

MESTRADO EM ENSINO DE INGLÊS NO 1º CICLO DO ENSINO BÁSICO

Improving Vocabulary Acquisition in Young EFL Learners through Metacognitive Strategies: the use of Vocabulary Notebooks

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Declaração de honra / *Declaration of Honour*

Declaro que o presente relatório é de minha autoria e não foi utilizado previamente noutro curso ou unidade curricular, desta ou de outra instituição. As referências a outros autores (textos, trabalhos, ideias) respeitam escrupulosamente as regras de atribuição de autoria e encontram-se devidamente indicadas no texto e nas referências bibliográficas, de acordo com as normas de referência. Tenho consciência de que a prática de plágio e auto-plágio constitui um ilícito académico.

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[Porto, 2025]

[Margaryta Chirkova]

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Resumo

Apesar do amplo reconhecimento do papel desempenhado pelo vocabulário na aprendizagem de línguas, o seu ensino nem sempre recebe a dedicação necessária, e os alunos/as que aprendem inglês como Língua Estrangeira (ILE) nem sempre desenvolvem pensamento crítico durante o processo de aprendizagem lexical. Saber vocabulário é ter sucesso em todas as outras competências linguísticas – ouvir, falar, ler e escrever. Sem ele, não seria possível compreender os outros ou exprimir os seus pensamentos quando se comunica. Neste enquadramento, o presente relatório insere-se no âmbito da realização do estágio profissional do Mestrado em Ensino de Inglês no 1º ciclo do Ensino Básico da Faculdade de Letras da Universidade do Porto, e tem como objetivo principal promover a aquisição de vocabulário através de uma abordagem metacognitiva em alunos de 3º e 4º ano de escolaridade. Partindo deste objetivo, foi desenvolvido um pequeno estudo empírico de natureza mista (qualitativa e quantitativa), no âmbito do qual foram recolhidos dados a partir de questionários metacognitivos, observações realizadas em contexto de sala de aula e através de um caderno de vocabulário (“Vocabulary notebook”). Este é utilizado como ferramenta mediadora de sensibilização linguística para apoio contextual às palavras. Os resultados obtidos demonstraram maior eficácia na utilização deste instrumento quando este inclui exercícios metacognitivos e de sensibilização linguística, contribuindo para o desenvolvimento do vocabulário em alunos/as do 1º ciclo do Ensino Básico. Esta abordagem não só promoveu acrescidos resultados na aquisição de vocabulário, como também incentivou o pensamento crítico durante o processo de aprendizagem. Além disso, o presente projeto revelou a importância em contextualizar palavras para além da repetição oral no ato da introdução do vocabulário, denotando uma margem de exploração para futuras pesquisas sobre o tema.

Palavras-chave: metacognição, caderno de vocabulário, sensibilização linguística, aquisição de vocabulário.

Abstract

Despite the widespread recognition of the role played by vocabulary in language learning, its teaching does not always receive the necessary dedication, and students learning English as a Foreign Language (EFL) do not always develop critical thinking during the lexical learning process. To know vocabulary is to achieve success in all other language skills – listening, speaking, reading and writing. Without it, one would not be able to understand others or express thoughts when communicating. In this context, the present report falls within the scope of the Supervised Teaching Practice II of the Master's Degree in Teaching English in the 1st Cycle of Basic Education at the Faculty of Arts and Humanities of the University of Porto. Its main objective is to promote vocabulary acquisition through a metacognitive approach in 3rd and 4th grade students. Guided by this objective, a small empirical study of a mixed-method nature (qualitative and quantitative) was developed, in which data were collected from metacognitive questionnaires, classroom observations, and using a Vocabulary Notebook as a mediating language awareness tool for contextual word support. The results demonstrated greater effectiveness in using this tool when it incorporates metacognitive and language awareness exercises, contributing to the development of vocabulary in primary school pupils. This approach not only promoted greater results in vocabulary acquisition but also encouraged critical thinking during the learning process. In addition, this project revealed the importance of contextualising words beyond oral repetition when introducing vocabulary, suggesting potential for future research on the topic.

Key-words: metacognition, vocabulary notebooks, language awareness, vocabulary acquisition.

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List of abbreviations and acronyms

AE.....	APRENDIZAGENS ESSENCIAIS
ASSC.....	AURÉLIA DE SOUSA SCHOOL CLUSTER
AHSC.....	ALEXANDRE HERCULANO SCHOOL CLUSTER
DGE.....	DIREÇÃO-GERAL DA EDUCAÇÃO
EAP.....	EDUCATIONAL ACTIVITIES PLAN
EFL.....	ENGLISH AS A FOREIGN LANGUAGE
L1.....	FIRST LANGUAGE
IPP1/2.....	INTRODUCTION TO PROFESSIONAL PRACTICE
NAP.....	NATIONAL ARTS PLAN
PDR.....	PLAN-DO-REVIEW
PPM.....	PLANO PLURIANUAL DE MELHORIA
PSL.....	PORTUGUESE SIGN LANGUAGE
L2.....	SECOND LANGUAGE
PA.....	PERFIL DOS ALUNOS À SAÍDA DA ESCOLARIDADE OBRIGATÓRIA
UNESCO.....	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION
YL.....	YOUNG LEARNER
ZPD.....	ZONE OF PROXIMAL DEVELOPMENT

Introduction

“Words are the source of misunderstandings” (Saint-Exupéry, A., 2001, p.93)

In today’s fast-paced society and interconnected world, becoming proficient in language is an essential communicative life competence. Many times, the gap between transmitting a message and understanding it lies not in an unwillingness to communicate but in not having enough words to express an idea. Young learners aged five and eleven years old, may face additional challenges when acquiring new words, and consequently, learn a foreign language. At this stage, young learners are still mastering their first language and growing their cognitive and linguistic skills.

To develop language skills, one must acquire a knowledge of words and be cognitively engaged in a challenging task throughout life. Unlike learning grammar rules, which can be established at a younger age, vocabulary development continues throughout one’s lifetime as an individual rarely stops encountering new words to learn (Schmitt, 2000). To help a learner communicate effectively, vocabulary acquisition must be gradual and align with their age, cognitive abilities, and linguistic levels. Brewster et al. (2004) metaphorically pictures vocabulary acquisition as a jigsaw, where each pedagogical view and approach contribute to a more complete image of language proficiency. Yet, the complex nature of word knowledge, which includes, meaning, written and spoken form, grammatical behaviour, collocations, contextual usages, and frequency of the word challenge the notion of a single “best” learning strategy to acquire vocabulary (Schmitt, 2000).

English language, globally recognised as the *lingua franca*, has been widely introduced in educational systems, including in Portugal, where it has become a compulsory subject for third graders in the year 2015 (Lourenço & Mourão, 2017). However, recognising the English language as an important language of instruction can collide with the classroom reality for younger learners. This reality led me to understand the need to optimise vocabulary acquisition through guided and directed reflective practices. To be specific, children from third and fourth grade learning English as a Foreign Language (EFL) at a state school in Portugal, demonstrated ongoing difficulties

in progressing beyond basic communicative competence due to various speculative factors, such as their motivation, meaningless vocabulary drilling, less frequent word exposure, or lack of word awareness (Schmitt, 2000). The reasons mentioned above are what motivated the present report. If “traditional learning methods”, such as drilling, are helpful for some learners to succeed in language learning, but still present gaps in developing critical thinking and building autonomous citizens as outlined in the guiding documents for education in Portugal (e.g., *Aprendizagens Essenciais* (DGE, 2018); *Perfil dos Alunos à Saída da Escolaridade Obrigatória* (DGE, 2017)), what other strategies could be applied to supplement learners’ acquisition deficits and improve vocabulary acquisition?

This study explores the effectiveness of one vocabulary learning strategy, that of keeping a vocabulary notebook. For this reason, the main aims of this study are to see to what extent vocabulary notebooks can provide learners with context; to see the effectiveness of metacognitive language awareness tasks within vocabulary notebooks to obtain contextual word help; and to determine whether vocabulary notebooks are effective in vocabulary acquisition.

To address these aims, this present report is structured into five chapters. The first chapter provides the context for the study, identifying and justifying the pedagogical areas in need of improvement that motivated this action research. The second chapter develops the theoretical framework that supported the intervention project design. This chapter describes the role of vocabulary acquisition in language learning, an explanation of the correlation between metacognition and language awareness, and the mediating concept of vocabulary notebooks. Then, in chapter three, I summarise the intervention plan, detailing the methodological aspects used in this action research that guided my practice, and describe the data-gathering tools. Following this, in chapter four, I describe the context of the implemented activities, analyse and interpretate the collected data from the classroom interventions. Lastly, in chapter five, I draw my conclusions on the entire research journey, including the challenges encountered, study limitations, and future pedagogical suggestions.

1. Chapter I - Justification for Action

This chapter presents an Action Research project developed as part of the Master's degree in Teaching English in the 1st cycle of basic education at the Faculty of Arts and Humanities of the University of Porto. The project was conducted in two different schools. The first observation took place at the *Alexandre Herculanos* school cluster in which an area in need of intervention was identified. The second observation was carried out at the *Aurélia de Sousa* school cluster, where the same area in need of improvement was recognised. This school was fundamental for the implementation of the Action Research intervention, with the solution being adapted and applied to address the identified issue effectively. The project involved third and fourth grade levels in both schools.

