these also occur in offline settings Some aspects of online evaluation, however, demands different skills and strategies because of the new ways in which information is presented on the Internet.

Fourthly, synthesize information within and across diverse source is a must for efficient online reading (Cho, 2011). In other words, readers have to take into consideration how distinctive pieces of one text or the components of several texts oppose or acquaint one another (Cho, 2011; Castek & Coiro, 2010). Leu at al. (2007) reported two means that online readers synthesize texts as they search answers to questions and resolve problems. Firstly, they synthesize the significance of the texts; The second way is dynamically build the texts that they read through the decisions they make, as they search answers to the questions that guide their online reading, about which links to follow, which sites to go, whose massage to read and whom to communicate with.

The last practice of online reading is communicating information. Communicating is an indistinguishable element of online reading since the internet provides a vast range of online devise to search and share ideas (Leu, McVerry, O´Byrne, Kiili, Zawilinski, & Everett-Cacopardo, 2011).

1.2.2. Online Reading and New Literacies Perspective

Researchers related Online Reading to a broader theory of New Literacies (Leu, Kinzer, Coiro, & Cammack, 2004; Coiro, Knobel, Lankshear, & Leu, 2008). New information and communication technologies demands new literacies, i.e. skills, strategies, and social practices (Coiro et al., 2008). The meaning of New Literacies varies from different authors, some view it as social practices (Street, 1999) others as new Discourses (Gee, 2003) that appear with new technologies to modern cultural or semiotic settings made feasible by new technologies (Kress, 2004). Moreover, others

perceive literacy as distinguish into multiliteracies (New London Group, 2000) or multimodal contexts (Hull & Schultz, 2002), or recognize new literacies as a concept that gather many of these positions (Lankshear & Knobel, 2003).

Although different authors attribute different significances to New Literacies, four common principles currently appear to define New Literacies (Leu at al., 2007; Coiro et al, 2008): (1) ICTs require us to bring new potentials to their effective use; (2) new literacies are central to full civic, economic, and personal participation in a globalized community; (3) new literacies are deictic and change regularly, it means that, they frequently transform as leading technologies evolve; and (4) new literacies are multiple, multimodal, and multifaceted.

1.3. METACOGNITION

On the foundation of educational psychology, metacognition permits ones to organize goals, plan their actions, and supervise their improvement (Hassanpour et al., 2017). Also, it emerges in crucial but beneficial consideration and assessment of reasoning that may turn in forming precise differences in how one understands (Anderson, 2002). This section discus the constituent elements of metacognition, and the relationship between metacognition with motivation, metamemory and critical thinking.

1.3.1. Constituent Elements of Metacognition

A number of studies have identified two elements that compose Metacognition, Knowledge about Cognition and Monitoring of Cognition (Cross & Paris, 1988; Flavell, 1979; Paris & Winograd, 1990; Schraw & Moshman, 1995; Schraw et al., 2006).

For Flavell (1979) the first element, Knowledge about cognition is comprised by three categories of variables. Firstly, the person variable that is subdivide into confidence about intra-individual distinctions, inter-individual distinctions, and universals of cognition; Secondly, the task variable that has two subcategories, one concerning the data accessible to you during a cognitive operation, and another involving metacognitive knowledge about task request or purpose; Lastly, the strategy variable that comprises a great deal of knowledge concerning in determining the effectiveness

of strategies to accomplish certain sub objectives and objectives in certain cognitive tasks.

Subsequent studies of metacognition have identified three categories of knowledge that comprised the knowledge about cognition: declarative knowledge, procedural knowledge, and conditional knowledge (Jacobs & Paris, 1987; Paris, Lipson, & Wixson, 1983; McCormick, 2003; Kuhn & Dean, 2004; Schraw et al., 2006). McCormick (2003) refers to declarative knowledge as “knowledge that a person may have about his or her abilities and about the salient learning characteristics that affect cognitive processing” (p.80). Also, Schraw et al. (2006) characterize declarative knowledge as the knowledge oneself has as a learner and the factors that might affect one’s performance. McCormick (2003) defined procedural knowledge as “knowledge of how to execute procedures such as learning strategies” (80). According to Schraw et al. (2006) conditional knowledge is “Knowledge about why and when to use a given strategy”.

The second element that comprise Metacognition is Monitoring of Cognition. Researchers of metacognition have pointed out practices that constitute monitoring of cognition, such as planning, monitoring or regulating, and evaluating (Flavell, 1979; Cross & Paris, 1988; Paris & Winograd, 1990; Schraw et al., 2006). Flavell (1979) addressed the issue of monitoring of cognition when discussing about cognitive experience, which he refers to as any deliberate cognitive or affective practices that go along with and refer to any mental operation. Additionally, Schraw et al., 2006 refer to planning as the recognition and choice of suitable strategies and distribution of resources, monitoring or regulating as Attending to and being aware of comprehension and task performance and evaluating as Assessing the processes and products of one’s learning, and revisiting and revising learning goals.

1.3.2. Relationship of Metacognition to Other Concepts

The concept of Metacognition has been associated to a number of other concepts by researchers in cognitive psychology. For instance, metacognition is related to terms such as motivation, metamemory and critical thinking.

Several researchers highlight the link between metacognition and motivation (Cross & Paris, 1988; Paris & Winograd, 1990; Schraw et al., 2006; Whitebread et al., 2009). Broussard and Garrison define motivation as “the attribute that moves us to do or not to do something” (2004, p. 106). Similarly, Gottfried (1990) characterized academic motivation as the gratification of school learning represented by a skillful attitude; inquisitiveness; perseverance; and the learning of demanding, hard, and new assignment. As relating to metacognition, motivation is viewed as “beliefs and attitudes that affect the use and development of cognitive and metacognitive skills” (Schraw et al., 2006, p. 112). Cross and Paris (1988) noticed that metacognition entails motivational and affective conditions. In a similar way, Martinez (2006) demonstrates that metacognition includes the control of affective conditions, and that metacognitive strategies can enhance motivation and perseverance when dealing with demanding assignment.

Metamemory is also nearly associated to metacognition, specially to cognitive knowledge. Metamemory is defined as “knowledge about memory processes and contents” and includes two elements that proximately reflect the declarative and procedural types of cognitive knowledge (Schneider & Lockl, 2002, p. 5). According to Schneider and Lockl (2002), many developmental researches of metacognition have in fact concentrated on the concept of metamemory, specially its procedural dimension.

Lastly, critical thinking is also connected to metacognition. Although definitions of critical thinking largely differ, there are similar components of most definitions, such as the following elements skills: examining claims (Halpern, 1998; Paul, 1992); inferring applying inductive or deductive thinking (Ennis, 1985; Willingham, 2007; Paul, 1992); make judgment or evaluation (Case, 2005; Ennis, 1985, Facione, 1990; Lipman); solving problems or making decisions (Ennis, 1985; Halpern, 1998; Willingham, 2007). Apart from to abilities or skill, dispositions also are included as components of critical thinking. Dispositions can be viewed as habits of mind or

attitudes, entailing curiosity and a propensity to seek reason (Bailin et al., 1999; Halpern, 1998; Paul, 1992).

Some metacognitive research sustain that critical thinking is subsumed under metacognition (Flavell, 1979; Martinez, 2006). Flavell (1979) claims that critical thinking should be included in the definition of metacognition. Similarly, Martinez (2006) characterized critical thinking as evaluation of ideas for their quality, specially make judgment of whether or not they make sense and views it as one of three categories of metacognition, along with problem solving and metamemory. However, others view both metacognition and critical thinking as being subsumed under self-regulated learning (Schraw et al., 2006). According to Schraw et al. (2006) self-regulated learning is “our ability to understand and control our learning environments” (p. 111), it involves metacognition, motivation, and cognition, which includes critical thinking.

1.4. METACOGNITIVE READING STRATEGIES

Anderson (2002) argues that in comparison to other reading strategies, metacognitive strategies perform a more essential function. He further deduced that the speed of language acquisition will grow quickly when a learner advances to the comprehension of how to adjust his or her learning by utilizing strategies. This section concentrates on the classification of language learning strategies and discusses about the three categories of metacognitive reading strategies (global, problem-solving and supporting reading strategies).

1.4.1. Classification of Language Learning Strategies

There are various classifications of language learning strategies, one of them proposed by Oxford (1990) classified language learning strategies into two main groups, direct and indirect strategies.

Direct strategies are those that directly involve or deal with the target language and require mental processing of the language. This class is subdivided into Memory, cognitive and compensation strategies. Memory or mnemonics strategies reflect

principles such as arranging things in order, making association, and reviewing. These principles all involve meaning. Memory strategies fall into four sets of strategies: creating mental linkages, applying images and sounds, reviewing well, and employing actions; Cognitive strategies are essential in learning a new language, although they vary a lot, they are unified by a common function: manipulation or transformation of the target language by the learner. Four sets of cognitive strategies exist: practicing, receiving and sending messages, analyzing and reasoning, and creating structure for input and output. Compensation Strategies enable learners to use the new language for either comprehension or production despite limitations in knowledge. They are intended to make up for an inadequate repertoire of grammar and, especially, of vocabulary.

Indirect strategies support and manage language learning without directly involving the target language. They are divided into metacognitive, affective, and social strategies. Metacognitive Strategies are actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process. Metacognitive strategies include three strategy sets: Centering your learning, Arranging and Planning your Learning, and Evaluating your learning. Affective strategies enable learners to gain control over their emotions, attitudes, motivations, and values. Three main sets of affective strategies exist: lowering your anxiety, encouraging yourself, and taking your emotional temperature. Social strategies help learners to interact with other people to improve language learning. Three are sets of social strategies: Asking questions; Cooperating with others; Empathizing with others.

1.4.2. Types of Metacognitive Reading Strategies

Mokhtari and Reichard (2002) created a new self-report measure, the Metacognitive Awareness of Reading Strategies Inventory (MARSI), which was designed to assess 6th- through 12th-grade students' awareness and perceived use of reading strategies while reading academic or school-related materials. The inventory consisted of three

group of reading strategies: Global, Problem-solving and Supporting Reading Strategies.

The first group, Global Reading Strategies, contained 13 elements and described a number of reading strategies aimed for a broad interpretation of text. These strategies can be viewed as generalized, deliberate reading strategies focused at placing the stage for the reading act (e.g., setting purpose for reading, making predictions).

The second group, Problem-Solving Strategies, comprised 8 elements that turned up to be directed around strategies for work out complications when text turns demanding to read. These strategies supply readers with action plans that permit them to guide through text skilfully.

The third group, Support Reading Strategies, consisted of 9 items and mainly involved the utilization of outside reference materials, taking notes, and other practical strategies that might be described as functional or support strategies.

Mokhtari and Sheorey (2002) developed an instrument, the Survey of Reading Strategies (SORS), which had the purpose to measure adolescent and adult ESL students´ metacognitive awareness and perceived use of reading strategies while reading academic materials such as textbooks. The SORS was adapted from the MARSI developed by Mokhtari and Reichard (2002) which was originally designed for students who are native English speakers, but turned to be inappropriate for use with non-native speakers.

The SORS consisted of the same group of reading strategies of the MARSI: global, problem-solving and support reading strategies. However, Mokhtari and Sheorey (2002) made three important revisions that differ the SORS from the MARSI. First, they refined the wording of several items to make them easily comprehensible to ESL students. Then, they added two key strategies not used by L1 readers but often invoked by L2 learners (“translating from one language to another” and” thinking in the native and target language while reading”). Lastly, they removed two items (“summarizing information read” and “discussing what one reads with others”) which

they thought do not particularly constitute reading strategies as conceived in the current research literature on metacognition and reading.

1.5. RESEARCH ON METACOGNITIVE ONLINE READING STRATEGIES

In recent years, there has been an increasing amount of literature on metacognitive online reading strategies. Taki (2016) pointed out that these researches generally concentrated on aspects as: investigating and representing reading strategies used by learners in the context of reading online in English as a foreign or second language; compare the use of reading strategies in online and in printed materials; and explore the influence of reading strategies used in online reading on reading comprehension. This section reviews some studies on Metacognitive Online Reading Strategies that address the issues of the use of metacognitive online reading strategies and the most and least employed metacognitive online reading strategies.

1.5.1. The use of Metacognitive Online Reading Strategies

The investigation carried out by Anderson (2003) is the first research on online strategy employed by L2 readers. He made a comparison of ESL and EFL students' distinct utilization of metacognitive online reading strategies and invented the Online Survey of Reading Strategies (OSORS) inspired on the Survey of Reading Strategies (SORS) by Mokhtari and Sheorey (2002). Thirty-eight elements compose the OSORS, they rate the metacognitive online reading strategies. The thirty-eight elements are grouped into three major classes: global reading strategies (eighteen elements), problem solving strategies (eleven elements), and support strategies (nine elements). As result, the research concluded that there was no distinction in the employment of global and support reading strategies between the two groups.

An investigation conducted by Huang et al. (2009) explored the EFL learners' online reading strategies and the impact of strategy utilization on comprehension. A Web-based reading application, English Reading Online, was invented for data collection. Thirty applied English majors were the participants of this study, that were divided into a high and a low group establish on their proficiency levels. They were required to

read four genuine online texts; two were suitable to the students' proficiency level, and two were more demanding. As result on general, the employment of global strategies greatly influenced to better comprehension, particularly for students with low proficiency level.

A research with the aim to compare the employment of reading strategies by first and fourth year student teachers was carried out with 123 first year student teachers and 97 fourth year student teachers studying at an Omani state university (Amer, Barwani & Ibrahim, 2010). Findings showed that there is statistically important distinction between two groups concerning the employment of global strategies. The authors claimed that this finding is in agreement with other research due to the fact that more developed learners use more global reading strategies in comparison to less developed learners.

Incecay (2013) investigated the Metacognitive online reading strategies employed by EFL students. The participants of this study were thirty preliminary curriculum students registered in the ELT division, the research instruments for data collection were the Online Survey of Reading Strategies (OSRS), think-aloud protocols and post-reading interview. The findings of this research showed that an extensive range of metacognitive strategies were reported by the students who participated in this study when reading online academic texts. However, the limitation of the study was that it needed to be replicated with learners of lower proficiency levels. Second, the number of participants were small which did not allow for generalization to a greater population.

Ostovar-Namaghi and Noghabi (2014) compared the observable employment of the metacognitive reading strategies by Iranian Master of Science students for hypertext and printed academic material. The participants of the study were Fifty-four MSc students of Gonabad University of Medical Sciences in Iran, and they were studying Emergency Nursing, Surgical Nursing and Health Education. They completed two questionnaires to answer the research questions of the study: The Survey of Reading Strategies (SORS) (Sheorey and Mokhtari, 2001) and the Online Survey of Reading

Strategies (OSORS) (Amer, 2010). The result reveled that there is not a significant difference in the total number of strategies used and all the students were moderate users of reading strategies except in global strategies for online text that found students as high strategy users. However, the subjects' level of proficiency in English selected for this research and the numbers of them were the main reasons that made the authors cautious about the generalizability of the findings.