The study was carried out in the second semester of the 2023/2024 academic year as part of the Introduction to Professional Practice I (IPP1) within the Master's Curriculum, followed by Professional Practice II (IPP2) in the first semester of the 2024/2025 academic year. In this chapter an overview of the school context is provided, including a description of the learners' profile, followed by an explanation of the identified problem, the intervention area, and the research questions.

1.1. School Context

1.1.1. Alexandre Herculano School Cluster

The *Alexandre Herculano* School cluster (AHSC) consists of nine institutions providing education from pre-school to secondary levels across various parishes in Porto, namely, the parishes of *Bonfim*, *União de Freguesias* of the Historic Centre of Porto and *Campanhã*. Despite facing challenges related to infrastructure and socio-economic diversity among students, AHSC is committed to providing strong educational programs, including support for deaf students and special education units. The cluster promotes equal opportunities in access to the curriculum focusing on the development of Portuguese Sign Language (PSL) and written Portuguese as a Second Language (L2) for those students who do not have Portuguese as their First Language (L1). The cluster's projects and partnerships emphasize inclusion, excellence, and active citizenship, hence

their motto: *“Education is a treasure that each and every one of us must make good use of.”*

AHSC currently offers a total of seventy-six classes, with eighty-two students having special needs and one-hundred and eleven being children of immigrant parents. Furthermore, the cluster follows a document that guides the school’s institutional and strategic planning in educational activities – the AHSC Educational Project, which sets out the cluster mission, vision and aims. Supported by improvement measures outlined in the *“Plano Plurianual de Melhoria”* (PPM), the responsibility for the implementation of this Education Project is of all members associated with the institution, ensuring that the implementation of curricular options is aligned with the Student Profile by the End of Compulsory Schooling (in Portuguese, *“Perfil dos Alunos à Saída da Escolaridade Obrigatória”* (PA)) and *“Aprendizagens Essenciais”* (AE). The curriculum of the subjects is based on the official documents provided by the Ministry of Education.

The school in which the *Zero Cycle* observation took place, that is, Lomba Primary School, adheres to various documents such as *“Aprendizagens Essenciais”* (AE), Internal Regulation of the Cluster, Students’ Profile by the end of Compulsory Schooling, *“Plano Plurianual de Melhoria,”* and the Educational Project of the Cluster. In terms of the foreign language curriculum, decisions are made by the governing body of the school cluster. The assessment criteria for the four language skills are discussed within the languages department, with the curricular department coordinator following the directives implemented by the pedagogical council. Each year, the curriculum undergoes a thorough review, and each group follows the syllabus supplementing it with additional materials relevant to it. Autonomous decisions are made based on teachers’ beliefs and knowledge.

1.1.2. Aurélia de Sousa School Cluster

The *Aurélia de Sousa School Cluster* (ASSC) incorporates distinct levels of education, ranging from preschool to secondary school, namely, Aurélia de Sousa Secondary School, Augusto Gil Middle School, and three primary schools, two in which the Action Research intervention was conducted (*Fontinha* and *Fernão Magalhães*

Primary School). These schools are primarily located in the Bonfim parish of Porto except for two schools situated in the *União de Freguesias* of the Historic City Centre of Porto.

Regarding the curriculum, the school cluster follows the national education framework, aimed to guide learners with appropriate skills for personal and social development to promote autonomous, active, and responsible citizens. This curriculum was designed to develop learners competencies outlined in the Student Profile by the End of Compulsory Schooling, taking inspiration from UNESCO's 2021 Report: *"Reimagining our Futures Together"*. Also, focusing on principles of inclusivity, interculturality and innovative education, ASSC differs from AHSC by integrating reflective practice that explores the student's ability to engage critically with their own learning and knowledge development. The commitment with developing critical thinking aligns with the focus of this Action Research project.

In addition to the curriculum, it should be noted that the guiding document, known as *Educational Project (2022-2025)* apart from being a reference for the planned learning activities, was open to teachers' interpretation and application. ASSC provides annual activities through its Educational Activities Plan (EAP), including arts, science, sports, and technological activities, supported by clubs for photography, cinema, journalism and participation in the National Arts Plan (NAP). Concerning foreign language teaching, and similar to AHSC, *Aurélia de Sousa* school cluster's pedagogical council liaises with a language department in which the language teaching curriculum is designed according to the Ministry of Education proposals.

According to the school's cluster webpage (ASSC, n.d.), in the academic year of 2021/2022, over one thousand and seven hundred students were enrolled across all educational levels, out of which, four hundred and twelve were learners from the first Cycle of Basic Education. Having a diverse group of learners from diverse cultural and economic backgrounds, the cluster, through partnerships with families, students, and parents' associations, withstands educational and social exclusion. Additionally, all schools offer well equipped facilities with essential resources, that is, projectors, whiteboards, school materials and computers.

1.1.3. Learners' and Class Profile

During the Zero Cycle of the Action-Research project, the cluster "*Alexandre Herculano*" was relevant for observing and identifying patterns of inconsistencies in teaching and learning a foreign language, patterns that were repeated in the *Aurélia de Sousa* School cluster. Therefore, this is the cluster that this project aims at, namely *Fontinha Primary School* and *Fernão Magalhães Primary School*.

Altogether, eight classes attended English Language lessons at the first cycle of basic education, representing a total of one hundred and sixty-four learners from third to fourth grade levels. Despite having observed all eight classes, the present project focuses on two specific target groups: third graders from *Fernão Magalhães Primary School* and fourth graders from *Fontinha Primary School*. Although, the intervention plan can be repeated in other groups for additional data if necessary.

The third-grade group consisted of fourteen learners, including eight girls and six boys, with ages ranging from seven to ten years. This group presented a higher range of diversity, comprising children from Portuguese, Brazilian, Cuban, and Angolan nationalities. In the fourth grade, the group was bigger, containing twenty-four pupils, with both genders equally represented: twelve girls and twelve boys, with ages varying between ten and twelve years old. In contrast to the third-grade class, this fourth-grade class predominantly consisted of Portuguese learners, with a smaller minority being Brazilian pupils. It is to be added that, despite two pupils having a doctor's prescription for medication to manage their anger, there were no individuals with special needs in the groups.

Both classes had their first contact with English language at the beginning of the third grade. Regardless of their English proficiency levels, which ranged from "Poor" to "Very Good," both groups revealed a positive attitude towards English language. Third-grade learners have been observed to display positive relationships with their peers and generally exhibit good and collaborative behaviour. Conversely, in the fourth grade, the learners were misbehaved, as their English lesson was scheduled in the second half of the day before leaving school. This resulted in a noticeable reluctance to participate. Learners' reluctance could be due to both the after-lunch energy drop and the fact that

learners were still getting to know me.

Regarding the English Classroom, *Fontinha* Primary School stands out from *Fernão Magalhães* Primary School as there is an English language classroom in which the English teacher possess autonomy over the classrooms' organisation and seating arrangements. For instance, fourth graders were seated in small groups, while third graders were seated according to their generalist teacher. The difference relies on the English Teacher flexibility and freedom over classrooms arrangements in contrast to other conventional classrooms.

In the English as Foreign Language (EFL) classes, the content of the lessons regarding the four language skills followed the "*Aprendizagens Essenciais*" (AE) document, complemented by the coursebook "*Easy Peasy 3/4*". Each class was designated a total of two hours of English per week, with each lesson lasting for a duration of one hour.

1.2. The Zero Cycle of the Action Research

In the second half of the 2023 academic year, students enrolled in the subject of Introduction to Professional Practice I (IPP1) conducted observations with groups of third- and fourth-year pupils. The observation process began in one cluster (AHSC) and, due to unforeseen circumstances, was then carried out in a new cluster (ASSC). However, the recurring teaching practices and the challenges that were identified remained common across both contexts. As a result, this provided a basis for the identification and analysis of key areas in need of improvement.

Additionally, the information gathered during this observational phase primarily relied on written notes focusing on the learners' conduct, learners' classroom management, established routines, employed strategies of their teacher, and the level of exposure to and use of L2 versus L1. This process revealed noticeable opportunities in pinpointing an aspect needing improvement, which consequently became the focal point of the ensuing Action Research project.

1.2.1. Analysis of the observation process and identification of the problem

During the observation period it was noted that a teaching routine was established from the outset. The routine began with a welcoming song: *"Hello Song,"* and afterward, learners noted information such as date, time, and season in their notebooks. Lessons then moved on to (1) introducing new content or (2) reviewing previously learned material. In the former situation, new topics were usually introduced using a structured sequence: elicitation, modelling, repetition, and consolidation. Flashcards were the main scaffolds to introduce the vocabulary and, in the absence of those, drawings served this purpose. Whenever an unfamiliar word was introduced, the teacher modelled the pronunciation and prompted the students to repeat after her. Regarding the second situation, pupils would usually do exercises from the coursebook related to the topic, which could include listening exercises, games, and arts and crafts activities to reinforce learning.

The established classroom routine effectively set the learners' frame of mind for the EFL lesson. The learners demonstrated enthusiasm and increased motivation towards the subject, as the singing greetings immediately created a positive learning environment. As stated by Cameron (2001), routines allow learners "to make sense of new language through familiar experiences, thereby providing a supportive space for language growth and skill development" (p.11).

Furthermore, in terms of the four language skills: writing, reading, listening, and speaking, it can be noted that writing skills were rarely practised beyond copying new vocabulary into the notebooks or completing coursebook exercises. Similarly, coursebook activities were the only observed opportunities for learners to engage in reading. Conversely, the focus of the lessons was on the development of listening and speaking skills, with a heavy reliance on oral interactions between the teacher and pupils as a whole group, rather than interactions between peers. Although this routine effectively engaged a few pupils and created productive circumstances, it was mainly teacher centred, with limited opportunities for peer interaction or learner autonomy.

This instructional approach may prove ineffective for language acquisition, as learners require natural sources of communication, as Krashen (1998) affirms: “Language is best taught when it is being used to transmit messages, not when it is explicitly taught for conscious learning” (p. 55). Coyle et al. (1997, as cited in Brewster et al., 2004) notes that the aim of language preparation is “not to teach a foreign language but to teach how to use it in communication” (p. 8). This view is incompatible when language teaching excludes authentic, natural, real-world language use. Furthermore, the spoken activities consisted of the repetition of new vocabulary or isolated words rather than complete utterances. This behaviourist approach, in which the language is learned through repeated reinforcement, not only decreased learners’ ability to apply the words independently but also limited their contextual understanding of the vocabulary. For instance, after focusing on a specific group of learners during vocabulary drills, mispronunciations were often heard (see Table 1) indicating two possible variables, namely, (a) Young Learners (YLS) limited understanding of the repeated vocabulary, or (b) the decontextualised drills. Brewster et al. (2004) state that this behaviouristic vocabulary instruction tends to be decontextualised, further supporting this observation by stating that “decontextualised drills did not have the kind of meaningfulness which could support learners’ understanding” (p.26).

Likewise, during activities where pupils were prompted to identify vocabulary (e.g., by pointing to the correct image), learners searched for the written form rather than recognising the visual representations. This suggests that there was no association between its visual representation and word. This was particularly evident during the fourth-grade learners’ “Show and Tell” presentation, where they were following a model structure provided to them, meaning that the learners were relying on memory rather than the language being used meaningfully. This contradicts the perspective of Richards and Rodgers (2014), who argue that language learners need to comprehend and express, rather than reproduce memorised vocabulary. The role of the language learner in constructing meaning was completely disregarded as besides repetition, no further tasks to deepen the learning were fostered. Moreover, this is at odds with the clusters’

Educational Project (2022-2025), whose values highlight the importance of developing an autonomous individual with the ability to think reflectively, creatively, and critically.

Considering the previously mentioned issues, such as over-reliance on rote vocabulary learning without meaningful support, during the teaching practice and taking the role of a teacher rather than student, several key elements were reflected upon. Each learner had a learning style and unique personality, prompting me to reflect on carefully designed teaching strategies to engage all learners with vocabulary. When learners' exercises were checked, many sought not only for assistance but also to hear feedback. Cameron (2001) justified this phenomenon as pupils' desire to obtain feedback that enables them to compare their current performance with previous ones. By noticing the learners' awareness of their own learning processes, I reflected on the inclusion of feedback as an act of metacognition (already present unconsciously in learners) that could make some improvement in their vocabulary acquisition. Moreover, Zimmerman (2002) pointed out that "[learners'] deficiencies in learning were attributed to a lack of metacognitive awareness of personal limitations" (p. 65).

Based on these reflections, it is evident that there is a necessity to incorporate diverse and interactive teaching methods to foster meaningful language use. Evidence points to the need to provide more opportunities for writing skills through strategies that include contextualised vocabulary drills, in which learners move beyond rote memorisation and engage in active, meaningful vocabulary learning. Therefore, taking advantage of the observed learners' ability to reflect, I considered introducing metacognitive vocabulary notebooks as a proposed tool to provide YLs with contextual support after introducing new vocabulary. These notebooks aim to scaffold language awareness tasks, encouraging metacognitive reflections to enhance the overall effectiveness of language instruction, additionally, they implement reflective practices combined with writing-based consolidation to achieve this goal.

Taking these reflections into account, an interest in a more reflective and learner-centred approach to vocabulary instruction was developed and the focus of this report emerged. Hence, this analysis resulted in the following Action Research title:

“Improving Vocabulary Acquisition in Young EFL Learners through Metacognitive Strategies: the use of Vocabulary Notebooks.”

1.2.2. Action Research questions

Based on the observations and the identified area in need of intervention, the following Action Research questions were formulated:

- 1) How do learners use vocabulary notebooks to improve their contextual understanding of vocabulary?
- 2) Do language awareness exercises in vocabulary notebooks help EFL learners obtain contextual support during the introduction of new vocabulary?
- 3) How effective are metacognitive notebooks in fostering meaningful vocabulary acquisition for young EFL learners?

These questions aim to explore whether the use of vocabulary notebooks enhances YLs’ ability to reflect on newly introduced vocabulary, thus promoting metacognitive awareness and contextual support.

2. Chapter II – Theoretical Background

This chapter explores the theoretical background, focusing on studies that inform the proposed action research. Firstly, an explanation of how young learners acquire vocabulary will be provided to familiarise and contextualise. Thereafter, the chapter will focus on the role of metacognitive language awareness in language teaching and learning, including the use of contextual vocabulary notebooks. For this project, these vocabulary notebooks play the role of tools that foster the learners’ vocabulary awareness while also providing contextual meaning to the words.

2.1. Vocabulary acquisition in language learning

“Without grammar very little can be conveyed, without vocabulary nothing can be conveyed.” (Wilkins, as cited in Thornbury, 2007, p. 13)

Language can determine the ability to communicate, as it is based on the words known to us. People must understand words to communicate with others. When no

lexicon is developed, communication becomes challenging. This is important for younger learners as they are still developing their cognitive and language skills. However, when learners are introduced to new vocabulary, research points out that traditional teaching techniques, such as word memorisation can limit their connection with the language in a meaningful way (Brewster et al., 2004). This passive learning challenges language classrooms by disengaging learners from lexical items. For instance, oral drills in which the aims are to expose the learners to the foreign language and practice pronunciation, often lead to a lack of learner's awareness of that language practice, making individuals less motivated to further question the action or acknowledge the meaning of the word.

The impact of the English language's rapid spread throughout the world has made it an emblem of progress and globalisation (Crystal, 2003), prompting many countries, including Portugal, to begin English as a Foreign Language (EFL) class at younger ages. According to the European Commission (2023), English was the most learned foreign language in 2020, leading to an increase of language exposure per week and decreasing the age at which students could learn a foreign language. For instance, in Portugal, English became a compulsory subject for third graders in the year 2015 (Lourenço & Mourão, 2017). Nevertheless, solely including English as a compulsory subject fails to ensure effective vocabulary learning strategies (Barahona, 2016).

Considering this gap, a considerable amount of literature has revealed that learning words across various contexts improves its understanding and strengthens learners' vocabulary acquisition (Frances et al., 2020). Schmitt (2014) pointed out that learning isolated words without context restrained learners' association between meaning and form. Similarly, Brewster et al. (2004) argued that involving YLs in contextualised, and cognitively engaging vocabulary learning strategies, supports further foreign language development. When acquiring a language in a country whose first language is not English such as in Portugal, the exposure to the foreign language often occurs just within the classroom. This limited exposure to the language urges the need to adapt and create rich and contextualised learning opportunities not only within the classroom but also with the existing school materials, for example, notebooks.

Notebooks can simultaneously mediate context and immerse learners in reflection when properly guided and involved in writing (Anderson, 2002; Tran, 2006, as cited in Dubiner, 2018).

Additionally, learners become more conscious of the words when focusing on meaning rather than isolated words, for example, in practices such as using the word within a sentence, particularly when personal meaning is attached to the word. Thornbury (2007) points out that learning a word in repetitive, misplaced circumstances diminishes learners' opportunity to learn significantly. This raises the question of how vocabulary acquisition can be aided to promote awareness that further supports the drilling of vocabulary in authentic contexts.

In this regard, to understand the relationship between Young Learners and vocabulary acquisition, many authors have defined Young Learner as children ranging between five and twelve years old who are still developing cognitive and social readiness for language learning (Cameron, 2001; Pinter, 2006). At this stage of development, cognitive theories, such as Piaget's Theory of cognitive development, underline the importance of exposing learners to meaningful, contextual language to facilitate their learning (as cited in Cameron, 2001). Children, as "(mentally) active learners" (Cameron, 2001, p.21), search for meaning and purpose in proposed activities by teachers. This stage marked by its readiness to look for purpose and meaning in words benefits the language instructors if adequate learning strategies are applied.

Despite the lack of agreement on the best vocabulary learning strategy, metacognitive strategies, for example, the implementation of vocabulary notebooks, can promote active reflection and self-assessment. As Fowle (2002) notes, tools, such as vocabulary notebooks, improve vocabulary acquisition by encouraging understanding of new words and their meanings within a context. As a result, pupils are more prompted to learn. The connection between new words and prior knowledge correlates to each other with the aid of that contextual tool as pupils are encouraged to reflect on new vocabulary within contextualised learning environment. Moreover, it is stated that "[students] become more aware of what vocabulary learning involves, and more active in the learning process" (Fowle, 2002, p. 385).

Furthermore, YLs present individual characteristics socially, cognitively, and even linguistically, requiring adequate and tailored learning strategies. In a pedagogical context, the teachers play a vital role in selecting and applying the most effective learning and teaching approaches for their developmental stages. Vygotsky's theory of learning, the Zone of Proximal Development (ZPD), which is described as the "zone" between the current knowledge of the child and the potential knowledge achievable with some help from a more knowledgeable peer or adult" (as cited in Pinter, 2006, p.11) is particularly important. Vygotsky's ZPD correlates with the use of vocabulary notebooks in a sense that these tools function as a scaffold within the "zone" between what pupils can manage independently (e.g., copying vocabulary) and what they can achieve with help from teachers (e.g., reflecting on meanings). Scaffolding, which takes various forms, and in this project, takes the form of a teacher's guided notebook, progresses from rote memorisation to meaningful understanding of words introduced orally. Removing such support raises questions about learners' ability to manage the language learning independently.