Zarrabi (2015) carried out a mixed-method research to explore the metacognitive online reading strategies applied by greatly proficient non-native English-speaking graduate students of Translation. The Online Survey of Reading Strategies (OSORS) was administered to forty-six students to gathered quantitative data, and to acquired qualitative data, six volunteers who individually read a TOEFL practice passage reported what they thought as they read the passage in a think-aloud sessions. The quantitative findings showed that most of the OSORS strategies in the three categories or Global strategies, Problem-solving strategies, and Support strategies were employed by the students and reading is valued by the participants as part of their career, and commented the relationship between the contents of the passage and the real world.

Ahmadian and Pasand (2017) explored Iranian EFL learners' online reading metacognitive strategy utilization and its connection to their self-efficacy in reading comprehension. It further investigated the impact of gender in this respect. the Online Survey of Reading Strategies (OSORS) and reading self-efficacy questionnaire were employed as research instruments and distributed to sixty-three similar sophomore EFL learners. The findings showed a substantially definite connection between the learners' observable employment of metacognitive online reading strategies and their self-efficacy in reading comprehension.

Marboot, Roohani and Mirzaei (2020) carried out an explanatory sequential mixed-methods study with the purpose to classify Iranian EFL students' metacognitive online reading strategies and CT skills, and to inquire the probable connection between Iranian EFL students' metacognitive online reading strategies in academic texts with

their CT skills. The participants of the research were 80 Iranian EFL university students from shahrekord University nonrandomly selected, they answered to the the Pookcharoen's (2009) Online Survey of Reading Strategies and Facione, Blohm, and Giancarlo's (2002) California Critical Thinking Skills Test. In the consolidation, ten Iranian EFL University students were chosen to perform think-aloud online reading activities to examine the metacognitive online reading strategy employment. A definite and substantial association between metacognitive online reading strategy utilization and CT skills was showed by Pearson correlations, however is was minor.

1.5.2. The most and least employed metacognitive Online Reading Strategies

The study conducted by Huang et al. (2009) revealed that the utilization of support strategies predominated the strategy employment and added to most of the comprehension profits, however, the growth in scores on main ideas and details when the students were reading more demanding texts were not efficiently forecasted by a unique dependence on support strategies.

Ramli, Darus and Bakar (2011) attempted to investigate metacognitive online reading strategies employment by 15 college ESL learners. The OSORS was administered to the participants to examine the most, least, and overall employed metacognitive online reading strategies applied by adult ESL students. The conclusion was that learners mostly employed global reading strategies.

Incecay (2013) reported that the most regularly employed strategies appeared to be: utilizing reference materials (i.e. online dictionaries), scrolling through the text, rereading for better understanding, guessing what the content is about and paying closer attention to reading. Furthermore, the students employed many of the strategies they stated in the survey while they were reading online texts.

Chen (2015) inquired the employment of metacognitive online reading strategies. The participants of this research were ninety-four Taiwanese undergraduate and graduate EFL students. The OSORS was distributed to the students and the findings showed that the students applied global strategies most, such as using the context to make the meaning clear or exploiting graphs, tables, and figures successfully to

comprehend the text etc. The author argued that her study was in consistency with the previous studies that high level students utilize more global reading strategies when they read online than low learners do. It can be said that Amer et al. (2010)'s study and this study revealed similar results.

Jusoh and Abdullah (2015) carried out a study with 102 college students studying at two different departments: Faculty of Languages and Communication and Faculty of Information Technology. The level language proficiency of the students was divided into two in the study: 50 participants are high level proficiency learners and 52 of them low level proficiency learners. The OSORS was administered to the participants to investigate their usage of online reading strategies. The findings showed that despite of the department, all of the learners employ online reading strategies. Moreover, it was also investigated that problem solving strategies are the mostly used ones and support strategies are the least used ones, which shows similarity with other studies

Zarrabi (2015) reported that Problem-solving strategies were the most applied and support strategies the least. The qualitative data interpretation showed that the participants applied mostly the strategies that were significant to the reading activities. Furthermore, they gave preference to concentrating and keeping a stable reading speed above other strategies, and gather associated strategies to comprehend demanding text. Strategies such as slowing the speed of reading, rereading, reading aloud, and guessing meanings were initiated together. Data also communicated that students chose on utilize a variety of computer skills determined by their reading necessities, enrolling in a similar metacognitive operation to their reading.

The Results of the research carried out by Ahmadian and Pasand (2017) indicated that problem-solving online metacognitive reading strategies are most frequently used by the learners, while support strategies are used least frequently. Moreover, the investigation found out that global reading strategies were more employed by female, whereas males saw themselves as more self-efficacious in reading online material.

The investigation conducted by Darwish (2017) showed that the EFL students in this study used Problem Solving strategies more than the other two categories when reading online. The researcher concluded that there is a necessity to raise awareness among students and teachers about metacognitive strategy use when reading online because it can improve reading comprehension and allow learners to obtain the benefits of being connected to the limitless knowledge possibilities the internet can provide.

Öztürki (2018) administered The Online Survey of Reading Strategies (OSORS) to 147 first year trainee teachers of English to investigate their employment of metacognitive online reading strategies. The findings showed that trainee teachers mostly utilize problem solving reading strategies and support and global reading strategies were the least employed by the learners.

The descriptive statistics of the research conducted by Marboot, Roohani and Mirzaei (2020) showed that the EFL university learners largely chose to utilize problem-solving strategies most, next diverse global and support reading strategies respectively. Further, inductive and judgment t(sub)skills of CT were employed more by university learners. Moreover, the findings of the think-aloud offered data to confirm the quantitative findings, supporting many problem-solving, global, and support strategy employment in online academic reading.

Yaghi (2021) carried out a research that aimed at investigating the effect of metacognitive online reading strategies on online reading dispositions. To accomplish this purpose, the mixed method was employed and questionnaires and semi-structured interviews were utilized. AMOS software was used to key Students' answers. The statistical interpretation has revealed that learners prefer to employ support strategies to handle the difficulties they may find when they enroll with online texts. Also, the most regularly reported disposition by learners through their answers to the questionnaires was reflection. Moreover, the findings supported the effect of metacognitive online reading strategies on online reading dispositions.

To sum up, this chapter reviewed the relevant literature related to metacognitive online reading strategies. It was comprised into five sections. key terminologies were defined in the first section. Then online reading practices and the relation between online reading and new literacies perspective were addressed in the second section. The third section focused on the elements which comprised metacognition and the connection between metacognition with other concepts. The fourth section discussed issues related to metacognitive reading strategies. Lastly, previous researches on metacognitive online reading strategies were reported. The next chapter will draw attention to the research methodology utilized to carry out the study.

CHAPTER TWO: RESEARCH METHODOLOGY

CHAPTER TWO: RESEARCH METHODOLOGY

2.0. INTRODUCTION

This chapter describes the research methodology employed to conduct this investigation. It has four section, the first section addresses the main methodological aspects considered through this investigation, the second section presents the research findings, the third section looks at the ethical issues taken into account in carrying out the study and the last section discusses the delimitations and limitations of the current study.

2.1. METHODOLOGY

Evans et al. (2014) describe Methodology as " the branch of knowledge that deals with method and its application in a particular field of study" (p.88). It is the conjectural framework or paradigm in which the researcher operates, the position he or she takes and the claim that is constructed in the text justifying these assumptions, procedures or theoretical frameworks as well as the selection of research questions or hypotheses. A clarification about the reasons the research method(s) under debate have been selected is developed by the methodology (Paltridge & Starfield, 2007). Therefore, this section aims to provide a description and justification of the research context, population and sampling, type of research, research design, research instrument, data collection procedures, data analysis procedures adopted to carry out this investigation.

2.1.1. Research Context

This research was carried out at Instituto *Superior de Ciências da Educação ISCED-Huíla*, a higher teacher education institution located in Lubango, in Huíla province, in the south of Angola. The ISCED-Huíla has the purpose to develop, through the formation, support, dissemination and spreading of scientific investigation in sciences of education, teaching practices, scientific study and service supply to the society (Assembleia Nacional, 2012, as cited in Cacumba, 2014).

Historically, the ISCED-Huíla was formed within the *Universidade de Angola* after the closure of the *Faculdade de Letras* (Conselho de Ministros, 1980, as cited in Cacumba, 2014). ISCED-Lubango with centers in Luanda, Uije, Huambo and Namibe, was at that time the sole higher teacher education institution in the country (Cacumba, 2014). On 24 January 1985 in memory of the first President of Angola and first Rector of the University of Angola, the University of Angola modified to *Universidade Agostinho Neto* (UAN) (Conselho de Defesa e Segurança, 1985, cited in Cacumba, 2014). ISCED-Luango remained belonging to this renamed institution. The Angolan government in 2009 with the purpose to fulfil the strategic objectives of economic, social, technological and community advancement, authorized the rearrangement of the higher education system (Assembleia Nacional, 2009, cited in Cacumba, 2014), and ISCED-Lubango was changed into ISCED-Huíla and it is now viewed as a provincial institution, with academic, statuary, scientific and administrative independency, and straight linked to the Ministry of Higher Education (Cacumba, 2014).

2.1.2. Population and Sampling

Dörnyei and Taguchi (2010) define *population* as "the group of people whom the survey is about. That is, the target population of a study consists of all the people to whom the survey's findings are to be applied or generalized" (p. 60). The population of this research consist of 3rd year teacher trainees of English at ISCED-HÚILA. As for the *sample,* Dörnyei and Taguchi (2010) refer to it as "the group of people whom researchers actually examine" (p. 60). The sample of this research is comprised by 21 3rd year teacher trainees of English at ISCED-HÚILA, registered in the academic year 2021-2022, they were 14 from the morning class and 7 from the evening class.

Sampling is the process by which the investigator selects, from a group of elements that form the object of the research (the population), a small number of elements (the sample) selected according to principles that permits the findings acquired by investigating the sample to be applied to the entire population (Tavakoli, 2012).

Sampling procedures are classified into two groups: *probability sampling*, and *non-probability sampling*.

For Dörnyei (2007) *probability sampling* “involves complex and expensive procedures that are usually well beyond the means of applied linguists” (p. 97). Examples of these procedures are: random sampling, stratified random sampling, systematic sampling and cluster sampling (Dörnyei, 2007). *Random sampling* is the essential element of probability sampling. This entails picking up elements of the population to be incorporated in the sample on an entirely random way. *Stratified random sampling* is a combination of randomization and categorization, that is, it mixes random sampling with some sort of logical assembling. *Systematic sampling* entails choosing every nth element of the target population. *Cluster sampling* consists in randomly pick some wider groupings or sets of the population and then analysis all the elements in those chosen sets. Although these procedures are often useful in that they can reinforce the validity of the research results, they can, however, be expensive and time-wasting and demands a degree of skill most investigators may not have (Cacumba, 2014).

Non-probability sampling, on the other hand, “consists of a number of strategies that try to achieve a trade-off, that is, a reasonably representative sample using resources that are within the means of the ordinary researcher” (Dörnyei, 2007, p. 97). Examples of these procedures are: *quota sampling, snowball sampling, and convenience sampling* (Dörnyei, 2007). *Quota sampling* is identical to proportional stratified random sampling without the random component. *Snowball sampling* entails a string of effect whereby the investigator selects a few individuals who meet the principles of the specific research and then request these people to select further adequate elements of the target group. *Convenience sampling* is a technique in which the elements of the target group are chosen for the objective of the research if they meet certain useful principles, such as geographical proximity, availability at a certain time, easy accessibility, or the willingness to volunteer. Main examples of convenience samples are confined audiences such as students in the investigator´s own institution.

This research employed a convenience sampling procedure to select the participants, as it is “the most common sample type in L2 research” by using “captive audiences such as students in the researcher’s own institution” (Dörnyei, 2007, pp. 98-99), and also taking into account the degree of skill that is required to employ other sampling procedures.

2.1.3. Type of Research

Tavakoli (2012) refers to research as “a systematic process of collecting and analyzing data that will investigate a research problem or question, or help researchers obtain a more complete understanding of a situation” (p.545). Furthermore, Cacumba (2014) argues that basically, research is an organized system of inquiry (a) to discover the cause or origin of something, (b) to find out new knowledge, (c) to bring about change or move forward in our field, (d) to come up with explanations to a question or (e) to bring to light responses to problems through the employment of scientific methods.

There are Several authors that propose typologies of research (Babbie, 2001; Kothari, 2006; Kumar, 2011). For instance, Kumar (2011) classifies the types of research in three different perspectives: (1) applications of the findings of the research study; (2) objectives of the study; and (3) mode of enquiry used in conducting the study.

Kumar (2011) identifies two major categories of research within the application perspective: pure research and applied research. *Pure research* implies formulating and checking theories and hypotheses that are academically defying to the research but may or may not have pragmatic use at the present or in the future. *Applied research*, on the other hand, involves research techniques, procedures and methods that are employed to the gathering of data about diverse characteristics of a phenomenon, issue, situation or problem so that the date collected can be utilized in other manners, such as for formulation of policy, enhancement of understanding and management of an event.

As for research analyzed from their objective perspective, Kumar (2011) states that they can be classified as descriptive, correlational, explanatory or exploratory research. *Descriptive research* tries to systematically describe a phenomenon, problem, situation, program, or service, or presents data about, the living circumstance of a society, or report tendencies towards an event. *Correlational research* mainly focuses on establish or discover the existence of an interdependence/relationship/association between two or more features of an event. *Explanatory research* seeks to clarify how and why there is a connection between two features of a phenomenon or event. *Exploratory research* occurs when a study is undertaken with the aim either to explore an area where there is little knowledge or to research the possibilities of conducting a specific research work.

The third perspective of Kumar (2011) typology of research pertains the approach adopted to find out responses to the research questions. There are two broad approaches to research: The structured approach and the unstructured approach. In *the structured approach* all elements that comprise the research process such as, objectives, design, sample, and the question planned to ask to participants are prearranged. By contrast, *the unstructured approach* permits flexibleness in all these elements of the process and is employed predominantly to inquire the nature of a phenomenon, problem or issue. Furthermore, Kumar (2011) classifies the structured approach as quantitative research and the unstructured approach as qualitative research. *The quantitative research* quantifies the variability in a problem, situation, issue or phenomenon, data is gathered employing predominantly quantitative variables and the analysis is conducted to determine the extent of the variability. On the other hand, *the qualitative research* aims primarily to describe a phenomenon, event, problem or situation, the date is collected through the utilization of variables rated on qualitative measurement scales, such as nominal or ordinal scales, and the analysis is geared to determine the variability in a phenomenon, event, problem or situation without quantifying it.

Kumar (2011) claims that, the classification of the types of research on the foundation of these perspectives is not reciprocally incompatible. Therefore, this research study

is classified as an applied research from the application perspective; from the objective perspective as a descriptive research; and as a structured approach or quantitative research from the mode of inquiry viewpoint.

2.1.4. Research Design

Tavakoli (2012) refers to *research design* as “the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose” (p. 546). Similarly, Creswell (2012) defines research designs as “the specific procedures involved in the research process: data collection, data analysis, and report writing” (p. 20). A research design is constituted by decisions concerning what, where, when, how, why, by what ways regarding an investigation or a research project, it is the architectural scheme of a research study.