Krashen's (1985) *Input Hypothesis* further underlines the importance of including contextual input, for instance, visual, to aid foreign language comprehension. While acquisition is a subconscious process encountered by all children through meaningful input, learning is the conscious knowledge of the language rules (Krashen, 1985). To effectively acquire vocabulary, the tool that provides context (e.g., vocabulary notebooks) according to this hypothesis, provides an interactive contextual use of words. For instance, by including the new words in vocabulary notebooks, pupils engage with those words by describing, for example, rather than repeating.

For YLs, whose proficiency and cognitive level are still under development, Brewster et al. (2004) point out the importance of a highly embedded context to ensure comprehensible input. In terms of language acquisition, comprehensible input hypothesizes that in order to acquire a language, individuals can progress from the current level of knowledge (i) to the next stage of the target language (" $i + 1$ ") by understanding the messages (input) encountered at a more challenging stage, yet understandable for example, through context or scaffolding (Krashen, 1998). Moreover,

Krashen's (1998) requirement for input to be comprehensible implies that visual aids are involved, and that vocabulary is important as "with more vocabulary, there will be more comprehension and with more comprehension, there will be more acquisition" (p.55). However, when new vocabulary is being taught to Young Learners, Cameron (2001) argues that "new language is largely introduced orally, understood orally (...), practised and automatised orally" (Cameron, 2001, p.18). Even though playing a crucial role in modelling the pronunciation, this method fails to advocate engagement with meaning. This raises the following question: How do YLs seek meaning for themselves beyond traditional repetitive drills?

For this reason, to acquire vocabulary it is not enough to learn words, but to understand their meanings. Cameron (2001) clarifies that the term "vocabulary" encompasses "the development of words, their meanings and the links between them" (p.18). Further authors emphasise the role of vocabulary acquisition as crucial in two different tendencies – first, in language mastery, and second, as a meaningful communication (Schmitt, 2008; Wilkins, 1972, as cited in Thornbury, 2007). Developing one's vocabulary is integrated into the process of learning a language, and while the behaviouristic approaches, in which the imitation and repetition in the form of drills facilitate word memorisation, it is argued by Brewster et al. (2004) that during the first stages of children's conceptual development, learners have a short memory, hence, the act of learning (intake) is not promoted through listening to the comprehensible input. Besides, "decontextualised vocabulary drills, (...) provide much lower levels of comprehensibility, especially to Young Learners" (Brewster et al., 2004, p.24).

This insight into vocabulary acquisition reveals limitations regarding repetition as a means for oral drilling as a sole technique. As young learners are still developing cognitively, teachers, as individuals with more knowledge than the learners, are the guide to providing a more contextual aid when introducing new vocabulary. This could contribute to identifying conjoined techniques that provide a more meaningful context to newly introduced words in a foreign language so that the learner can be encouraged to deepen the understanding of those words. Without engaging in deeper cognitive processes, children may struggle to internalise the meaning of vocabulary and,

consequently, the word. It is relevant to use techniques that prompt listening and speaking skills, such as oral drills, but no less relevant is promoting learners' ability to reflect and search for meaning.

2.2. Metacognitive language awareness

As researchers endeavoured to define a "good language learner", multiple studies emphasised the significance of metacognitive strategies in connecting those concepts. Much of the literature suggests that learning-how-to-learn strategies enable pupils to create learning habits from an early stage of development. These strategies enhance their ability to process, store, and recall vocabulary meaningfully (Knoph, 2017). In accordance, the Portuguese government educational documents, such as *"Aprendizagens Essenciais"* (DGE, 2018), prioritise equipping learners with lifelong skills, including learning-to-learn in the classroom context. Additionally, the guiding documents, such as PA (DGE, 2017) enhance the role of metalinguistic knowledge in language development. As an inference from this fact, implementing more reflective practices would improve English language learning context in primary education.

Although multiple researchers have investigated metacognition, Flavell (1976, as cited in Haukås et al., 2018) pioneered the term by defining it as "one's knowledge concerning one's own cognitive processes and products" (p. 12). In other words, learners when engaged with reflective practice, can identify learning gaps and consequently, apply strategies for better learning. In this case, critically reflecting on their learning habits aids pupils in noticing and becoming more aware of new words through different stages, namely, planning, monitoring, and evaluating one's learning. Later, Flavell (1979) further expanded that metacognition includes both (1) metacognitive knowledge, which is the awareness of one's own cognitive abilities, and (2) metacognitive regulation, namely, the ability to monitor and control the learning processes. During the newly introduced lexicon, YLs progress from knowledge assessment to language gap identification, and lastly, to strategy implementation for vocabulary retention improvement. Adopting learning strategies, such as the above-

mentioned, that is, planning, monitoring, and evaluating one's learning was proved to be successful in fostering learners' vocabulary acquisition (Schmitt, 2008).

However, the research does not consider how younger learners employ metacognitive strategies to contextualise vocabulary. Much of the metacognition research addresses general language learning strategies rather than specifically vocabulary acquisition or within the target group – Young Learners. Therefore, for this project it seemed pertinent to link metacognitive knowledge to language awareness to enhance vocabulary learning.

In this context, it is relevant to understand that metacognition, also known as knowledge of monitoring, actively assessing and regulating one's own knowledge, is relevant to understand for this project. To learn, first the pupil needs to be aware of what is known to develop further learning strategies. Therefore, it is a prerequisite for learning. But metacognition in language learning progresses further from simple knowledge. It comprises awareness and reflection, including experiences and learning in language contexts. This means that metacognition, in language learning involves practices beyond the memorisation of vocabulary or grammar rules. Rather, it involves reflective practices on how one learns, feels, and interacts with language.

This project follows Haukås et al. (2018) view on metacognition, in which it is mentioned as a broad concept comprising both reflection and regulation across various learning domains, clarifying that language awareness represents a specific subdomain of metacognition. Language awareness, in this context focuses on learners' explicit knowledge about language and their conscious perception and sensitivity in language use and language learning. Language awareness as defined by Little (1997), is "Knowledge about language that is imparted to learners through schooling" (p. 93).

The afore-mentioned citation points out to the role that the learning environment plays on learners' innate ability to understand language, focusing on the teacher's role in it. The teacher can scaffold the primary pupil into noticing and analysing language patterns, orally or in written form. For example, when introducing numbers from zero to fifty, learners can be guided to notice the suffixes, thus enhancing

engagement with words. The process of focusing on words expands one's learner retention as one recognises a new rewarding learning strategy previously unnoticed (Dubiner, 2018). It is not enough to be a teacher. Research shows that younger learners can succeed in these strategies if their teacher is aware of the benefits of vocabulary acquisition. One must also possess metalanguage awareness that guides their learners to promote a more critical understanding of language learning (Svalberg, 2012, as cited in Dubiner, 2018). By correlating metacognition with language awareness, learners are guided to further drill the newly introduced vocabulary by aiding them with linguistic pattern noticing, analysis of vocabulary in context, and developing strategies for acquiring unfamiliar words. This awareness can be supported by practical tools that learners already have in Portuguese schools, for example, notebooks.

According to Haukås et al. (2018), within language awareness, having explicit knowledge is beneficial for helping learners create mental connections between meanings, words, and contexts, and consequently, makes it a useful tool for learning vocabulary in context. When learners think about what they have learned, for example, evaluating their vocabulary knowledge after completing language awareness exercises, teachers can encourage them to understand both the language and the learning process. For example, a study conducted by Kieseier (2022, as cited in Wang & Liu, 2024) among primary learners learning English, revealed that possessing an aspect of metacognitive language awareness, that is, metalinguistic awareness, promotes vocabulary acquisition by manipulating and reflecting on linguistic patterns. YLs with higher explicit knowledge tend to do better in language tasks, suggesting that language awareness is an important part of acquiring new lexicon. Liu and Wang (2024) further relate language awareness and metacognition: "Language awareness as metacognition, works in the opposite direction: one begins with personal intuitions and, through reflection, connects these intuitions to one's knowledge of language as an external object." (p.2)

This insight provides fundamental information for the design of these action-research vocabulary notebooks. To support learners' consciousness of their own vocabulary learning, rather than passively providing a list of words to them, the

notebooks encourage the pupils to connect prior knowledge to new knowledge according to their personal experiences and, connect it to formal knowledge (e.g., creating a sentence or analysing word patterns). These scaffold pupils to take ownership of their learning process by also fostering metacognitive language awareness. Besides, by including self-assessment in the vocabulary notebooks it further reinforces the approach by reflecting upon lexical items.

Butler and Lee (2010) point out that self-assessment, which is a domain of metacognition (self-regulated learning), enables pupils' to actively monitor their own learning progress. When they evaluate their learning within notebooks, it encourages language awareness that combines implicit and explicit knowledge. Therefore, the use of notebooks can mediate strategies for acquiring new lexical items.

As the former literature has shown, integrating metacognitive language awareness strategies in tools, such as vocabulary notebooks can improve vocabulary acquisition. When learners are encouraged to reflect on their words, either by speaking or writing, they become more involved with both the words and the learning experience.