There are several classifications and typologies of research design, one of them proposed by Creswell (2012) lists eight different type of research designs used by educational investigators, and these are grouped in association with quantitative research, qualitative research and combined quantitative/qualitative research.

The first three research designs listed by Creswell (2012) are associated with quantitative research: *Experimental research designs* (also called intervention research or group comparison investigations) are methods in quantitative research in which the research decides whether materials or an action produces a variation in findings for participants, they explain whether an intervention impacts a result for one group as contrasted to another group. *Correlational research designs* are methods in quantitative research in which researchers calculate the level of relationship (or connection) between two or more variables employing the statistical method of correlational analysis. *Survey research designs* are methods in quantitative research in which researchers administrate a survey to a sample or to the complete population of individuals to explain the characteristics, attitudes, behaviors or opinions of the population.

The following three research designs listed by Creswell (2012) are associated with qualitative research: *Grounded theory research designs* are scientific, qualitative

methods that investigators utilize to form a common description (based in the perspective of individuals, called ground theory) that describes a procedure, activity, or interaction among individuals. *Ethnographic designs* are qualitative methods for explaining, examining, and clarifying a cultural group's common systems of beliefs, behavior, and language that emerge over time. Narrative research designs are qualitative methods in which researchers explain the living condition of people, gather and report stories about these people' lives, and write narratives about their experiences.

The last two research designs listed by Creswell (2012) are associated with combined quantitative/qualitative research: *Mixed methods designs* are procedures for gathering, examining, and combining both quantitative and qualitative data in one research or in a multiphase series of researches. *Action research designs* are scientific methods employed by teachers (or other persons in an educational context) to collect quantitative and qualitative dada to approach advances in their educational context, their teaching, and the learning of their students.

This research project adopts a survey research design because it is the most appropriate research design to employ to find answer to the research questions proposed in this project, and as this project adopts a quantitative research from its mode of inquiry perspective, the survey research is more suitable for this project than other research designs associated with quantitative research.

2.1.5. Research Instrument

A *research instrument* is "any device which is used to collect the data" (Tavakoli, 2012, p. 277). Examples of research instruments are: rating scales, interview schedules, observation forms, tally sheets, flowcharts, performance checklist, anecdotal records, time-and-motion logs, questionnaires, self-checklists, attitude scales, personality (or character) inventories, achievement tests, aptitude test, performance tests, projective devices and socio-metric devices (Fraenkel & Wallen, 2009).

A questionnaire was adopted to gather the necessary data to answer the research questions of this investigation. Brown (2001) defines *questionnaires* as "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers." (p. 6). The decision to adopt a questionnaire as the research instrument of this investigation was taken considering the advantages and disadvantages that a questionnaire presents. In the plus side, as claimed by Dörnyei and Taguchi (2010), one of the major appeal of questionnaires is their unmatched effectiveness regarding to (a) researcher time, (b) researcher effort, and (c) financial resources. one can gather a large quantity of data in less than an hour, through distributing a questionnaire to a number of individuals, and save a considerable amount of personal investment, comparing with how much it would be cost, for instance, interviewing the same group of individuals. Apart from cost-efficacy, questionnaires also are very versatile, that is, they can be employed effectively with a diversity of individual in different contexts aiming various themes. However, as disadvantages, questionnaires possess some sever limitations, among them are: simplicity and superficiality of answers, unreliable and unmotivated respondents, respondent literacy problems, little or no opportunity to correct the respondents' mistakes, social desirability (or prestige) bias, self-deception, acquiescence bias, halo effect and fatigue effects. These limitations have led some investigator argue that questionnaires are not valid or reliable (Dörnyei & Taguchi,2010).

A questionnaire called Teacher Trainees Questionnaire (see Appendix 2) was designed to find answers to the two research question proposed in this investigation. Regarding its structure, it is comprised by three section: (1) Background Information, (2) On-Line Survey of Reading Strategies (OSORS) and (3) Internet Use Questionnaire, these section with their respective questions are distributed across four pages.

Finally, a piloting of the Teacher Trainees Questionnaire was conducted before its main administration to the participants to pre-test it and collect feedback about how the instrument works and whether it performs the job it has been designed for, and

based on this information, make alterations and fine-tune the final version of the questionnaire. To accomplish this objective, first, three 3rd year teacher trainees of English at ISCED-Huíla were met, then, requested to go through the items and answer them, and then provide feedback about their reactions and the answers they have given, lastly once they have gone through all the items, they were asked to provide any general comments about the questionnaire. The participants provided the following feedback: (1) The questionnaire was too long and they suggested to make it short by reducing the size of the letters and the space between paragraphs; (2) Some strategies of the online survey of reading strategies seemed similar, and they suggested to join them and make the survey short; (3) The boxes to tick the answer were to small, they suggested to increase the size or change them into lines; (4) The instructions of the second question of the Internet questionnaire was not very clear. Based on the feedback and the reaction of the participants the follow alterations were made in the research instrument: (1) The length of the questionnaire was short from five to four pages; (2) The boxes to tick the answers were replaced with lines to circle; (3) The position of the internet use questionnaire and on-line survey of reading strategies were change because the on-line survey of reading strategies is more important than the internet use questionnaire for this investigation, therefore it must be completed first; (4) The question 4 of the internet use questionnaire was removed to make the instrument short and because it was not very relevant of this investigation.

2.1.6. Data collection procedures

In the research collection phase of an investigation, apart to consider the research instruments, it is also of a vital importance to take into account the procedures which refers to “the actual process of data collection, over and above any instruments proposed. If instruments are involved, the question here is how the instruments will be used or administered” (Punch, 2006, p. 53).

A questionnaire was adopted as the data collection instrument of this research. Dörnyei and Taguchi (2010) discuss the major forms of questionnaire administration:

Administration by mail which single feature is that there is no interaction between the investigator and respondent excepting for a cover letter he/she has written to be sent with the questionnaire; *One-to-one administration* which refers to a situation when a person brings the questionnaire by hand to the indicated individual and schedule to collect the completed questionnaire later; *Group administration* which is the most used procedure of having questionnaires answered in L2 investigation. This occurs because language learners studying with institutional settings are the general targets of the research, and it is normally possible to schedule to distribute the instrument to them as they are grouped together, for instance, during a lesson or breaks between some other institutional practices; and *Online administration* in which data are collected through online methods, as computer and internet connection becomes more common it is more or less easy to create online surveys.

The Teacher Trainees Questionnaire was distributed through group administration to 21 3rd year teacher trainees of English at ISCED-Húila on 14th April 2022, the participants were 14 from the morning class and 7 from the evening class. A credential or permission to conduct the research at ISCED-Húila was obtained before administrate the instrument. It was requested to 3rd year teacher trainees to be volunteer and freely cooperate with the investigation. Regarding the research site, the research was conducted to be less disturbing as possible.

2.1.7. Data analysis procedures

In the research process, after the collection of data the next phase is the data analysis which means make sense of the data provided by participants in the research (Creswell, 2012). There are several interrelated procedures in the data analysis phase, one way to classify these procedures is to group them according to the steps taken during the data analysis process, such as prepare and organize data for analysis and start analyzing de data (Creswell, 2012).

According to Creswell (2012) in quantitative research, the step of prepare and organize data for analysis entails *scoring the data* which means assigns a numeric value (or score) to each type of answer for each question on the instruments

employed to gather the information*; Create a codebook* which is a catalogue of questions or variables that shows how the researcher will score or code answers from checklists or instruments*; Determine the forms of scores to employ*, that is, Investigators consider what form of scores to employ from their instruments before carrying out an analysis of scores. Scores can be a *single-item scores* which are particular values attributed to each question for each participant in the investigation. *Summed scores* which are the score of a person added over various questions that rank the same variable. *Net or difference scores* are values in a quantitative research that indicate a change or difference for each participant; *Select a computer program*, that is, investigators choose a computer software to analyze their data after scoring them. *Input the data into the program for analysis* takes place when data are transferred, by the investigator, from the answer on the instruments to a computer document for analysis*; Cleaning the data* is the procedure of checking the data for values or scores that are outside the establish range.

The next step in data analysis phase is start analyzing de data which, according to Creswell (2012), entails two statistical procedures: descriptive statistics and inferential *statistics*. *Descriptive statistics explains* trends in the data to a particular question or variable on the instrument. It measures *central tendencies* in the data, that are summary values that indicate a specific score in a distribution of scores; The *variability* tha*t* shows the spread of the values in a distribution and indicates how dispersed the answers are to elements on an instrument; or a comparison of how one value associates to all others. *Inferential statistics* examine data from a sample to draw conclusions about an unknown population, it analysis whether the variation of sets or the connection among factors is much larger or less that what is expected for the entire population. It also compares two or more groups on the independent variable in terms of the dependent variable.

In this research, regarding the data analysis procedures described in the first step of the data analysis phase, all of them were employed. For instance, the answers of the questions of the background information and internet use questionnaire sections were attributed alphabetic values to score them, and the response of the on-line survey of

reading strategies (OSORS) section were scored following the guidelines provided by Anderson, (2003). Then, a codebook that indicates how the responses from the instrument would be scored was also designed. Also, single-item scores and summed scores were determined as the types of score before the data analysis. Next, Microsoft Office Excel was selected as the computer program to analysis the data and the data were transferred to its spread sheets following by a cleaning of the data. Finally, to handle missing data, mainly on the on-line survey of reading strategies (OSORS) section, a score of 3 (I sometimes do this when reading on-line) was assign to substitute all the missing score on the survey. As for the data analysis procedures described in the second step of the data analysis phase, descriptive statistic was applied to analyze the data, it was measured specially the values of mean for central tendency and standard deviation for variability of the data collected.

Having discussed and justified the research context, population and sampling, type of research, research design, research instrument, data collection procedures, data analysis procedures employed to conduct the study, the following section describes the information gather in the distribution of the research instrument.

2.2. PRESENTATION OF THE RESEARCH FINDINGS

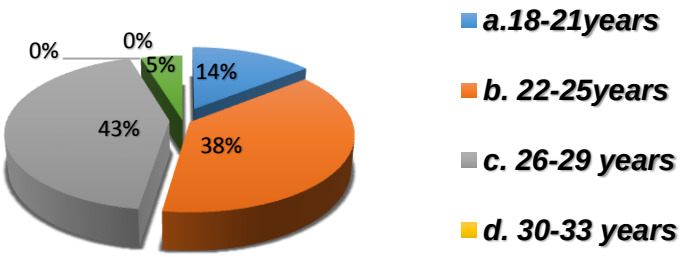
The aim of this section is to present the data collected during the administration of the research instrument: The Teacher Trainees' Questionnaire. It is divided in four subsections that present the data gathered from the answers of the questions on the tree sections of the research instrument: The teacher trainees' background information; The survey of on-line reading strategies that provided answer to the two research question proposed in this investigation: (1) what types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using? and (2) what are the most and least used metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA? and the teacher Trainees' Internet Use.

2.2.1. Teacher Trainees' Background Information

This subsection presents the data related to teacher trainees' background or sociodemographic information, namely their age, gender, high school course and time learning English.

The Graph 2.1. presents the age of the 21 3rd years teacher trainees of English at ISCED-Húila who participated in this investigation.

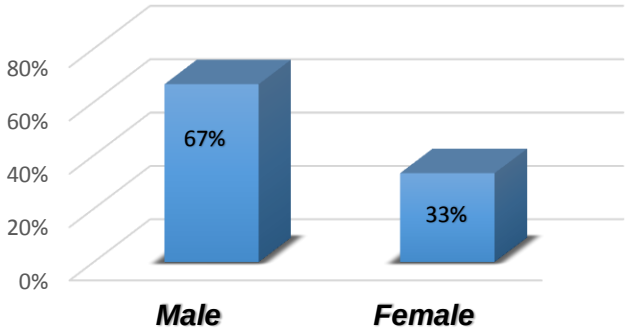
Graph 2.1. Teacher Trainees' Age



The Graph 2.1. shows that from the 21 participants of this investigation, the age of 43% of them that corresponds to 9 participants have an age range from 26 to 29 years, 38% that corresponds to 8 participants their age varies from 22 to 25 years, 14% that corresponds to 3 participants their age ranges from 18 to 21 years, and 5% that corresponds to 1 participants has an age equal or above to 38 years, and lastly, any participants have an age between 30 to 33 years.

The following graph represents the gender of the 21 3rd years teacher trainees of English at ISCED-Húila who participated in this investigation.

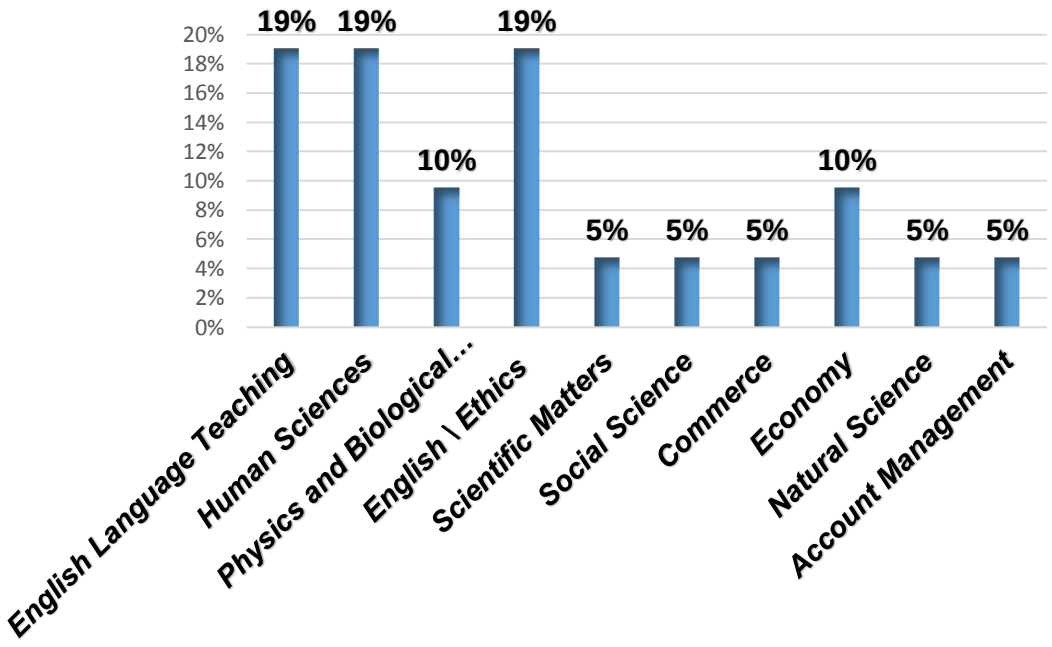
Graph 2.2. Teacher Trainees' Gender



It can be seen from the Graph 2.2. above that 67% that corresponds to 14 participants are male and 33% that corresponds to 7 participants are female. It indicates that more male than female participated in this investigation.

The Graph 2.3. illustrates the courses that the 21 participants of this investigation enrolled in high school.