2.3. Vocabulary Notebooks as contextual tools

Reflecting on one's learning and learning from reflecting on language have provided positive outcomes on vocabulary acquisition, especially when integrated with one of the four language skills – writing. When YLs think about language, that is, its meaning and how much progression was made learning specific words, they are actively engaging with vocabulary progressing from the conventional memorisation drilling stage. Reflection can scaffold lexical items into context. And, in comparison to receptive skills (as in listening and speaking), writing is considered a productive knowledge according to Butler and Lee (2010) - a skill that focuses on the ability to actively organise and create output rather than simply recognising or comprehending the language. For example, in situations when pupils listen to newly introduced words, afterwards they can put them into practice by reflecting further where those words can be encountered in real-life situations progressing from passive learning to active learning (Dubiner, 2018; Schmitt, 2008).

As previously identified, this study considers that only using phonological repetition is insufficient regarding vocabulary acquisition. Therefore, this project focuses on the role of vocabulary notebooks as a metacognitive strategy to support the learner with context and active embedded learning.

In many classrooms, school materials, such as notebooks are not only considered a cost-effective resource but can also serve multiple purposes. To support language learning, Dubiner (2018) enumerates intents from thorough structured spaces for word collection (e.g., individual dictionaries) to reflective practice and word formation practice. For the purpose of this action-research, vocabulary notebooks as mentioned before, are a mediating tool for active engagement with new vocabulary. They encourage YLs to register the words by means of language awareness tasks, and its contextualisation by writing a sentence or connecting to personal association (e.g., drawing an object to which learners associate a colour). Schmitt and Schmitt (1995) underpinned guidelines for vocabulary notebooks, pointing out that those learner-centred tools supplement vocabulary learning by focusing on registering newly learned words alongside with managing tasks within the notebook until full independence in learning strategies is achieved. However, as mentioned before YLs are at an immature cognitive developmental stage in which especial attention to instructions and general guidance in class must be considered. Therefore, the teacher plays a significant role in adapting not only their posture and attitude towards learners, but also to the type of activities provided for them.

From a detailed examination of several studies, the following data underpins an adaptation from researchers' guidelines to foster vocabulary acquisition through metacognitive vocabulary notebooks for younger learners. Hence, in the possession of the tool, pupils are encouraged to (1) select words, in this case, the selection depends on the taught topic from the curriculum; (2) integrate and practise through tasks; (3) engage with the context; and (4) monitor and evaluate their learning process (Dubiner, 2018; Fowle, 2002; Schmitt, 1995; Walters & Bozkurt, 2009).

The first step guides primary learners' attention to common class aims in which all peers are focused on a specific category of words to learn in that specific lesson. As

Alexander et al. (2008, as cited in Turnuk, 2018) state, the first step to acquire a language is by noticing and then, gradually reviewing for longer term retention, which is what is intended with the second step. By putting the words into practice, the mediating tool allows the learner to integrate new lexicon into real-life situations by making connections with prior knowledge and experiences (e.g., writing a sentence). In this regard, Schmitt and Schmitt (1995) mention that “the most efficient learning happens when learners are concentrating their mental resources on the task at hand” (p. 136). These tasks inserted in the vocabulary notebook provide further reflection and drilling but in the written form. As Fowle (2002) points out, vocabulary notebooks can implement metacognition as YLs become more conscious of “what tasks involve, and how they should go about them (...) they become more aware of what vocabulary learning involves, and more active in the learning process” (p. 385).

To address this metacognitive implementation, the tasks mentioned above in this report were structured following an adaptation¹ for younger learners’ cognitive hierarchy from lower- to higher-order thinking tasks, in line with Bloom’s Revised Taxonomy to support learner progression and guide through task complexity (Krathwohl, 2002). Bloom’s Revised Taxonomy addresses different domains of knowledge (factual, conceptual, procedural, and metacognitive) progressing from simpler to more complex types of thinking through successive stages of learning (remembering, understanding, applying, analysing, evaluating, and creating). In terms of vocabulary acquisition, learners would begin a progressive cognitive journey with word recognition and recall, progressing through comprehension, and applying the

¹ The vocabulary notebook tasks were designed and adapted to better suit learners’ proficiency, age levels, and the needs of the lesson’s curricula and classrooms. The aim was to progressively and cognitively guide learners toward more critical thinking using the different categories of the revised Bloom’s Taxonomy, which will not be discussed in this report. The following articles contain a more descriptive hierarchy: Nentl, N., & Zietlow, R. (2008). Using Bloom’s Taxonomy to Teach Critical Thinking Skills to Business Students. *College & Undergraduate Libraries*, 15(1-2), 159–172. <https://doi.org/10.1080/10691310802177135> ; Krathwohl, D. R. (2002). A Revision of Bloom’s Taxonomy: an Overview. *Theory into Practice*, 41(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2 .

world knowledge, for example, through sentence writing, evaluation (e.g., self-assessments), and simple forms of creation (e.g., associating vocabulary to personal contexts). Similarly, a study conducted by Diaz (2015), highlighted the importance of implementing metacognition in vocabulary learning by means of tasks. This allows the learners to focus on creating word meanings.

Despite its similarity to some worksheets, the vocabulary notebook differentiates from worksheets as it incorporates a metacognitive component of self-assessment. Apart from learners engaging with pattern analysis, noticing words, and clearly setting learning goals (e.g., learn the teachers' selected words on the topic), the vocabulary notebook integrates a metacognitive skill of self-assessment. For this purpose, self-assessment is a process through which a thorough understanding of newly introduced information is analysed to obtain insight into an individual's own actions, capabilities, and performance (Moreno, 2020). As YLs become aware of their language learning skills, the learner becomes more critical towards their own strategies. Moreno's research (2020) further explores how teachers can increase learners' levels of metacognition and self-regulation by developing reflective practices that guide learners to think about and assess their engagement in learning tasks.

Furthermore, as YLs need excessive guidance, Dörnyei (2008) points out that including visuals instead of words has proven to be successful among younger learners. Therefore, to adapt to learners' needs, this action-research project includes within the vocabulary notebooks' a self-assessment component consisting of (a) Likert scales and (b) open-ended questions. While the former follows a three-point "smilegram" structure, in which pupils must select the face that best applies to their current feeling against a target, the latter involves short and direct questions addressing the learners learning of vocabulary. By integrating self-assessment in vocabulary notebooks, metacognitive awareness is fostered as pupils are given the opportunity to monitor and evaluate themselves aligning with Vygotsky's (1978) sociocultural theory, which highlights the importance of guided participation in cognitive and linguistic development. Additionally, learners evolve from passive listening of information to actively constructing knowledge by themselves.

However, much of the notebook's effectiveness depends on the teacher's role in modelling reflective practices, providing clear instructions, including feedback. Hence after used, vocabulary notebooks were collected weekly by the teacher as "metacognitive skills have a "feedback mechanism built-in" (Veenman et al., 2016, as cited in Dubiner, 2018, p. 282).

Despite the lack of unilateral agreement on the unique usability of vocabulary notebooks, and consequently its research, much of the literature as above-mentioned has provided positive insight into their effectiveness on integrating metacognitive language awareness for supporting vocabulary acquisition. In this action-research project, vocabulary notebooks serve as mediating tools to integrate vocabulary within context and actively engage learners in reflections.

3. Chapter III – Research Design

This chapter provides a framework of how this action-research was conducted, starting with the methodology and data-gathering tools and concluding with data analysis and interpretation.

3.1. Methodology

As part of an action-research project, this study was conducted to explore the effectiveness of metacognitive language awareness tasks within a vocabulary notebook in improving vocabulary acquisition among YLs. The notebook included self-assessment and reflective practices to support the aim. Additionally, by scaffolding reflective abilities in learners from an early age, this study sought to address the identified challenges, such as, relying on rote memorisation to acquire words and the lack of reflective practices. Through this implementation, learners are expected to assess their vocabulary knowledge based on real classroom experiences. As Richards and Farrel (2005) point out, action-research "develop(s) solutions to problems identified within one's own social environment" (p. 61).

This study adopted an action-research approach due to the reflective nature that facilitates constant improvement in teaching and learning. Action-research, as defined by Burns (2005), does not so much resemble the identification of a problem, but a situation in which improvement can be made, that is, as “means towards creating meaning and understanding” (p. 57). The model proposed by Kemmis and McTaggart (1988) consists of four stages that can be achieved through:

- a. Planning - identifying the problem, in this case, rote memorisation of vocabulary and designing an intervention (vocabulary notebooks with metacognitive strategies).
- b. Acting – implementing the intervention.
- c. Observing – collecting data through learners’ work progress, observations.
- d. Reflecting – analysing the data.

(as cited in Burns, 2015, p.39)

Regarding this study’s paradigm, a mixed-method approach was applied to ensure triangulation of the findings. Quantitative data resulted from qualitative analysis of vocabulary notebooks, whilst qualitative data was collected mainly through classroom observations, in which learners’ engagement and behaviour towards learning was observed, analysis of vocabulary notebooks and self-assessment questionnaires.

This action research study was conducted from September to mid-December with twelve third graders and seventeen fourth graders aged between seven and eleven years old at the *Aurélia de Sousa* school cluster. Although some of the implemented activities were introduced to other classes, these learners were chosen as their lessons and attendance were the most consistent with the implemented strategy. To protect their privacy and ensure anonymity, each learner is identified with capital letters. The school administration approved all the implemented activities from this small-scale action-research project.

3.2. Data-gathering tools

During the action-research period, data were collected from different processes - formal and informal. Whilst the informal consisted of notes from classroom

observations, the formal process included vocabulary notebooks with open-ended questions to support qualitative data collection, and closed questions with Likert scales for quantitative data. Additionally, further data were acquired through open-ended questions which were informally conducted within the classroom.

3.2.1. Unstructured observations

During the *Zero Cycle* in-class observations occurred in which handwritten notes were taken at the *Alexandre Herculano* school cluster. This process was found to be challenging, as it was my first time in the actual work field in search of an area in need of improvement in the first cycle of Basic Education. Thereafter, initial monitoring consisted of various areas, that is, classroom and time management, teaching strategies, use of resources, or learning skills, until a recurring pattern was identified. For instance, during a drilling activity, 4th graders (Group A), as well as 3rd graders (Group B) were heard to mispronounce words when no context or written visual aid was provided (see Table 1).

This qualitative technique consisted of directly recording three different occurrences: (a) behavioural, specifically, learners' physical and oral responses to tasks; (b) reflective evidence which consisted of any visible metacognitive processes, for example, learners' reflections on a specific topic, and (c) unexpected incidents. As Bowling (2009) states, this observation involves auditory and visual senses, as one is recording the phenomenon of interest by listening and watching in a natural environment of the learners' learning environment. Once the notes were taken, reflection upon those naturalistic events was done and often discussed with the student-teacher colleague to validate or disprove insights so as not to lead to biases.

Furthermore, to cross-check and obtain observational validation, descriptive notes were separated from reflective ones and the data was further triangulated with YLs' vocabulary notebooks. As Bell (2010) suggests, one shall be able to obtain information from various perceptions regarding the same phenomena.

Table 1 - Zero Cycle vocabulary mispronunciations

Student/ Group	Word	Observed Mispronunciation
Group A	Skirt (<i>noun</i>) - /skɜ:t/	Blending of the words [skirt] + [jumper] resulting in the formation of the word: “skirter” (<i>noun</i>)- /skɜ:tə/
Group A	Dress (<i>noun</i>) - /dres/	“Drex” (<i>noun</i>) - /dreks/
Group B	School (<i>noun</i>) - /sku:l/	“Schól” - /ʃɒl/

Source: Observational notes.

3.2.2. “Vocabulary notebooks”

After defining the aim for this action-research project, vocabulary notebooks were developed and integrated into the *First Cycle* of the intervention plan at ASSC. This tool was designed to fulfil the main purpose of providing further context and reflection regarding the newly introduced vocabulary during the lesson at an early stage. Thereafter, notebooks were divided into two parts in the form of pages. The first page consisted of guided engagement with vocabulary, and the second page included metacognitive self-assessment practice (for more insight on the topic, see section 3.2.3, p. 41). I found pertinent to introduce these notebooks to learners as means of improving their vocabulary acquisition, each notebook included language awareness tasks in each lesson, YLs were prompted to cognitively and reflectively engage with guided tasks associated with each lesson’s related vocabulary, rather than simply translating words into L1. The notebooks were afterwards collected to check lesson’s learning progress. Despite being the main tool of data-gathering, the first page of the vocabulary notebooks included guided tasks to prompt YLs metacognition and engage them more deeply with words. The main information was collected from the second page, which will be discussed in the following section 3.2.3.

3.2.3. Metacognitive questionnaire

To understand learners' attitudes toward the implemented learning strategy, as well as the relationship between their reflections and newly acquired vocabulary, a discrete questionnaire was included on the second page of the YLs' vocabulary notebooks. The questionnaire combined a mixed-method structure, including open- and closed-ended questions. While the open-ended questions qualitatively assessed learners' reflections on vocabulary use and learning progress, closed-ended questions quantified self-reported learning outcomes to ensure consistency in data related to their metacognitive progress in vocabulary acquisition. As mentioned previously, in order to guide children, the questions included translation to their native language, as well as English. Most of them were straightforward; for example, some questions involved answers of "yes" or "no". The second page of the vocabulary notebooks also included a small self-assessment section in the form of a "smilegram" to obtain information regarding learners' reflections on their success with those words and their level of enjoyment in doing the activity. Weekly self-assessments were done for learners to simultaneously reflect and evaluate their level of retention of words, the self-assessments included a Likert scale in the form of a "smilegram". YLs were prompted to rate their word knowledge on a "face scale": (a) happy smile; (b) neutral face, and (c) sad face. To further demonstrate their understanding, YLs were encouraged to create a sentence using a preferred word learned from that lesson. This type of approach was adapted from Dubiner (2017), who suggests that this type of data collection method does not require pre-tests given the fact that primarily new words were noted on their vocabulary notebooks.

3.3. Intervention Plan – Implementation of vocabulary notebooks

The purpose of this action research project was to use metacognitive vocabulary notebooks to improve learners' vocabulary acquisition. For this purpose, after noticing frequent mispronunciations while vocabulary drilling and a lack of reflective practices in the *Zero Cycle* of this project, I decided to design and create all the vocabulary notebooks

tailored to learners needs and implement the strategy in the classroom intervention during both the *First Cycle* and *Second Cycle*.

The layout of the vocabulary notebooks consisted of two pages based on two aims: to reflectively engage learners with vocabulary and provide contextual support by introducing language awareness tasks. These pages were glued to the pupils' school notebooks. On the first page, the notebooks consisted of cognitively organised tasks, progressing from lower order to higher-order thinking tasks. Each exercise was carefully planned to include appropriate cognitive challenge based on learners' age and language proficiency, motivating them to come up with their own answers instead of having the teacher provide them directly. This way, the exercises aligned with the Portuguese guiding documents, such as, AE (2018) and PA (2017), in actively constructing an autonomous and critical thinker. Besides, during all the tasks, learners participated in their own vocabulary journey by unconsciously recording all the lesson's topic-related vocabulary.

The journey was realised through a Plan-Do-Review lesson-plan, in which each stage corresponded to a cognitive level. At the beginning of the lesson (*Plan* stage), the learners were told the aims and what was expected of them. If the teacher orally practised vocabulary, learners engaged right from the beginning with the bottom level of Anderson's and Krathwohl's revised Bloom's Taxonomy (2002), which is remembering, as they recognised and memorised the produced information (words). As the lesson progressed, the cognitive level increased. Thus, at the *Do* stage, when learners used their vocabulary notebooks, they constructed meaning through the language awareness tasks and practised by understanding and applying vocabulary-related knowledge. Young Learners might need additional scaffolding. Thereafter, all the tasks were carefully tailored to meet possible challenges.

The final stage (*Review*) corresponded to the second page of the vocabulary notebook. It included a metacognitive component of self-assessment, in which learners actively reflected on their performance within the one-hour-long lesson. To help learners feel more confident and less reluctant about the strategy, the self-assessment

included entries in both English and Portuguese. At this stage, the implemented activities aimed for a structured and cohesive learning environment.

These interventions occurred in two cycles – both the third and fourth grade. Each class had two cycles with two lessons. In the *First Cycle*, the first activity was conducted with third graders in September. The learners completed their vocabulary notebook tasks and afterwards reflected on their learning performance during the activity. This activity aimed to answer the following action-research questions: 1) How do learners use vocabulary notebooks to improve their contextual understanding of vocabulary? and 2) How effective are metacognitive notebooks in fostering meaningful vocabulary acquisition for young EFL learners? However, I felt the need to obtain more data to answer those questions and avoid personal biases. For that reason, the same PDR was used, but the structure of the second page of the vocabulary notebooks' self-assessment was changed. By adding an open-ended question: “*Why?*” At the end of October, a new Cycle began for third graders. The activities for third grade were about colour and Halloween related vocabulary.

The above-mentioned intervention provided positive and useful insights to answer the project's questions, however, the activities were cognitively demanding for third graders urging me to adapt and select older learners instead. The following activities conducted with fourth graders marked the *First Cycle*, where learners followed a similar lesson planning structure but more metacognitively guided. At the beginning of the lesson, they practised vocabulary through oral drills, engaged with the vocabulary notebooks tasks, and self-assessed their own progress. Once changes were required, the Cycle changed. This final Cycle addressed the following question: Do language awareness exercises in vocabulary notebooks help EFL learners obtain contextual support during the introduction of new vocabulary? The following chapters provide more detailed description.

4. Chapter IV – Presentation, analysis, and interpretation of the results

In this chapter the results will be presented, analysed, and interpreted following a four-step structure: (1) Contextualisation; (2) Presentation, (3) Analysis, and (4) Interpretation. The structure begins in the *First Cycle*, as the *Zero Cycle* was previously mentioned and demonstrated throughout the sub- sections in 3.2 (from pages 38 to 41). Furthermore, the data for the *Zero Cycle* were collected in the first school cluster (AHSC) where the first internship was conducted. An area that required improvement was identified in large part at AHSC, and this was later discovered to be the case in the *Aurélia de Sousa* school cluster. This chapter will only present and analyse data from the *First* and *Second Cycle* of this Action-Research, which is the project's implementation plan, as the activities were conducted in ASSC.

4.1. First Cycle - 3rd graders

4.1.1. Contextualisation and description of the first activity – 3rd graders

To proceed with the aim of improving vocabulary acquisition through metacognitive strategies, such as vocabulary notebooks, maintaining a consistent lesson plan routine was particularly important for younger learners. Therefore, once the study's aims were defined, a lesson planning methodology to implement metacognitive strategies was aimed for. In this context, Ellis, and Ibrahims' 'Plan, Do, Review' (PDR) (2015) lesson planning methodology was chosen. This methodology model helps to mediate learning awareness to children and learn how to learn through three different stages: plan, do and review. According to Brewster et al. (1992), it provides organised structures that blend with metacognitive and cognitive development, proving to be essential for young learners when acquiring new vocabulary.