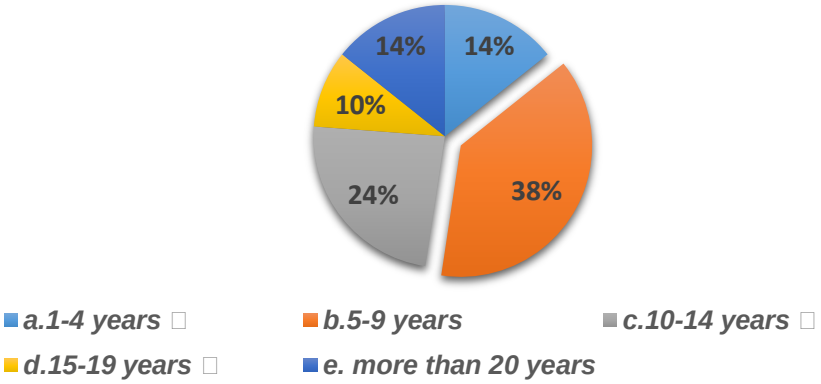
Graph 2.3. Teacher Trainees' High School course



As the Graph 2.3 demonstrates, 19% that corresponds to 4 participants had in high school enrolled in English language Teaching course, other 19% did Human sciences course, and another 19% studied English\Ethics course. Then, it also shows that 10% that corresponds to 2 participants followed Physics and Biological sciences and other 10% Economy. Finally, it can be observed that the remain 5 participants that corresponds to 5% each enrolled during high school either in Scientific Matters, Social Science, Commerce, Natural Science and Account Management courses.

The last graph on the background information section, the Graph 2.4, illustrates the time that the participants of this investigation have been learning English.

Graph 2.4. Teacher Trainees' Times Learning English



The Graph 2.2.1.4 shows that 38%, that corresponds to 8 participants, have been learning English from 5 to 9 years; 24 %, that is 5 participants, have been learning English from 10 to 14 years; 14%, that corresponds to 3 participants, have been learning English from 1 to 4 years and another 14 % from more than 20 years; and lastly, 10%, that is 2 participants, have been learning English from 15 to 19 years.

2.2.2. The use of Metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-Húila

This subsection presents the data that provide answer to the first research question proposed in this investigation: **what types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using?**

To answer this question, quantitative descriptive analysis was conducted in the on-line survey of reading strategies (OSORS) designed by Anderson (2003).

The Table 2.1. demonstrates the values of mean and standard deviation for each statement of reading strategies of the on-line survey of reading strategies (OSORS) reported by the 3rd year teacher trainees of English at ISCED-Húila who participated in this study.

Table 2.1. Means and Standard Deviations for Each OSORS Item (N = 21)

Strategies	Mean	SD
1. I have a purpose in mind when I read on line.	3,95	0,97
2. I participate in live chat with other learners of English.	2,95	1,16

3. I participate in live chat with native speakers of English.	2,76	1,30
4. I take notes while reading on-line to help me understand what I read.	3,62	1,16
5. I think about what I know to help me understand what I read on-line	3,95	1,07
6. I take an overall view of the on-line text to see what it is about before reading it	3,57	1,21
7. When on-line text becomes difficult, I read aloud to help me understand what I read.	2,90	1,84
8. I think about whether the content of the on-line text fits my reading purpose.	3,38	1,40
9. I read slowly and carefully to make sure I understand what I am reading on-line.	3,81	1,47
10. I review the on-line text first by noting its characteristics like length and organization.	3,57	1,36
11. I try to get back on track when I lose concentration	3,62	1,28
12. I print out a hard copy of the on-line text then underline or circle information to help me remember it.	2,76	1,48
13. I adjust my reading speed according to what I am reading on-line.	3,67	1,28
14. When reading on-line, I decide what to read closely and what to ignore.	4,43	1,12
15. I use reference materials (e.g. an on-line dictionary) to help me understand what I read on-line.	2,90	1,55
16. When on-line text becomes difficult, I pay closer attention to what I am reading.	4,10	1,18
17. I read pages on the Internet for academic purposes.	3,57	1,25
18. I use tables, figures, and pictures in the on-line text to increase my understanding.	3,43	1,40
19. I stop from time to time and think about what I am reading on-line.	3,38	1,12
20. I use context clues to help me better understand what I am reading on-line	3,86	3,86
21. I paraphrase (restate ideas in my own words) to better understand what I read on- line.	3,14	1,49
22. I try to picture or visualize information to help remember what I read on-line.	3,52	1,50
23. I use typographical features like bold face and italics to identify key information.	3,33	1,32
24. I critically analyze and evaluate the information presented in the on-line text.	3,76	0,89
25. I go back and forth in the on-line text to find relationships among ideas in it.	3,67	1,06
26. I check my understanding when I come across new information.	3,67	1,06
27. I try to guess what the content of the on-line text is about when I read.	4,00	0,77
28. When on-line text becomes difficult, I re-read it to increase my understanding.	3,86	1,31
29. I ask myself questions I like to have answered in the on-line text.	3,19	1,17
30. I check to see if my guesses about the on-line text are right or wrong.	3,71	1,31
31. When I read on-line, I guess the meaning of unknown words or phrases.	3,48	1,29

32. I scan the on-line text to get a basic idea of whether it will serve my purposes before choosing to read it.	3,48	1,33
33. I read pages on the Internet for fun.	3,48	1,47
34. I critically evaluate the on-line text before choosing to use information I read on-line.	3,62	1,12
35. I can distinguish between fact and opinion in on-line texts.	3,71	1,10
36. When reading on-line, I look for sites that cover both sides of an issue.	3,67	1,20
37. When reading on-line, I translate from English into my native language.	2,33	1,39
38. When reading on-line, I think about information in both English and my mother tongue.	3,00	1,34
Total	**4,42**	**0,58**

The OSORS is composed by 38 statements which measure metacognitive online reading strategies, each statement utilizes a five-point Likert-scale rank from 1 ("I never or almost never do this" when I read on-line) to 5 ("I always or almost always do this" when I read on-line). The value of mean refers to the frequency of use of each strategy.

The 38 strategies reported in the OSORS, can be demonstrated more accurately under the 3 categories or subscales in which the survey is subdivided. The Table 2.2 illustrates the metacognitive online reading strategies under the subscales of global, problem-solving and support strategies.

Table 2.2. Reported Use of Global, Problem-solving and Support Metacognitive Online Reading Strategies

Strategies	**Mean**	**SD**
Global Reading Strategies		
1. I have a purpose in mind when I read on line.	3,95	0,97
2. I participate in live chat with other learners of English.	2,95	1,16
3. I participate in live chat with native speakers of English	2,76	1,30
5. I think about what I know to help me understand what I read on-line	3,95	1,07
6. I take an overall view of the on-line text to see what it is about before reading it	3,57	1,21
8. I think about whether the content of the on-line text fits my reading purpose.	3,38	1,40
10. I review the on-line text first by noting its characteristics like length and organization.	3,57	1,36
14. When reading on-line, I decide what to read closely and what to ignore.	4,43	1,12
17. I read pages on the Internet for academic purposes.	3,57	1,25
18. I use tables, figures, and pictures in the on-line text to increase my	3,43	1,40

understanding.		
20. I use context clues to help me better understand what I am reading on-line	3,86	3,86
23. I use typographical features like bold face and italics to identify key information.	3,33	1,32
24. I critically analyze and evaluate the information presented in the on-line text.	3,76	0,89
26. I check my understanding when I come across new information.	3,67	1,06
27. I try to guess what the content of the on-line text is about when I read.	4,00	0,77
30. I check to see if my guesses about the on-line text are right or wrong.	3,71	1,31
32. I scan the on-line text to get a basic idea of whether it will serve my purposes before choosing to read it.	3,48	1,33
33. I read pages on the Internet for fun.	3,48	1,47
Total	**3,60**	**0,43**
Problem Solving Strategies		
9. I read slowly and carefully to make sure I understand what I am reading on-line.	3,81	1,47
11. I try to get back on track when I lose concentration	3,62	1,28
13. I adjust my reading speed according to what I am reading on-line.	3,67	1,28
16. When on-line text becomes difficult, I pay closer attention to what I am reading.	4,10	1,18
19. I stop from time to time and think about what I am reading on-line.	3,38	1,12
22. I try to picture or visualize information to help remember what I read on-line.	3,52	1,50
28. When on-line text becomes difficult, I re-read it to increase my understanding.	3,86	1,31
31. When I read on-line, I guess the meaning of unknown words or phrases.	3,48	1,29
34. I critically evaluate the on-line text before choosing to use information I read on-line.	3,62	1,12
35. I can distinguish between fact and opinion in on-line texts.	3,71	1,10
36. When reading on-line, I look for sites that cover both sides of an issue.	3,67	1,20
Total	**3,67**	**0,58**
Support Reading Strategies		
4. I take notes while reading on-line to help me understand what I read.	3,62	1,16
7. When on-line text becomes difficult, I read aloud to help me understand what I read.	2,90	1,84
12. I print out a hard copy of the on-line text then underline or circle information to help me remember it.	2,76	1,48
15. I use reference materials (e.g. an on-line dictionary) to help me understand what I read on-line.	2,90	1,55
21. I paraphrase (restate ideas in my own words) to better understand what I read on- line.	3,14	1,49
25. I go back and forth in the on-line text to find relationships among ideas in it.	3,67	1,06
29. I ask myself questions I like to have answered in the on-line text.	3,19	1,17

37. When reading on-line, I translate from English into my native language.	2,33	1,39
38. When reading on-line, I think about information in both English and my mother tongue.	3,00	1,34
Total	**3,05**	**0,64**

As showed in the table above, the OSORS is divided in 3 metacognitive online reading strategy types or subscales: the global reading strategies comprised in 18 items, these strategies can be viewed as generalized, deliberate reading strategies focused at placing the stage for the reading act (Mokhtari & Reichard, 2002). Problem solving strategies with 11 items which supply readers with action plans that permit them to guide through text skilfully (Mokhtari & Reichard, 2002). Support reading strategies composed by 9 items which mainly involve the utilization of outside reference materials, taking notes, and other practical strategies that might be described as functional or support strategies (Mokhtari & Reichard, 2002).

2.2.3. The most and least employed metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-Húila

This subsection presents the data that provide answer to the second research question proposed in this investigation: what are the most and least used metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA?

The first table of this subsection, the Table 2.3. shows the 10 most employed metacognitive online reading strategies reported by the 21 3rd year teacher trainees of ISCED-Húila that participated in this investigation.

Table 2.3. The Most Employed Metacognitive Online Reading Strategies

N	Type	Strategies	Mean	SD
1	**GLOB**	14. When reading on-line, I decide what to read closely and what to ignore.	4,43	1,12
2	**PROB**	16. When on-line text becomes difficult, I pay closer attention to what I am reading.	4,10	1,18
3	**GLOB**	27. I try to guess what the content of the on-line text is about when I read.	4,00	0,77
4	**GLOB**	1. I have a purpose in mind when I read on line	3,95	0,97
5	**GLOB**	5. I think about what I know to help me understand what I read on-line	3,95	1,07

6	**GLOB**	20. I use context clues to help me better understand what I am reading on-line	3,86	3,86
7	**PROB**	28. When on-line text becomes difficult, I re-read it to increase my understanding.	3,86	1,31
8	**PROB**	9. I read slowly and carefully to make sure I understand what I am reading on-line.	3,81	1,47
9	**GLOB**	24. I critically analyze and evaluate the information presented in the on-line text.	3,76	0,89
10	**GLOB**	30. I check to see if my guesses about the on-line text are right or wrong.	3,71	1,31

The following table, the Table 2.4 illustrates the 10 least employed metacognitive online reading strategies reported by the 21 3rd year teacher trainees of ISCED-Húila that participated in this investigation.

Table 2.4 The Least Employed Metacognitive Online Reading Strategies

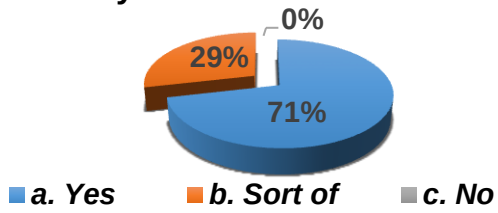
N	Type	Strategies	Mean	SD
1	**SUP**	37. When reading on-line, I translate from English into my native language.	2,33	1,39
2	**SUP**	12. I print out a hard copy of the on-line text then underline or circle information to help me remember it.	2,76	1,48
3	**GLOB**	3. I participate in live chat with native speakers of English	2,76	1,30
4	**SUP**	15. I use reference materials (e.g. an on-line dictionary) to help me understand what I read on-line.	2,90	1,55
5	**SUP**	7. When on-line text becomes difficult, I read aloud to help me understand what I read.	2,90	1,84
6	**GLOB**	2. I participate in live chat with other learners of English.	2,95	1,16
7	**SUP**	38. When reading on-line, I think about information in both English and my mother tongue.	3,00	1,34
8	**SUP**	21. I paraphrase (restate ideas in my own words) to better understand what I read on- line.	3,14	1,49
9	**SUP**	29. I ask myself questions I like to have answered in the on-line text	3,19	1,17
10	**GLOB**	23. I use typographical features like bold face and italics to identify key information.	3,33	1,32

2.2.4. Teacher Trainees' Internet Use

This subsection presents the data from the third section of the teacher trainees' questionnaire, the internet use questionnaire.

The Graph 2.5 presents the answers of the first question of the internet use questionnaire section.

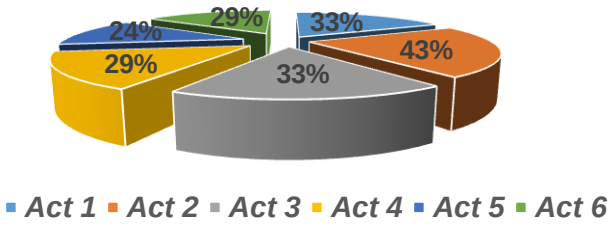
Graph 2.5 Do you like to read on the Internet?



The first question of the internet use questionnaire is “Do you like to read on the Internet?”. To answer this question, the participants had to choose between the lines a. Yes, b. Sort of, c. No. As it can be seen from the graph above, 71% which corresponds to 15 participants answered yes; 29%, which corresponds to 6 participants answered sort of and none of them answered no.

The Graph 2.6 shows the answer of the second question of the internet use questionnaire section.

Graph 2.6 Internet Activities Ranking

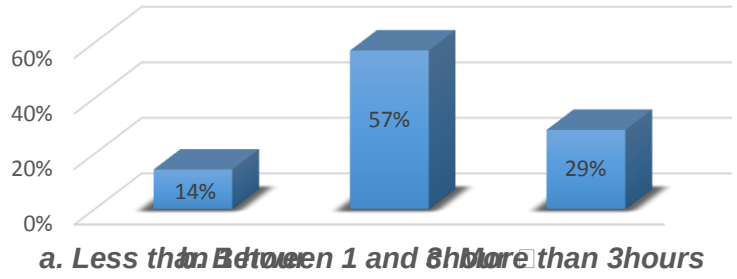


The second question of the internet use questionnaire requests to the participants to rank 6 internet activities in order of use from 1 to 6. The internet activities are: (1) Playing interactive games on the Internet, (2) Searching for a topic using a search engine, (3) Reading certain websites to learn more about a topic, (4) Using e-mail, chat rooms, Facebook, Twitter, other social media, (5) Browsing or exploring lots of different webpages, and (6) Downloading music or software games. The most ranked activities were, firstly, the activity (2) Searching for a topic using a search engine, secondly, the activity (5) Browsing or exploring lots of different webpages, then, thirdly, the activity (3) Reading certain websites to learn more about a topic, fourthly, the activity (4) Using e-mail, chat rooms, Facebook, Twitter, other social media, fifthly,

the activity (6) Downloading music or software games, lastly, the activity (1) Playing interactive games on the Internet.