All the implemented activities described in this report, both for third and fourth graders, were conducted in accordance with the following structured stages of lesson planning:

- I. **Plan** – At this stage I opted to orally drill the newly introduced words to inform learners about the lesson’s topic, often setting their mood for the English lesson using a routine or topic-related song at the beginning of the lesson.
- II. **Do** – This stage engaged the learners in activities that contextualised the newly introduced words using their vocabulary notebooks. Learners experimented and practised the topic-related language.
- III. **Review** – In the final stage of the activity, learners were still using the vocabulary notebooks, which included a self-assessment and reflection section upon the newly introduced words.

On 16th October 2024, a total of eight third graders were introduced to the first task in which colour-related vocabulary was introduced. The sample group in this lesson was smaller than usual due to the rest of the learners’ absences from school. To ensure a clear understanding, the first implemented activity consisted of three different stages: the first was an introduction to the vocabulary; the second involved the application of word knowledge using purposely designed, metacognitive language awareness tasks on the first page of the vocabulary notebooks. This concluded with the learner’s guided reflection on the learned vocabulary, discreetly designed on the second page of the vocabulary notebook (see Appendix 1 for the lesson plan).

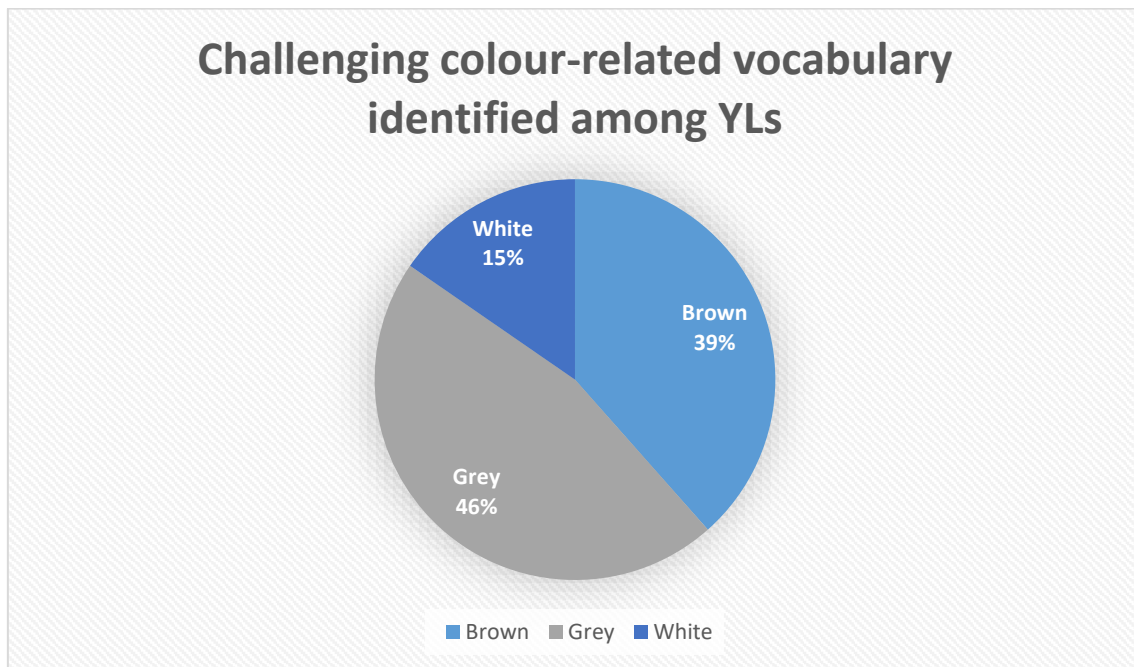
Throughout the lesson they were encouraged to engage with metacognitive questions, such as, *“Was it easier to remember words by seeing or saying?”*; *“Why do you think different colours make us feel different?”*; *“Which colours make you feel happy?”*, and *“Do you think other people think the same?”*. After introducing the new vocabulary in accordance with the coursebook, learners engaged in tasks within the vocabulary notebook consisting of activities promoting their language awareness (see Appendix 2). Each task followed a progressive order in line with Bloom’s revised Taxonomy, from lower to higher order thinking tasks. To be precise, in the first question, YLs associated a written colour to an object (e.g., affirmation - *“This is green.”*/ linking object – frog) to enable the learner to visualise and contextualise the newly learned words. Then, they did an *“unscramble the letters”* and a colour task that involved the recognition of colours. According to Anderson’s and Krathwohl’s revised Bloom’s

Taxonomy (2002), the previously mentioned task was designed at a middle-order thinking level. This is because learners need to understand and recognise the written form of a colour, which will remain black and white unless they “unscramble” it. In other words, the notebook is printed in black and white, and if the learners do not “unscramble” the letters, the colour will not be revealed. After learners decipher the colour, the vocabulary notebook becomes more colourful, presenting an organised portfolio resembling the colours in the learners’ actual notebooks. The final task concludes with pupils writing their favourite colour and drawing an image they associate with that colour, completing their notebook with the teacher’s modelling and guidance. This is a task at a higher-order thinking level, in which learners apply their new information (colour-related vocabulary), evaluate by selecting their personal favourite colour, and create by writing a guided sentence and associating it to themselves through a drawing of an object in their favourite colour.

The learners’ answers were checked orally throughout the lesson and triangulated with observational notes and post-lesson reflections, indicating that none of the following colours were selected as their favourite colours, namely, brown, white, and grey.

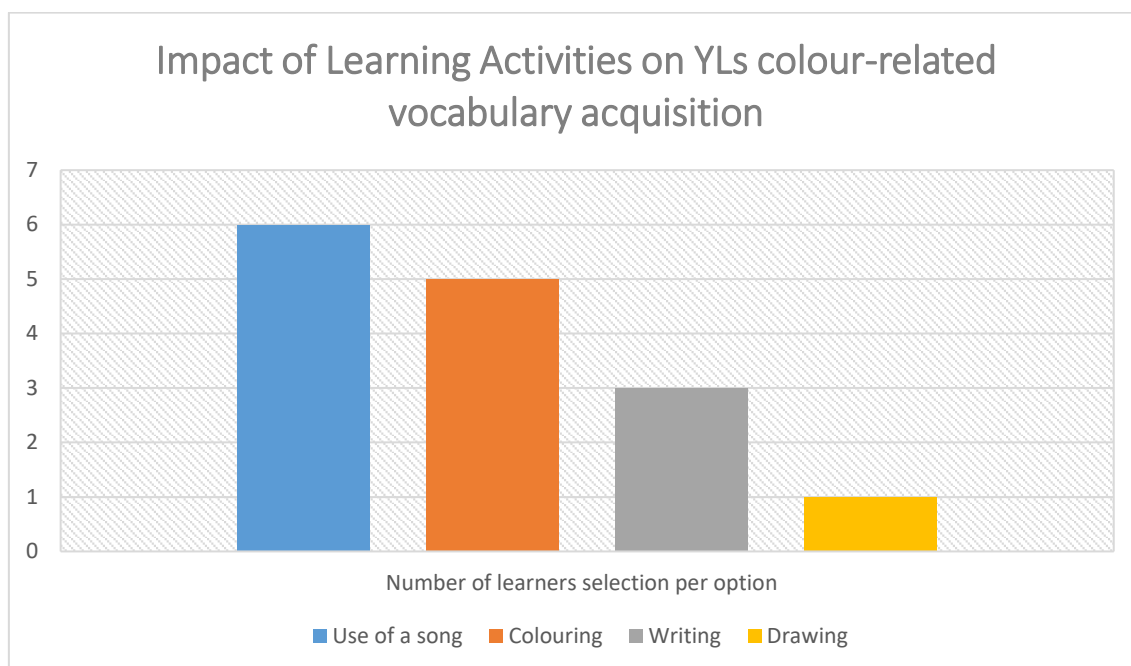
As mentioned above, in the third step – *Review*, the one in which data were collected, learners were involved in active reflection on their learning progress throughout the lesson. This reflection consisted of three questions (see Appendix 3). In the first closed-ended question, YLs had to reflect whether they learned new colours, to which they had to answer: “yes” or “no.” From a total of eight participants, five answered affirmatively, one answered negatively, and two provided no answer. In the second closed-ended question learners had to select which colours were challenging to learn by checking the appropriate box. The following answers represented in Circle Graph 1 below were obtained. As shown, the most challenging colours for learners were grey, brown, and white, with 46% of learners identifying grey as the most challenging to learn. The results will be interpreted in the following section 4.1.2 (page 48).

Circle Graph 1 – Challenging colour-related vocabulary identified among YLs.



In the third question, pupils answered to what helped them learn new vocabulary with the purpose of finding out whether writing activities (e.g., third task from the first page showed on Appendix 2) within the vocabulary notebooks help them engage with the newly introduced vocabulary. The following answers were obtained (see Bar Graph 1).

Bar Graph 1 – Impact of Learning Activities on YLs’ colour-related vocabulary acquisition



It is apparent from Bar Graph 1 that the majority of YLs found the use of a song as the most helpful learning activity. And a small number of learners (3) opted for writing as one helpful strategy. These variety of activities are implemented throughout the lesson, which can be seen in the lesson plan (Appendix 1).

Finally, learners were encouraged to self-assess their progress throughout the lesson on learning the vocabulary using a “smilegram”. All eight YLs self-assessed themselves with a happy smiley face, representing a percentage of 100% positive attitude toward the acquired vocabulary.