The next graph, the Graph 2.7 illustrates the answers of the third question of the internet use questionnaire section.

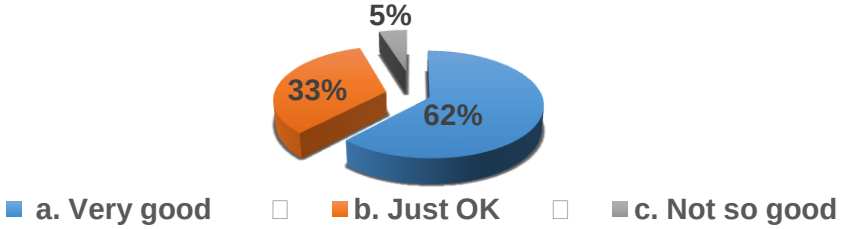
Graph 2.7 How much time you spend doing activy [1] in one week



The third question of the internet use questionnaire asked the participants to find the activity they rated as [1] in question 2 and guess how much time they spend doing that activity in one week. They had to answer by selecting one of the lines: a. less than 1hour□, b. between 1 and 3hour □and c. More than 3hours. 57%, that is, 12 participants selected the line b. between 1 and 3hour; 29% which corresponds to 6 participants chose the line c. More than 3hours; and 3 respondents that corresponds to 14% answered selecting line a. less than 1hour□.

The following graph, Graph 2.8, represents the participants' responses to the fourth question of the internet use questionnaire section.

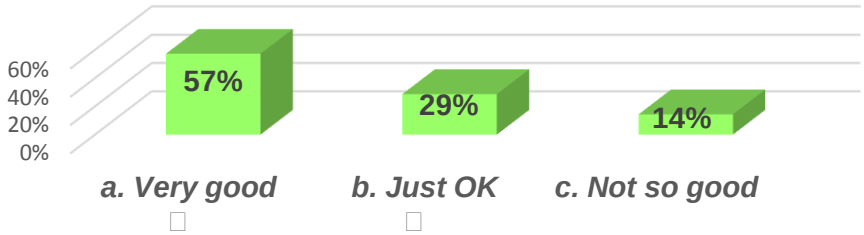
Graph 2.8. How good are you at figuring out where to go on the Internet to find what you want?



The fourth question of the internet use questionnaires inquired the responds how good were they at figuring out where to go on the internet to find what they want. They had to respond by choosing one of the lines: a. very good, b. just ok and c. not so good. 13 participants, that is 62%, answered selecting line a. very good; 33%, that corresponds to 7 participants, chose line b. just ok; and only 1 respondent, that corresponds to 5% selected line c. not so good.

Finally, the last graph of this section, the Graph 2.9, shows the respondents' answers to the fifth question of the internet use questionnaire.

Graph 2.9 How good are you at using a search engine to find what you want?



The fifth question of the internet use questionnaire is "how good are you at using a search engine to find what you want?". As demonstrated in the graph above, 57% of the participants, which corresponds to 12 individuals, answered that they were very good; 6 respondents, that is 29% of the participants, responded that they were just ok at using a search engine to find what they wanted; and 14%, that is 3 participants, selected as their answer the line c. not so good, for this question.

Having presented the data collected through the administration of the Teacher Trainees' Questionnaire. Then, the study, in the following chapter, focus on the ethical concerns take into account while conduct the research.

2.3. ETHICAL ISSUES

This section has the purpose to discuss the several ethical issues considered during the execution of this study. It has two subsections: the first section address the ethical

issues related to data collection, and the second the ethical issues related to the dissemination of the findings.

Cacumba (2014) synthetizes the general procedures to manage the ethical issues of a research, these are: informed consent, voluntary participation, confidentiality or anonymity, honesty and trust, courtesy, objectivity, carefulness and respect for intellectual property***.***

Informed consent: this means that potential research informants ought to be completely advised about the methods and danger implicated in the investigation and ought to provide their agreement to contribute.

Voluntary participation: demands that no coercion should be applied to individuals to engage in the investigation. This is particularly significant where investigator had once depended on 'captive audiences', such as universities or prisons, as their participants.

Confidentiality or anonymity: Confidentiality means the guarantee that the identity of specific subjects will be known by no one even the investigator. Whereas, anonymity is the promise that subjects' identification will be kept by the investigator.

Honesty and trust: Honesty should be strived by investigator in all scientific interactions. Data, findings, procedures, approach and dissemination status should be sincerely described.

Courtesy: It should be avoided by investigator unneeded intrusion into the lives of participants or request their knowledge and time if it is not necessary.

Objectivity: Self-deception or bias should be avoided in all aspects of the investigation where is demanded or expected objectivity.

Carefulness: An investigator has the obligation to evade irresponsible errors and carelessness.

Respect for intellectual property: Copyrights, patents and other types of intellectual ownership should be acknowledged.

2.3.1. Ethical Issues related to data collection

Cacumba (2014) claims that it is necessary to obtain the agreement of community, institutions or individuals from which the information will be gathered, regardless of the kind of information and the methods employed for its gathering.

Similarly, asserted Creswell (2012) gaining authorization prior to the beginning of data collection is not just a component of the informed consent procedure but is also an ethical conduct. Preserve the anonymity of subjects through attributing numeric values to returned instruments and protect the identity of subjects gives privacy to subjects. In relation to the setting or place, although all investigators disturb the site they are researching, the disrupt might be minimal.

2.3.2. Ethical Issues related to the dissemination of the findings

Dissemination can be view as the adjusted and directed spreading of data and intervention contents to a particular communal audience of stakeholders such as learners, educators, teachers, investigators and decision makers (Louis & van Velen, 1998, cited in Cacumba, 2014).

During the dissemination of the findings Creswell (2012) argues that data should be presented truthfully, without altering or forging the results to meet some hypothesis or desired groups. Moreover, researcher conducted by others should not be plagiarized, and acknowledgment should be provided for content quoted form other research. Additionally, the investigation should be comprehensive to those being researched and without jargon.

Having discussed the ethical issues considered while conducting this study, the next chapter will address the delimitations and limitations of the current study.

2.4. DELIMITATIONS AND LIMITATIONS OF THE STUDY

All Study has delimitations and limitations that may affect the accomplishment of its purpose and the conclusions that can be drawn from it, thus it is very crucial to address the boundaries and weaknesses of a study because everyone who read the

report of the study should understand exactly what its confines were and how far the study endeavors outstretched (Leedy & Ormrod, 2021). Therefore, this section aims to identify and describe the delimitations and limitations of the current study.

2.4.1. Delimitations of the Study

Leedy and Ormrod (2021) refer to Delimitations as “specific boundaries beyond which you will not go” (p. 75), in other words, the delimitations of a study are the limits in which a study is confined. It is very important to establish the delimitations of a study because, as acknowledged by Leedy and Ormrod (2021), research problems and questions generally come out of broader settings and wider problem fields.

As for this study, it was conducted with 3rd year teacher trainees of English at ISCED-Húila, in Lubango. It aimed to explore the use of Metacognitive Online Reading Strategies by teacher trainees of English at ISCED-HÚILA, to accomplish this purpose, two research questions were addressed: (1) what types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using? and (2) what are the most and least used metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA? To answer these two research questions, quantitative descriptive analysis was conducted to data gathered through the on-line survey of reading strategies designed by Anderson (2003). These are the boundaries of the current study and anything apart from them are beyond its scope.

2.4.2. Limitations of the Study

Limitations are “potential weaknesses or problems with the study identified by the researcher” (Creswell, 2012, p.199), they are beneficial to other possible investigator who may want to replicate or carry out an identical research.

Three categories of limitations, that may cause drawbacks in this study, were identified: the type of research, the data collection instrument and the research sample. Firstly, the type of this research which is a quantitative descriptive research may constitute a limitation or weakness. This research aims only to describe trends

of only one variable which is the metacognitive online reading strategies of teacher trainees of English at ISCED-Húila. The research could have been deeper if qualitative data were combined with the quantitative ones through a mixed-methods research. Secondly, as data collection instrument, this investigation employed only a questionnaire to gather the necessary data. Questionnaires present disadvantages such as simplicity and superficiality of answers that may weakening the reliability and validity of data collected, a major concern is placed on the participants' answers to the on-line survey of reading strategies (Anderson, 2003) that provides responses to the two research questions of this investigation. Although the participants reported employ these strategies frequently, it is difficult to be sure that they in fact are applying them. To overcome this issue a triangulation is needed, that is, the data gathered through the questionnaire must be combined with data from other instruments, such as interviews or thinking-aloud protocols to have an accurate understanding of the participants' responses. The last category of limitation identified in this research is related to sampling issues. The sample of this research is comprised by 21 3rd year teacher trainees of English at ISCED-Húila registered in the academic year 2021-2022, this sample was selected through a convenience sampling procedure. Therefore, generalization must be done with caution because this sample only represents the 3rd year teacher trainees of English at ISCED-Húila.

CHAPTER THREE: ANALYSIS AND DISCUSSION

CHAPTER THREE: ANALYSIS AND DISCUSSION

3.0. INTRODUCTION

The previous chapter described the research methodology employed to conduct this investigation. It was divided into four sections: the first section addressed the main methodological aspects considered through this investigation, the second section presented the research results abstained by the application of the research instrument, the third section looked at the ethical issues taken into account in carrying out the study, and the last section discussed the delimitations and limitations of the study. The current chapter aims to analyze and discuss the main results presented in the methodology chapter, then contrast them with those reported in the relevant studies discussed in the literature review chapter. Then states the implications and significance of the study.

3.1. ANALYSIS AND DISCUSSION OF THE MAIN RESULTS

The aim of this section is to analyze and discuss the main results of this investigation which provide answer to the two proposed research question. It provides a detailed interpretation of the key results and a discussion of their meaning in relation to results of previous research studies presented in the literature review chapter to associate this study to the broader picture of metacognitive online reading strategies use. In other words, it compares both data or highlights the similarities and differences between them to obtain a more accurate comprehension of the metacognitive online reading strategies use.

The key results of this study were obtained through the on-line survey of reading strategies (OSORS) designed by Anderson (2003) who reported data that support to determine the OSORS as a credible instrument for measuring the metacognitive online reading strategies of L2 reading strategies. Those data consisted in Cronbach's alpha values, which were .92 for the overall OSORS, .77 for global reading strategies, .64 for problem solving strategies and .69 for support reading strategies.

3.1.1. The use of Metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-Húila

Concerning to research question one: what types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using? Table 2.1 presented the values of mean and standard deviation for each statement of reading strategies of the on-line survey of reading strategies (OSORS) reported by the 3rd year teacher trainees of English at ISCED-Húila. From those data, it can be seen that, on a scale of 1 to 5, the mean of individual metacognitive online reading strategies reported by 3rd year teacher trainees of English at ISCED-Húila range from a high 4.43 to a low 2.33, and the mean of the overall use of the OSORS is 4.42. These results demonstrate that, the inquired 3rd year teacher trainees of English at ISCED-Húila reported employing each item of reading strategy on the OSORS with various values of frequency. In fact, according to the scoring guidelines for the OSORS provided by Anderson (2003) (*see Appendix 3*), out of the 38 reading strategies on the OSORS, 22 strategies (58%) were reported in a high frequency range with means equal or above 3.5; 15 strategies (39%) in a moderate or medium frequency range with means from 2.5 to 3.4; and only 1 strategy (3%) with a low frequency range, with a mean lower than 2.4. Moreover, the mean of the overall use of the OSORS reported by the participants also fell in a high frequency range. It may be concluded that, 3rd year teacher trainees of English at ISCED-Húila perceived themselves as higher or moderate online readers. This result seems to agree with the research of O'Malley and Chamot's (1990) who asserted that metacognitive strategies are employed by foreign language learners to promote their academic reading comprehension. Also are in line with the research of Coiro and Dobler (2007) in which they concluded that online reading demands knowledge from previous origins, for instance, utilizing reference material or knowing how to locate precise word with a text.

As for the reading strategy subscales, Table 2.2 illustrated the metacognitive online reading strategies under the categories of global, problem-solving and support strategies. From that table, it can be seen that, the means of metacognitive online reading strategies under the category of global reading (18 items) range from 4.43 to

2.76 with an overall mean of 3.60. The means of metacognitive online reading strategies under problem solving category (11 items) range from 4.10 to 3.38 with an overall mean of 3.67. While for the metacognitive online reading strategies under the support category (9 items) their means are from 3.67 to 2.33 with an overall mean of 3.05. These data show that the participants of this study employ mostly problem-solving reading strategies, then global reading strategies second most, and the support reading strategies are the least used or favored. This finding seems to be consistent with previous findings reported by Anderson (2003), Jusoh and Abdullah (2015), Zarrabi (2015), Ahmadian and Pasand (2017), Darwish (2017), Öztürki (2018) and Marboot, Roohani and Mirzaei (2020) who also found problem solving strategies as the most employed than global and support strategies. However, it appears to contradict the results reported by Huang et al. (2009), Ramli, Darus and Bakar (2011), Incecay (2013), Ostovar-Namaghi and Noghabi (2014) and Chen (2015) in which global strategies were mostly applied by the respondents, also Yaghi (2021) who reported support strategies as the most preferred than other two categories. It can be also noted that, 3rd year teacher trainees of English at ISCED-Húila utilize problem-solving and global reading strategies in a high frequency range and support reading strategies in a moderate frequency range, it supports what several researchers have discovered that learners utilize the strategies in high or moderate level (Oxford & Burry-Stock, 1995; Berkowitz & Cicchelli, 2004).

3.1.2. The most and least employed metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-Húila

This subsection analyses and discusses the results regarding the second research question: what are the most and least used metacognitive Online Reading Strategies by teacher trainees of English at ISCED-Húila? Table 2.3 illustrated the top 10 most used metacognitive online reading strategies, they were listed from the first to the tenth most used strategy. From that table it can be observed that, the first most used strategy is item 14 “When reading on-line, I decide what to read closely and what to ignore” a global reading strategy with a mean of 4.43, followed by item 16 “When on-line text becomes difficult, I pay closer attention to what I am reading” a problem

solving strategy with a mean of 4.10. Moreover, it can be noted that, out of the ten most used metacognitive online reading strategies, 70 % of them were global reading strategies, 30% were problem solving strategies and none of the most used metacognitive online strategies by teacher trainees of English at ISCED-Húila are support reading strategies. From these data, it is noted that global reading strategy has the highest mean in comparison to the other strategies. It also indicates that, although participants reported employ problem solving strategies most, global strategies seem to dominate the highly applied strategies by 3rd year teacher trainees of English at ISCED-Húila. This specific result seems to be consistent with results previously reported by Ramli, Darus and Bakar (2011), Chen (2015) in which the majority of highly favored strategies were global strategies, and appear to contradict those reported by Anderson (2003) Ostovar-Namaghi and Noghabi (2014), Ahmadian and Pasand (2017), Öztürki (2018) in which participants highly employ problem solving strategies; Also, Huang et al. (2009), Yaghi (2021) in which the use of support strategies dominated the strategy use.

As for the least used metacognitive online reading strategies by teacher trainees of English at ISCED-Húila, Table 2.4 represented the top 10 least used, they are arranged from the first to the tenth least used. The first least employed strategy item 37 “When reading on-line, I translate from English into my native language” a support reading strategy with a mean of 2.33, the second least strategy is also a support reading strategy, item 12 “I print out a hard copy of the on-line text then underline or circle information to help me remember it” with a mean of 2.76. Moreover, it is noted that, seven of the least used strategies (70%) are support reading strategies and 3 (30%) are global strategies. This particular result reveals that support strategies dominate the majority of least favored strategies by 3rd years teacher trainees at ISCED-Húila and appears to be consistent with results reported by Anderson (2003), Ramli, Darus and Bakar (2011), Incecay (2013), Ostovar-Namaghi and Noghabi (2014), Chen (2015), Zarrabi (2015), Ahmadian and Pasand (2017), Darwish (2017), Öztürki (2018) and Marboot, Roohani and Mirzaei (2020) who reported support reading strategies as the least favored by participants. While, it seems to contradict

those reported by Huang et al. (2009) and Yaghi (2021). These data also show that, the least employed metacognitive online reading strategy reported by the participants has a mean bellow 2.4 which according to the scoring guidelines provided by Anderson (2003) (see Appendix 3) indicates a low frequency use. Actually, the item 37 “When reading on-line, I translate from English into my native language” is the only one reported in a low frequency use; From the second to the tenth least employed metacognitive online reading strategies were reported in a moderate frequency range with means between 2.76 to 3.33. Additionally, it can be observed that, the least global reading strategies that the participants rarely employ are: participate in live chat with native speakers of English (mean = 2,76), participate in live chat with other learners of English (mean = 2,95) and use typographical features like bold face and italics to identify key information (mean = 3.33). These three least employed global strategies may indicate that, 3rd year teacher trainees at ISCED-Húila rarely engage themselves in social interactions with other learners when they are online and seldom reply on stylistics elements of an online text to enhance their comprehension.

3.2. IMPLICATIONS AND SIGNIFICANCE OF THE STUDY

Taken together, these results suggest that, firstly, 3rd year teacher trainees of English at ISCED-Huíla employ metacognitive reading strategies with different range of frequency. Secondly, they utilize problem-solving and global reading strategies in a high frequency range and support reading strategies in a moderate frequency range. Thirdly, although problem solving strategies are mostly employed by 3rd year teacher trainees of English at ISCED-Húila, the highly applied metacognitive reading strategies are global reading strategies. Lastly, the majority of least employed metacognitive reading strategies by 3rd year teacher trainees of English at ISCED-Húila are support reading strategies.

This study has gone some way towards enhancing our understanding, confirms previous findings and contributes additional evidence about metacognitive online reading strategies used by EFL learners. It also may serve as a base for future studies on metacognitive online reading strategies in the Angolan EFL context.

However, the generalizability of these results is subject to certain limitations. For instance, to gather the data, a questionnaire was only employed, and it presented disadvantages such as simplicity and superficiality of answers, although participants reported employing these strategies frequently, it is difficult to be sure that they in fact are applying them. Therefore, further studies could employ questionnaire along with other instruments, such as *think aloud protocols* (see Appendix 4) reported to be the most efficient instrument to understand the respondents' thoughts while reading and they can indicate the actual use of online metacognitive reading strategies (Incecay, 2013). Also, it would be interesting to employ *semi-structured interviews* (see Appendix 5) to collect some additional information related to respondents' application of online metacognitive reading strategies.

Another recommendation for further investigations could be compare the use of metacognitive reading strategies in online and in printed contexts to examine if there are significant differences of reading strategies use between the two contexts. Also, it would be interesting to assess the effects of metacognitive online reading strategies use on other language variables, such reading comprehension, reading dispositions, reading efficiency, motivation and critical thinking.

Additionally, for policy-makers and teacher trainers in EFL context, it is suggested to implement the instruction of these strategies in reading classes. Moreover, due to the important function of the internet and computer in this technological era, teacher trainers need to update themselves and rethink their course programs take into account the online reading strategies, also, they should be aware of their students' actual use of metacognitive online reading strategies, and accordingly plan their strategy instructions.

In short, the current chapter analyzed and discussed the key findings described in the methodology chapter, then compared them with those presented in the relevant researches reported in the literature review chapter. Then, stated the implications and significance of the study. The next chapter draws conclusions and proposes recommendations based on this analysis and discussion.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION AND RECOMMENDATIONS

This study set out to explore the use of metacognitive online reading strategies by teacher trainees of English at ISCED-HÚILA. It aimed to find answers to the following research questions: (1) what types of metacognitive online reading strategies do teacher trainees of English at ISCED-HÚILA report using? and (2) what are the most and least used metacognitive Online Reading Strategies by Teacher Trainees of English at ISCED-HÚILA? The data were gathered through the on-line survey of reading strategies (OSORS) designed by Anderson (2003) which was part of a research instrument called teacher trainees questionnaire which was administrated to 21 3rd year teacher trainees of English at ISCED-HÚILA enrolled in the 2021-2022 academic year. The data gathered from the respondents was analyzed through quantitative descriptive statistics.

After the data, presented on the literature review and collected in the administration of the research instrument, were analyzed and contrasted. The current study draws the following conclusions:

- The 3rd year teacher trainees of English at ISCED-Huíla employ metacognitive reading strategies with different range of frequency.
- They utilize problem-solving and global reading strategies in a high frequency range and support reading strategies in a moderate frequency range
- Although problem solving strategies are mostly employed by 3rd year teacher trainees of English at ISCED-Húila, the highly applied metacognitive reading strategies are global reading strategies.
- The majority of least employed metacognitive reading strategies by 3rd year teacher trainees of English at ISCED-Húila are support reading strategies.

Based on the findings of this study, the following recommendations are suggested:

- For further works on metacognitive online reading strategies it could employed, as research instrument, *think aloud protocols* reported to be the most efficient instrument to understand the respondents' thoughts while reading and they can indicate the actual use of online metacognitive reading strategies. The

research would prepare the necessary programs to record the conversations and screen activities on the computer. Then, before asking participants to participate on the think aloud sessions, give a training session to demonstrate how to undertake the think-aloud tasks. After that, schedule the real think-aloud sessions and assures the participants that these sessions were not for testing purposes. Finally, during the sessions stimulate the participant by asking them questions when they were silent, for instance: “What are you thinking about?”, “What’s going through your mind?”, “How are you doing this?”

- It is also recommended to conduct semi-structured interviews to collect some additional information related to respondents’ application of online metacognitive reading strategies. The researcher could schedule a pre and a post semi-structure interviews. The pre semi-structured interviews could be set before the think-aloud protocol session to elicit information about the participants’ familiarity with the topics, and the post semi-structured interview after the think-aloud protocol to have participants reflect on their metacognitive reading strategies employed while the think-aloud sessions.
- Another recommendation for further investigations could be compare the use of metacognitive reading strategies in online and in printed contexts to examine if there are significant differences of reading strategies use between the two contexts.
- Also, it would be interesting to assess the effects of metacognitive online reading strategies use on other language variables, such reading comprehension, reading dispositions, reading efficiency, motivation and critical thinking.
- For policy-makers and teacher trainers in EFL context, it is suggested to implement the instruction of these strategies in reading classes. Moreover, due to the important function of the internet and computer in this technological era, teacher trainers need to update themselves and rethink their course programs take into account the online reading strategies, also, they should be aware of their students’ actual use of metacognitive online reading strategies, and accordingly plan their strategy instructions.

APPENDICES

Appendix 1- Permission Granted to Conduct The Study

GABINETE DO DIRECTOR GERAL ADJUNTO PARA ÁREA CIENTÍFICA
ISCED / HUÍLA

CREDENCIAL

Para a realização de trabalho de pesquisa e para concessão de facilidades junto ao **Departamento de Letras Modernas, Secção de Inglês do ISCED-HUÍLA,** credencia-se o (a) estudante, **Francisco Camati Chissuilo Makala,** do 4º Ano do Curso de Ensino da **Língua Inglesa.**

Por ser verdade e me ter sido solicitada, mandei passar a presente **CREDENCIAL.** que vai por mim assinada e autenticada com o carimbo a óleo em uso nesta Direcção.

Instituto Superior de Ciências da Educação da Huíla

Lubango, 30 de Março de 2022.

INSTITUTO SUPERIOR DE CIÊNCIAS DA EDUCAÇÃO
DGAAC
LUBANGO

José Luís Mateus Alexandre, PhD

Appendix 2- Teacher Trainees Questionnaire

INSTITUTO SUPERIOR DE CIÊNCIAS DE EDUCAÇÃO

ISCED-HUÍLA

DEPARTAMENTO DE LETRAS MODERNAS

SECÇÃO DE INGLÊS

TEACHER TRAINEES QUESTIONNAIRE

Dear Mates

I am Francisco Makala, a fourth-year finalist student at ISCED-Huíla, I am caring out a study on Metacognitive Online Reading Strategies to complete the Licenciatura degree in Ensino da Língua Inglesa. You are asking for to support by answering the following questions of a vital importance for this study. This questionnaire consists of **3** sections and require less than **30** minutes to complete. And for the success of this research, it is of a crucial importance that you respond to all questions and give your answer in the most honest and accurate way possible. We guarantee that the data you provide will be treated only in statistical terms and in as much strict confidence as required.

Autor: Francisco Camati Chissuilo Makala.
Tutor: Joaquim Sapalo **Castilho Cacumba, PhD**.

I. BACKGROUND INFORMATION

1. **Age:** Please circle a line: a.18-21years b. 22-25years c. 26-29 years d. 30-33 years e. 34-37 years f. 3□8+ years
2. **Gender:** Please circle a line: □a. Male b. Female

3. What did you study in high school?

_____.

4. Please state the year you are registered now_____**.**

5. How long have you been learning English? Please circle the line: □

a.1-4 years □ b.5-9 years c.10-14 years □d.15-19 years □e. more than 20 years

II. ON-LINE SURVEY OF READING STRATEGIES (OSORS)

The purpose of this survey is to collect information about the various strategies you use when you read **on-line in ENGLISH** (e.g., surfing the Internet, doing on-line research, etc.). Each statement is followed by five numbers, 1, 2, 3, 4, and 5, and each number means the following:

[1] means that 'I **never or almost never** do this' when I read on-line.
[2] means that 'I do this **only occasionally**' when I read on-line.
[3] means that 'I **sometimes** do this' when I read on-line. (About **50%** of the time.)
[4] means that 'I **usually** do this' when I read on-line.
[5] means that 'I **always or almost always** do this' when I read on-line.

After reading each statement, ***circle the number*** (1, 2, 3, 4, or 5) which applies to you**.** Note that there are **no right or wrong responses** to any of the items on this survey.

Statement	**Never**				**Always**
1. I have a purpose in mind when I read on line.	1	2	3	4	5
2. I participate in live chat with other learners of English.	1	2	3	4	5
3. I participate in live chat with native speakers of English.	1	2	3	4	5
4. I take notes while reading on-line to help me understand what I read.	1	2	3	4	5
5. I think about what I know to help me understand what I read on-line	1	2	3	4	5
6. I take an overall view of the on-line text to see what it is about before reading it	1	2	3	4	5
7. When on-line text becomes difficult, I read aloud to help me	1	2	3	4	5

understand what I read.					
8. I think about whether the content of the on-line text fits my reading purpose.	1	2	3	4	5
9. I read slowly and carefully to make sure I understand what I am reading on-line.	1	2	3	4	5
10. I review the on-line text first by noting its characteristics like length and organization.	1	2	3	4	5
11. I try to get back on track when I lose concentration	1	2	3	4	5
12. I print out a hard copy of the on-line text then underline or circle information to help me remember it.	1	2	3	4	5
13. I adjust my reading speed according to what I am reading on-line.	1	2	3	4	5
14. When reading on-line, I decide what to read closely and what to ignore.	1	2	3	4	5
15. I use reference materials (e.g. an on-line dictionary) to help me understand what I read on-line.	1	2	3	4	5
16. When on-line text becomes difficult, I pay closer attention to what I am reading.	1	2	3	4	5
17. I read pages on the Internet for academic purposes.	1	2	3	4	5
18. I use tables, figures, and pictures in the on-line text to increase my understanding.	1	2	3	4	5
19. I stop from time to time and think about what I am reading on-line.	1	2	3	4	5
20. I use context clues to help me better understand what I am reading on-line	1	2	3	4	5
21. I paraphrase (restate ideas in my own words) to better understand what I read on- line.	1	2	3	4	5
22. I try to picture or visualize information to help remember what I read on-line.	1	2	3	4	5
23. I use typographical features like bold face and italics to identify key information.	1	2	3	4	5
24. I critically analyze and evaluate the information presented in the on-line text.	1	2	3	4	5
25. I go back and forth in the on-line text to find relationships among ideas in it.	1	2	3	4	5
26. I check my understanding when I come across new	1	2	3	4	5

information.					
27. I try to guess what the content of the on-line text is about when I read.	1	2	3	4	5
28. When on-line text becomes difficult, I re-read it to increase my understanding.	1	2	3	4	5
29. I ask myself questions I like to have answered in the on-line text.	1	2	3	4	5
30. I check to see if my guesses about the on-line text are right or wrong.	1	2	3	4	5
31. When I read on-line, I guess the meaning of unknown words or phrases.	1	2	3	4	5
32. I scan the on-line text to get a basic idea of whether it will serve my purposes before choosing to read it.	1	2	3	4	5
33. I read pages on the Internet for fun.	1	2	3	4	5
34. I critically evaluate the on-line text before choosing to use information I read on-line.	1	2	3	4	5
35. I can distinguish between fact and opinion in on-line texts.	1	2	3	4	5
36. When reading on-line, I look for sites that cover both sides of an issue.	1	2	3	4	5
37. When reading on-line, I translate from English into my native language.	1	2	3	4	5
38. When reading on-line, I think about information in both English and my mother tongue.	1	2	3	4	5

III.INTERNET USE QUESTIONNAIRE

1. Do you like to read on the Internet?

   Please circle a line: □a. Yes b. Sort of c. No

2. Please rank the following six **internet activities** bellow in order of use from 1–6. Write a [1] beside the Internet activity you do the MOST, a [2] beside the activity you do second most, and so on, ending by writing a [6] beside the Internet activity you do the LEAST.

Internet Activities

____ Playing interactive games on the Internet
____ Searching for a topic using a search engine
____ Reading certain websites to learn more about a topic

____ Using e-mail, chat rooms, Facebook, Twitter, other social media.
____ Browsing or exploring lots of different webpages
____ Downloading music or software games

3. Find the activity you rated as [1] in question 2 and guess how much time you spend doing that activity in one week.
   Please circle a line: □a. Less than 1hour□ □ b. Between 1 and 3hour □ c. More than 3hours
4. How good are you at figuring out where to go on the Internet to find what you want? Please circle a line: □ a. Very good □b. Just OK □c. Not so good
5. How good are you at using a search engine to find what you want?
   Please circle a line: □ a. Very good □b. Just OK □c. Not so good

Thank you very munch

Adapted from:

Anderson, N. J. (2003). Scrolling, clicking, and reading English: Online reading strategies in a second/foreign language. *The Reading Matrix*, *3*(3), 1-33. Retrieved from http://www.readingmatrix.com/articles/anderson/article.pdf

Zarrabi, S. (2015). *Exploring metacognitive online reading strategies of non-native English speaking translation student*. Unpublished doctoral dissertation. University of San Francisco, U.S. Retrieved from https://repository.usfca.edu/diss/298

Lubango,14 de Abril de 2022

Appendix 3- Scoring Guidelines for The *Survey of On-Line Reading Strategies*

Scoring Guidelines For The Survey Of On-Line Reading Strategies

Participant Number: Date:

1. Write the number you circled for each statement (i.e., 1, 2, 3, 4, or 5) in the appropriate blanks below.

2. Add up the scores under each column and place the result on the line

3. Divide the subscale score by the number of statements in each column to get the average for each subscale.

4. Calculate the average for the whole inventory by adding up the subscale scores and dividing by 30.

5. Use the interpretation guidelines below to understand your averages.

Global Reading Strategies (GLOB Subscale)	Problem Solving Strategies (PROB Subscale)	Support Reading Strategies (SUP Subscale)	**Overall Reading Strategies (ORS)**
1	9	4	**GLOB**
2	11	7	**PROB**
3	13	12	**SUP**
5	16	15	
6	19	21	
8	22	25	
10	28	29	
14	31	37	
17	34	38	
18	35		
20	36		
23			
24			
26			
27			
30			
32			
33			
GLOB Score	PROB Score	SUP Score	**Overall Score**
GLOB Average	PROB Average	SUP Average	**Overall Average**

Key to Averages: 3.5 or higher= High 2.5 – 3.4= Medium 2.4 or lower= Low

Reference:

Anderson, N. J. (2003). Scrolling, clicking, and reading English: Online reading strategies in a second/foreign language. *The Reading Matrix*, *3*(3), 1-33. Retrieved from http://www.readingmatrix.com/articles/anderson/article.pdf

Appendix 4- Think-Aloud Protocol

Think-aloud protocols are reported to be the most efficient instrument to understand the respondents' thoughts while reading and they can indicate the actual use of online metacognitive reading strategies (Incecay, 2013).

Procedures

1. Prepare a recording software to record the conversations and screen activities on the computer.
2. Request participants to undertake the think-aloud tasks.
3. Before asking participants to think aloud, give a training session to demonstrate how to undertake the think-aloud tasks.
4. Schedule the real think-aloud sessions and assures the participants that these sessions were not for testing purposes.
5. Stimulate the participant by asking them questions when they were silent, for instance: “What are you thinking about?”, “What’s going through your mind?”, “How are you doing this?”, “How are you figuring this out?”, “What do you understand so far?”, and “How did you get this?”.

Think-Aloud Text

"Building Stonehenge: A New Timeline Revealed" - By Tia Ghose
ref: http://www.livescience.com/25157-stonehenge-megaliths-timeline-enigma.html

Ancient people probably assembled the massive sandstone horseshoe at Stonehenge more than 4,600 years ago, while the smaller bluestones were imported from Wales later, as a new study suggests.

The conclusion, detailed in the December issue of the journal Antiquity, challenges earlier timelines that proposed the smaller stones were raised first.

"The sequence proposed for the site is really the wrong way around," said study co-author Timothy Darvill, an archaeologist at Bournemouth University in England. "The original idea that it starts small and gets bigger is wrong. It starts big and stays big. The new scheme puts the big stones at the center at the site as the first stage."

The new timeline, which relies on statistical methods to tighten the dates when the stones were put into place, overturns the notion that ancient societies spent hundreds of years building each area of Stonehenge. Instead, a few generations likely built each of the major elements of the site, said Robert Ixer, a researcher who discovered the origin of the bluestones, but who was not involved in the study.

"It's a very timely paper and a very important paper," Ixer said. "A lot of us have got to

go back and rethink when the stones arrived."

Mysterious monument

The Wiltshire, England, site of Stonehenge is one of the world's most enduring mysteries. No one knows why prehistoric people built the enigmatic megaliths, although researchers over the years have argued the site was originally a sun calendar, a symbol of unity, or a burial monument.

Though only some of the stones remain, at the center of the site once sat an oval of bluestones, or igneous rocks (those formed from magma) that turn a bluish hue when wet or freshly cut. Surrounding the bluestones are five giant sandstone megaliths called trilithons, or two vertical standing slabs capped by a horizontal stone, arranged in the shape of a horseshoe.

Around the horseshoe, ancient builders erected a circular ring of bluestones. The sandstone boulders, or sarsens, can weigh up to 40 tons (36,287 kilograms), while the much smaller bluestones weigh a mere 4 tons (3,628 kg).

Past researchers believed the bluestone oval and circle were erected earlier than the massive sandstone horseshoe. But when Darvill and his colleagues began excavations at the site in 2008, they found the previous chronology didn't add up. The team estimated the age of new artifacts from the site, such as an antler bone pick stuck within the stones. Combining the new information with dating from past excavations, the team created a new timeline for Stonehenge's construction.

Like past researchers, the team believes that ancient people first used the site 5,000 years ago, when they dug a circular ditch and mound, or henge, about 361 feet (110 meters) in diameter.

But the new analysis suggests around 2600 B.C. the Neolithic people built the giant sandstone horseshoe, drawing the stone from nearby quarries. Only then did builders

arrange the much smaller bluestones, which were probably imported from Wales. Those bluestones were then rearranged at various positions throughout the site over the next millennium, Darvill said.

"They sort out the local stuff first, and then they bring in the stones from Wales to add to the complexity of the structure," Darvill told LiveScience.

The new dating allows the archaeologists to tie the structure to specific people who lived in the area at the time, Darvill said. The builders of the larger sandstone structures were pig farmers found only in the British Isles. In contrast, the bluestone builders would've been the Beaker people, sheep and cow herders who lived throughout Europe and are known for the distinctive, bell-shape pottery they left behind.

The new timeline "connects everything together, it gives us a good sequence of events outside, and it gives us a set of cultural associations with the different stages of construction," Darvill said.

Comprehension Questions

1. The new study described in this article suggests which sequence of events for the building of Stonehenge?

a) The bluestones were arranged in the horseshoe configuration and then accented with the larger stones
b) Ancient peoples first arranged the small bluestone configuration and later ringed it with large, imported granite slabs
c) The sandstone horseshoe was developed first, thousands of years ago, and the smaller bluestones were imported later from Wales
d) All the stones were brought in at the same time and slowly arranged over centuries.

2. Which type of methodology does the new study rely on to discern Stonehenge's timeline?

a) Mineralogy
b) Statistical analysis
c) Carbon dating
d) DNA analysis

3. According to the article, a sarsen could weigh how much?

a) 38 tons
b) 42 tons
c) 56 tons
d) 41 tons

4. Until the study that is discussed in the article, what was the accepted sequence of Stonehenge's construction?

a) Bluestone horseshoe, then sandstone oval
b) Bluestone diamond, then sandstone square
c) Bluestone square, then sandstone circle
d) Bluestone oval, then sandstone horseshoe

5. None of the following were known artifacts in constructing the new Stonehenge timeline EXCEPT

a) Arrowheads of the nearby civilizations
b) Skeletons of ancient peoples
c) An antler bone wedged between stones
d) Stone eroded clearly enough to be dated

6. It is agreed between old and new studies that Stonehenge was first used by civilizations?

a) 5,000 years ago
b) 6,000 years ago
c) 7,000 years ago
d) 8,000 years ago

7. The later bluestones, believed to be imported from Wales,

a) Were originally arranged to outline the horseshoe shape of the sandstone boulders
b) Were arranged over the course of a millennium
c) Were actually recovered from local quarries
d) Were settled in their pattern within a year

8. According to Darvill, what effect did the bluestones have upon Stonehenge

a) They allowed the dimensions of Stonehenge to be more aesthetically pleasing
b) They provided an added complexity to the structure by using foreign material
c) They represented strong cultural ties with the Welsh culture

d) They were symbols of conquest of foreign lands

9. According to Daville, what is the most important piece of knowledge obtained from this new timeline?

a) That sandstone and bluestone were both native to the region
b) That Stonehenge became the model for future Scottish architecture
c) That the original peoples who built Stonehenge were wealthy enough to acquire rare stones
d) That the original builders of Stonehenge were different types of animal herders

10. What is the conclusion that Darville draws in the quote in the final paragraph?

a) Stonehenge remains an inspiration for modern artists and architects
b) The mysteries of Stonehenge are entirely clarified by the new research and timeline
c) Previous timelines for Stonehenge may have given us a flawed interpretation of the civilizations and materials they had access to at the time
d) Stonehenge was really a foreign project, made from materials outside of the country, and influenced by civilizations other than those who lived locally

References:

Incecay, G. (2013). Metacognitive online reading strategies applied by EFL students. *Journal of Theory & Practice in Education (JTPE), 9*(4), 390–407. https://dergipark.org.tr/en/download/article-file/63367

Sample toelf3. (2022, 09 July). *Graduates Hotline*. https://www.graduateshotline.com/sampletoefl3.html

Appendix 5- Semi-Structured Interviews

The aims of the interviews are to elicit information about the participants´ familiarity with the topics (before the think-aloud protocol) as well as to have participants reflect on their metacognitive reading strategies employed while the think-aloud sessions (after the think-aloud protocol).

Pre Semi-Structured Interview Questions

1. Could you tell me how much you know about this topic?
2. How much does this topic interest you?

3. What do you think good readers do when they are reading for information on the Internet?

Post Semi-Structured Interview Questions

1. How difficult was the task for you?
2. What did you find interesting about the webpage and text?
3. How successful were you at reading the online webpages to answer the questions?
4. How did you use your personal background experience to help yourself to understand the text?
5. What problems did you have when you were reading?
6. What did you do when you had a problem understanding what you were reading?
7. If someone asked for your advice on how to read on the Internet, what would you tell that person?

Adopted from:

Pookcharoen, S. (2009). Metacognitive online reading strategies among Thai EFL university students (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 304902052)

BIBLIOGRAPHY

BIBLIOGRAPHY

Ahmadian.M., & Pasand, P. G. (2017). EFL Learners' Use of Online Metacognitive Reading Strategies and its Relation to their Self-Efficacy in Reading. *The Reading Matrix: An International Online Journal, 17(2), pp. 117-132.* Retrieved from *https://readingmatrix.com/files/17-097to04m.pdf*

Alexander, P. A., & Jetton, T. L. (2000). Learning from text: A multidimensional and developmental perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), Handbook of reading research (Vol., 3, pp. 285–310). Mahwah, NJ: Erlbaum.

Amer, A., Al Barwani, T., & Ibrahim, M. (2010). Student teachers' perceived use of online reading strategies. *International Journal of Education and Development using Information and Communication Technology*, *6*(4), 102

Anderson, N. J. (2002). The role of metacognition in second/foreign language teaching and learning. ERIC Digest. Washington, DC: ERIC Clearinghouse on Languages and Linguistics. Retrieved from https://www.gpo.gov/fdsys/pkg/ERIC-ED463659/pdf/ERIC-ED463659.pdf

Anderson, N. J. (2003). Scrolling, clicking, and reading English: Online reading strategies in a second/foreign language. *The Reading Matrix*, *3*(3), 1-33. Retrieved from http://www.readingmatrix.com/articles/anderson/article.pdf

Assembleia Nacional. (2009). Decreto nº 7/09, de 12 de maio de 2009: Estabelece a reorganização da rede de instituições do ensino superior público e o redimensionamento da Universidade Agostinho Neto, publicado no Diário da República nº 87, I Série. Luanda.

Assembleia Nacional. (2012). Decreto nº 143/12, de 25 de Junho de 2012: Estatuto do Instituto Superior de Ciências da Educação, publicado no Diário da República nº 84, I Série. Luanda.

Babbie, E. (2001). *The practice of social research* (9th Edition). Belmont: Wadsworth.

Bailin, S., Case, R., Coombs, J. R., & Daniels, L. B. (1999). Conceptualizing critical thinking. *Journal of Curriculum Studies, 31*(3), 285-302. Retrieved from

https://www.researchgate.net/publication/261626237_Conceptualizing_Critical_Thinking

Baker, L. (2005). Developmental differences in metacognitive knowledge: Implications for metacognitively oriented reading instruction. In E. Israel, C. Block, L. Bauserman, & K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. 61–79). London: Routledge. Retrieved from https://www.researchgate.net/file.PostFileLoader.html?id=54902c71d11b8b79098b4790&assetKey=AS:273653080494081@1442255386905

Berkowitz, E. and Cicchelli, T. (2004). Metacognitive strategy use in reading of gifted high achieving and gifted under achieving middle school students in new york city. *Education and Urban Society, 37,* 37-57.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). How people learn: Brain, mind, experience, and school (expanded ed.). Washington, DC: National Academy Press.

Broussaard, S. C., & Garrison, M. E. B. (2004). The relationship between classroom motivation and academic achievement in elementary school-aged children. *Family and Consumer Sciences Research Journal, 33*(2), 106-120. Retrieved from https://www.academia.edu/9834610/The_Relationship_Between_Classroom_Motivation_and_Academic_Achievement_in_Elementary-School-Aged_Children

Brown, J. D. (2001). *Using surveys in language programs*. Cambridge, UK: Cambridge University Press.

Cacumba, J.S.C. (2014). Determining the academic reading needs of teacher trainees of English at ISCED-Huíla, Angola. MA Dissertation, University of South Africa. Retrieved from: http://uir.unisa.ac.za/handle/10500/13784

Carrell, P. L. (1989). Metacognitive Awareness and Second Language Reading. *Modern Language Journal,* vol. 73, pp. 121-134.

Case, R. (2005). Moving critical thinking to the main stage. *Education Canada, 45*(2): 45-49. Retrieved from https://nanopdf.com/download/moving-critical-thinking-to-the-main-stage_pdf

Chen, L. W. C. (2015). Taiwanese EFL Learners' Perceived Use of Online Reading Strategies. *IAFOR Journal of Education*, *3*(2), 68-80.

Coiro, J. & Dobler, E. (2007). Exploring the online comprehension strategies used by sixth-grade skilled readers to search for and locate information on the Internet. *Reading Research Quarterly*, *42*, 214-257. Retrieved from https://doi.org/10.1598/RRQ.42.2.2

Coiro, J. (2003). Rethinking comprehension strategies to better prepare students for critically evaluating content on the Internet. [Electronic Version]. *New England ReadingAssociation Journal.* Retrieved from http://ctell1.uconn.edu/coiro/nera2003.pdf

Coiro, J. (2007). Exploring changes to reading comprehension on the Internet: Paradoxes and possibilities for diverse adolescent readers. Unpublished doctoral dissertation, University of Connecticut, Storrs.

Coiro, J. (2012). The new literacies of online reading comprehension: Future directions. *Educational Forum*, *76*(4), 412–417. Retrieved from http://dx.doi.org/10.1080/00131725.2012.708620

Coiro, J., Knobel, M., Lankshear, C. & Leu, D. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear, & D. Leu (Eds.), *Handbook of research on new literacies* (pp. 25-32). Mahwah, NJ: Erlbaum.

Conselho de Defesa e Segurança. (1985). Resolução nº 1/85, de 24 de janeiro, publicado no Diário da República nº 9, I Série – Altera a designação da Universidade de Angola para Universidade Agostinho Neto (Alters the designation of *Universidade de Angola* to *Universidade Agostinho Neto*).

Conselho de Ministros. (1980). Decreto nº 95/80, de 30 de Agosto: Diário da República nº 206, I Série - Cria o Instituto Superior de Ciências da Educação

(ISCED), no quadro da Universidade de Angola e extingue a Faculdade de Letras do Lubango.

Creswell, J.W. (2012). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (4th ed.). Boston, MA: Pearson Education.

Cross, D. R. & Paris, S. G. (1988). Developmental and instructional analyses of children's metacognition and reading comprehension. Journal of Educational Psychology, 80(2), 131-142. Retrieved from https://doi.org/10.1037/0022-0663.80.2.131

Darwish, I. (2017). Meta Cognitive Strategy Use: Off or On in Online Reading. International Conference on Literature, History, Humanities and Social Sciences. https://doi.org/10.15242/ICEHM.ED0117029

Dörnyei, Z. & Taguchi, T. (2010). Questionnaires in second language research: Constructing, administering, and processing. London: Routledge.

Dörnyei, Z. (2007). Research in applied linguistics: Quantitative, qualitative, and mixed methodologies. Oxford, UK: Oxford University Press.

Eisenberg, N. (2010). Self-Regulation and School Readiness. *Early Education and Development, 21*(5), 681-698. Retrieved from https://www.researchgate.net/publication/49754761_Self-Regulation_and_School_Readiness

Ennis, R. H. (1985). A logical basis for measuring critical thinking skills. *Educational Leadership, 43*(2), 44-48. Retrieved from https://jgregorymcverry.com/readings/ennis1985assessingcriticalthinking.pdf

Evans, D., Gruba, P., & Zobel, J. (2014). How to Write a Better Thesis (3rd ed.). Switzerland: Springer International Publishing.

Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. The California Academic Press. Retrieved from https://www.researchgate.net/publication/242279575_Critical_Thinking_A_Statement_of_Expert_Consensus_for_Purposes_of_Educational_Assessment_and_Instruction

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. American Psychologist, 34, 906–911. Retrieved from https://doi.org/10.1037/0003-066X.34.10.906

Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education* (7th ed.). New York: McGraw-Hill.

Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century.* New York: Farrar, Straus & Giroux.

Gottfried, A. E. (1990). Academic intrinsic motivation in young elementary school children. *Journal of Educational Psychology, 82*(3), 525- 538. Retrieved from https://psycnet.apa.org/record/1991-05892-001

Grabe, W. P., & Stoller, F. L. (2013). Teaching and researching: Reading. London: Routledge.

Griffith, P.L., & Ruan, J. (2005). What Is Metacognition and What Should Be Its Role in Literacy Instruction? In E. Israel, C. Block, L. Bauserman, & K. Kinnucan-Welsch (Eds.), *Metacognition in literacy learning: Theory, assessment, instruction, and professional development* (pp. –). London: Routledge. Retrieved from https://www.researchgate.net/file.PostFileLoader.html?id=54902c71d11b8b79098b4790&assetKey=AS:273653080494081@1442255386905

Griffiths, C. (2015). What have we learnt from good language learners? *ELT Journal*, *69*(4), 425-433. Retrieved from http://dx.doi.org/10.1093/elt/ccv040

Haller, E. P., Child, D. A., & Walberg, H. J. (1988). Can comprehension be taught? A quantitative synthesis of metacognitive studies. *Educational Researcher, 17*(9), 5-8. Retrieved from https://eric.ed.gov/?id=EJ394555

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Dispositions, skills, structure training, and metacognitive monitoring. *American Psychologist, 53*(4), 449-455. Retrieved from https://www.semanticscholar.org/paper/Teaching-critical-thinking-for-transfer-across-and-Halpern/7d1d8627450c93b5d789b7e164f680639e3961ee

Hassanpour, M., Ghonsooly, B., Nooghabi, M. J., & Shafiee, M. N. (2017). Investigating the Relationships Among Metacognitive Strategy Training,

Willingness to Read English Medical Texts, and Reading Comprehension Ability Using Structural Equation Modeling. The Reading Matrix: An International Online Journal, 17(2). Retrieved from https://readingmatrix.com/files/17-5996010x.pdf

Hennessey, M. G. (1999). Probing the dimensions of metacognition: Implications for conceptual change teaching-learning. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA. Retrieved from https://eric.ed.gov/?id=ED446921

Henry, L.A. (2005). Information Search Strategies on the Internet: A Critical Component of New Literacies. *Webology, 2*(1), 1-11. Retrieved from https://www.researchgate.net/publication/26405852_Information_Search_Strategies_on_the_Internet_A_Critical_Component_of_New_Literacies https://www.cambridge.org/core/books/applied-metacognition/development-of-metacognitive-knowledge-in-children-and-adolescents/CB2E654253921BA31EF257364DA65912 https://www.researchgate.net/publication/227166212_Promoting_General_Metacognitive_Awareness https://www.researchgate.net/publication/227297989_Metacognitive_Theories

Huang, H., Chern, C. & Lin, C. (2009). EFL Learners' Use of Online Reading Strategies and Comprehension of Texts: An Exploratory Study, *Computers and Education, 52:*13-26. Retrieved from http://educ7006.pbworks.com/w/file/fetch/63494934/EFL%20Learners%27%20use%20of%20online%20reading%20strategies%20and%20comprehension%20of%20text.pdf

Hull, G., & Schultz, K. (Eds.). (2002). School's out! Bridging out-of-school literacies with classroom practice. New York: Teachers College Press.

Incecay, G. (2013). Metacognitive online reading strategies applied by EFL students. *Journal of Theory & Practice in Education (JTPE), 9*(4), 390–407. https://dergipark.org.tr/en/download/article-file/63367

Jacobs, J. E., & Paris, S. G. (1987). Children's metacognition about reading: Issues in definition, measurement,and instruction. Educational Psychologist, 22, 255–27. Retrieved from https://doi.org/10.1080/00461520.1987.9653052

Jusoh, Z., & Abdullah, L. (2015). Online Survey of Reading Strategies (OSORS): Students' Online Reading in Academic Context. *Malaysian Journal of Distance Education*, *17*(2), 67-81.

Kasi, P.M. (2009). Research: What, Why and How? A Treatise from Researchers to Research. Bloomington: Author House.

Killi, C. (2012). Online reading as an individual and social practice. Jyväskylä Studies in Education, Psychology and Social Research 441. University of Jyväskylä.

Kothari, C.R. (2006). Research Methodology: Methods and Techniques (2nd Revised Ed.). Delhi: New Age International Publishers.

Kuhn, D. & Dean, D. (2004). A bridge between cognitive psychology and educational practice. *Theory into Practice, 43*(4), 268-273. Retrieved from https://www.researchgate.net/publication/232869320_Metacognition_A_Bridge_Between_Cognitive_Psychology_and_Educational_Practice

Kumar, R. (2011). Research Methodology: a step-by-step guide for beginners (3rd ed.). New Delhi: SAGE Publication.

Lankshear, C. & Knobel, M. (2006). *New literacies: Everyday practices and classroom learning* (2nd ed.). Maidenhead, UK: Open University Press.

Lankshear, C., & Knobel, M. (2003). New literacies: Changing knowledge and classroom learning. Buckingham, England: Open University Press.

Leedy, P.D. & Ormrod, J.E. (2021). Practical research: Planning and design (12 th ed.). New York: Macmillan.

Leu, D. J., Kinzer, C. K, Coiro, J. L, & Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other information and communication technologies. In R. B. Ruddell, & N. Unrau (Eds.), *Theoretical models and process of reading* (5th ed., pp. 1570–1613). Newark, Del: International Reading Association.

Leu, D. J., Zawilinski, L., Castek, J., Banerjee, M., Housand, B., Liu, Y., & O'Neil. M. (2007). What is new about the new literacies of online reading

comprehension? In L. Rush, J. Eakle, & A. Berger, (Eds.). *Secondary school literacy: What research reveals for classroom practices*, 37-68. Retrieved from https://www.researchgate.net/publication/285909294_What_is_new_about_the_new_literacies_of_online_reading_comprehension

Lipman, M. (1988). Critical thinking—What can it be? *Educational Leadership, 46*(1), 38-43. Retrieved from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198809_lipman.pdf

Louis, K.S. and B. van Velzen. (1988). Reconsidering the theory and practice of dissemination. In Van den Berg, R. and V. Hameyer (Eds.). *Dissemination reconsidered: The demands of implementation* (pp. 261–280). Leuven, Belgium: Acco.

Lyman, P., & Varian, H. R. (2003). How Much Information 2003? Available from University of California, Berkeley, School of Information Management and Systems website. Retrieved from http://www.sims.berkeley.edu/research/projects/how-much-info-2003/

Marboot, K., Roohani, A., & Mirzaei, A. J. I. i. L. T. (2020). Investigating Iranian EFL students' metacognitive online reading strategies, critical thinking, and their relationship: A mixed-methods study. *9*(1), 151-182.

Martinez, M. E. (2006). What is metacognition? *Phi Delta Kappan*, 696-699. Retrieved from https://www.semanticscholar.org/paper/What-is-Metacognition-Martinez/eca551f64180790a593a2db8497f0e94e2e05dab

McCormick, C. B. (2003). Metacognition and learning. In I. B. Weiner (Series Ed.), W. M.Reynolds & G. E. Miller (Vol. Eds.), Handbook of psychology: Educational psychology (Vol. 7, pp. 79-102). Hoboken, NJ: John Wiley & Sons, Inc. Retrieved from http://dx.doi.org/10.1002/0471264385.wei0705

McMillan, J.H. and S. Schumacher. (2001). Research in education: A conceptual introduction (5th Edition). New York: Longman.

McVerry, J.G. (2013). The Internet and Adolescent Readers: Exploring Relationships Between Online Reading Comprehension, Prior Knowledge, Critical Evaluation, and Dispositions. *Doctoral Dissertations.* Paper 120.

Mokhtari, K., & Reichard, C. (2002). Assessing students' metacognitive awareness of reading strategies. Journal of Educational Psychology, 94(2), 249–259. Retrieved from https://doi.org/10.1037/0022-0663.94.2.249

Mokhtari, K., & Sheorey, R. (2002) Measuring ESL students" awareness of reading strategies. Journal of Developmental Education, 25 (3), pp. 2-10. Retrieved from https://www.researchgate.net/profile/Kouider-Mokhtari/publication/285641803_Measuring_ESL_students%27_awareness_of_reading_strategies/links/5666234608ae418a786f3da5/Measuring-ESL-students-awareness-of-reading-strategies.pdf

New London Group. (2000). A pedagogy of multiliteracies designing social futures. In B. Cope & M. Kalantzis (Eds.), Multiliteracies: Literacy learning and the design of social futures (pp. 9–37). London: Routledge.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. New York: Cambridge University Press.

Ostovar-Namaghi, S., & Noghabi, A. (2014). A comparison of perceived use of the metacognitive reading strategies by Iranian Master of Science students for hypertext and printed academic materials. *Journal of Language Teaching & Research, 5*(4), 865–872. Retrieved from https://doi.org/10.4304/jltr.5.4.865-872

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House Harper Collins.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-Regulation in context*)2nd ed.) New York, NY: Routledge.

Oxford, R., & Burry-Stock, J. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the strategy inventory for language learning SILL. *System, 23,* 1–23.

Öztürki, S. Y. (2018). Use of Metacognitive Online Reading Strategies by Student Teachers Of English. European Journal of Foreign Language Teaching, 3 (3), pp. 17-32

Paltridge, B. & Starfield, S. (2007). Thesis and dissertation writing in a second language: A handbook for supervisors. London: Routledge.

Paris, S. C., Lipson, M. Y., & Wixson, K. K. (1983). Becoming a strategic reader. Contemporary Educational Psychology, 8, 293-316.

Paris, S. G., & Winograd, P. (1990). How metacognition can promote academic learning and instruction. In B. F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction (pp.15-51). Hillsdale, NJ: Erlbaum.

Paul, R. W. (1992). Critical thinking: What, why, and how? *New Directions for Community Colleges, 1992*(77), 3-24. Retrieved from https://eric.ed.gov/?id=EJ443438

Pookcharoen, S. (2009). Metacognitive online reading strategies among Thai EFL university students (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (UMI No. 304902052)

Punch, K.F. (2006). Developing Effective Research Proposals. (3rd ed.). London: Sage Publications.

Ramli, N. F. M., Darus, S., & Bakar, N. A. (2011). Metacognitive online reading strategies of adult ESL learners using a learning management system. *Theory and Practice in Language Studies*, *1*(3), 195-204.

Richards, J.C., & Schmidt, R. Longman Dictionary of Language Teaching and Applied Linguistics (4th ed.) Harlow, Essex: Person Education Limited.

Sangongo, G.B. (2020) Investigating The Reading Strategies Employed by 4th –Year Teacher Trainees at ISCED-Húila to Enhance Effective Comprehension. (Unpublished Monograph for the awarding of Licenciatura degree, ISCED-Huíla).

Schneider, W. & Lockl, K. (2002). The development of metacognitive knowledge in children and adolescents. In Perfect, T. & Schwartz, B. (Eds.), *Applied metacognition*. Cambridge, UK: Cambridge University Press. Retrieved from

Schraw, G. & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review, 7*(4), 351-371. Retrieved from

Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science, 26*(1-2), 113-125. Retrieved from

Schraw, G., Crippen, K. J., & Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. Research in Science Education, 36, 111-139.

Seliger, H.W. & Shohamy, E. (1989). Second language research methods. Oxford: Oxford University Press.

Silverman, D. (2000). Doing qualitative research: A practical handbook. London: Sage.

Street, B. (1999). New literacies in theory and practice. *Linguistics and Education, 10*, 1-24

Tavakoli, H. (2012). A Dictionary of Research Methodology and Statistics in Applied Linguistics. Tehran: Rahnama Press.

Willingham, D. T. (2007). Critical thinking: Why is it so hard to teach? *American Educator*, 8-19. Retrieved from https://www.readingrockets.org/article/critical-thinking-why-it-so-hard-teach

Yaghi, E. T. (2021). The Impact of Metacognitive Online Reading Strategies on Online Reading Disposition of Saudi EFL Learners.

Zarrabi, S. (2015). Exploring metacognitive online reading strategies of non-native English speaking translation student. Unpublished doctoral dissertation. University of San Francisco, U.S. Retrieved from https://repository.usfca.edu/diss/298