4.1.2. Analysis and interpretation of results of the first activity – 3rd graders

Building on the previously presented results, by following a PDR methodology, the study aligns with Haukås’ et al. (2018) and Flavell’s (1976) statements, as pupils are not only engaging with vocabulary but also involved in reflective practices to better understand and engage with the vocabulary.

Although Brewster et al. (2004) argue that repeating words limits meaningful engagement, frequent exposure to words, as seen in the *Plan* stage of this intervention, can help learners develop linguistically (Cameron, 2001). While skipping this stage might

satisfy some aspects of a learners' linguistic knowledge, it does not encourage them to critically examine what they are doing. Therefore, repeating does play an important role in developing lexical acquisition, but its impact is greater when further reflection is encouraged. By including metacognitive questions, the gap between simple word repetition and actual reflection on how confident the learner feels about the vocabulary from the lesson is bridged. Did the learner feel confident with the colours? Which colours were challenging? What can the learner do to continue learning? According to the learners' responses from the self-assessment questions, all of them were happy with their word performance, showing they actively participated in reflections.

In the *Do* stage, vocabulary notebooks were introduced to emphasise their role as contextual tools. The above-mentioned tasks played a role in providing active engagement with colour-related vocabulary. These findings on YLs' difficulty with three main colours (brown, grey, and white) and, triangulated with their lack of personal association as their favourite colour, while preliminary, suggests that their less frequent use in an everyday context can inhibit their learning. Findings in this implemented activity are consistent with the findings of Schmitt (2014), who argues that learning isolated words without sufficient context can limit retention. Additionally, by associating one favourite colour, personal meaning is attached to the word, and consequently, as shown in Circle Graph 1, no difficulty is encountered by learners to learn it. As Brewster et al. (2004) point out, a lexicon can be acquired when embedded in a meaningful context.

At the final stage *Review*, when reflecting on their progress through self-assessment questions, the majority (5 learners) had acknowledged acquiring new vocabulary, one responded negatively, and two did not answer. The fact that two learners provided no answer can be understood using Vygotsky's ZPD and Piaget's theory of cognitive development, which suggest that each learner has their own pace of learning and preferred learning strategies. Moreover, it may indicate unclear instructions or lack of familiarity with the unusual reflective practice, lacking confidence to answer. This indicates the need for additional scaffolding in the future. For example, pairing learners to complete tasks in their vocabulary notebooks.

Writing activities (e.g., task 2 and 3 from Appendix 2) were expected to be enjoyed by the learners since they occupied most of the lesson. However, contrary to expectations, findings in Bar Graph 1, did not show a significant difference in using writing activities in vocabulary notebooks as a tool for impacting learners' vocabulary acquisition. This data should be interpreted carefully, as it includes a wide range of learning activities, such as using a song and language awareness tasks in the vocabulary notebook (see in Bar Graph 1), catering to different learning styles of each individual, as suggested by Thornbury (2007). The higher number of preferences of learners for the use of a song may indicate higher retention of words due to its rhythmic and repetitive input, whereas the lower learners' learning activity selection for the writing activities may be an indicator of a more demanding cognitive skill, justified by their lower linguistic and cognitive levels.

The final question of the self-assessment presented unexpected data on the learners' engagement and satisfaction with their vocabulary learning during that lesson. The unanimous positive response aligns with Dörnyei (2008) view on motivation, highlighting that motivated learners are more prompted to learn a language. Furthermore, the data from their self-assessment and reflection asserts that these metacognitive strategies have provided an increased awareness of their learning progress along with fostering a positive environment (Fowle, 2002; Haukås et al., 2018).

From the evidence of the YLs' positive attitude from self-assessments, this first implemented activity for third graders proved to be successful in improving vocabulary acquisition through metacognitive strategies and contextual support, as they showed more difficulty on words to whom no personal association was made. Regarding the action-research questions, these findings positively indicate that metacognitive language awareness tasks in the vocabulary notebook offer additional context for words, which benefits vocabulary development. As a result, it supports meaning to words, especially when they are personally relevant to the learners. To answer the first action-research question: *How do learners use vocabulary notebooks to improve their contextual understanding of vocabulary?* Although it can be argued that I guided learners on how to use of the vocabulary notebooks and modelled specific words and

sentences during the lesson, these notebooks did not serve only the purpose of simply noting words. The vocabulary notebooks became a useful tool in creating learners' awareness of how to use words in context. For example, learners not only drilled colour-related vocabulary but also used their notebooks to connect a favourite colour with a personal object (e.g., linking the colour yellow to the sun).

4.2. Second Cycle - 3rd graders

4.2.1. Contextualisation and description of the second activity – 3rd graders

The previous activity was a preliminary introduction to this action-research project, in which learners were unused to a reflective approach involving vocabulary or written exercises, especially at such early age. However, as the lessons went on, the YLs' innate ability to "think about thinking" became clearer. Third graders attitudes and behaviours towards this approach were noted down in observations, reinforcing their positive attitude and willingness to question beyond word repetition.

In the previous activity, pupils were still being introduced to this new approach, often showing some reluctance in participating during the lesson. However, what was unknown became familiar and thereafter, the following activity was designed to accommodate a routine to which they become accustomed. This activity followed the same three-step approach as the previous one (a. vocabulary repetition at the *Plan* stage, b. language awareness tasks in the vocabulary notebook at the *Do* stage, and c. self-assessment at the *Review* stage), presenting minor changes to the questionnaire inserted within the vocabulary notebook. As both the learners and I became more confident with the PDR lesson planning, the cognitive challenge increased. Compared to the third task of the first implemented activity in the vocabulary notebook, where learners were guided to complete a sentence, in this second implementation, YLs were asked to write a sentence on their own using the new vocabulary. This was to evaluate their ability to use the vocabulary correctly and meaningfully after being metacognitively mediated throughout the lesson, aiming to confirm how effective are metacognitive notebooks in fostering meaningful vocabulary acquisition in young EFL

learners without my guidance, so that no biases affect the data. For this reason, only the second page of the vocabulary notebook (the discreet metacognitive questionnaire), which includes the self-assessment section, will be analysed and interpreted, as it contains the learners' written sentences.

In the previous activity, four pupils were absent; however, all the twelve were present for this second implementation. The activity was conducted during Halloween season, meaning that the new vocabulary was related to the festivity. After collecting learners' vocabulary notebooks at the end of the lesson, ten people answered affirmatively and two provided no answer regarding their confidence in their learning achievement of that lesson. To decrease personal bias, the questionnaire included a complementary open-ended question: "*Why?*". This question was expected to be challenging, and as expected, a reduced number of answers were given. From twelve participants, only four answered, as shown in Table 2 (see Appendix 4 for the learners' answers). Their answers presented new insights into vocabulary acquisition, namely, pronunciation issues and word length.

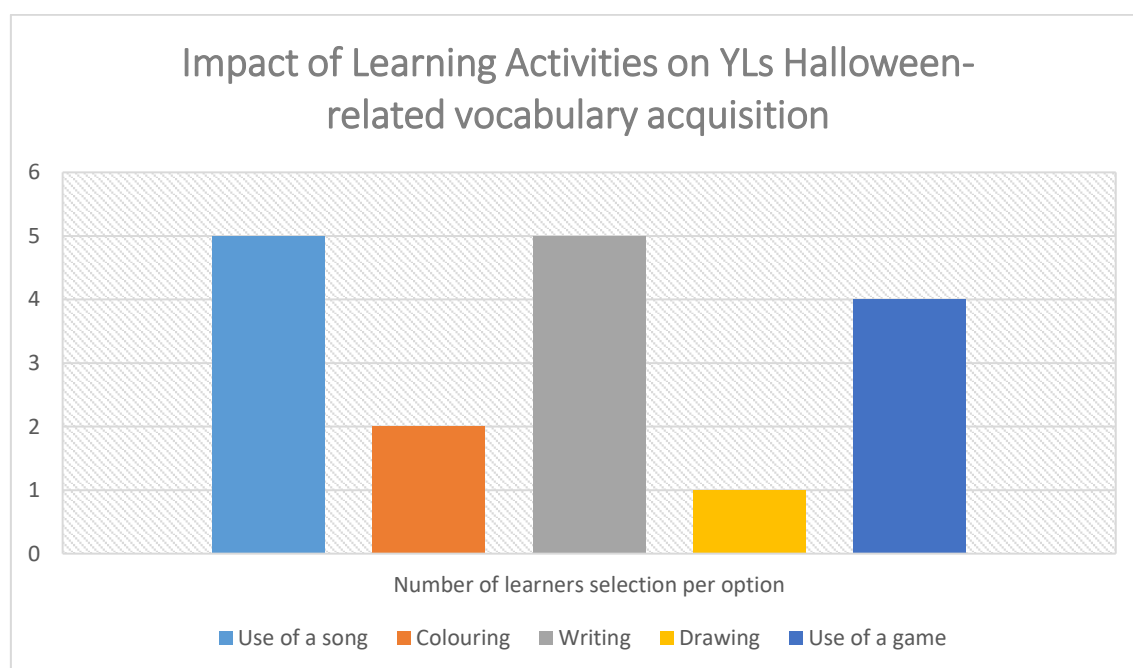
Table 2– YLs' reflection on difficulties encountered with vocabulary acquisition.

Learners	Original citations in their L1	Translation to L2 (English)	Identified difficulty
Learner A	<i>"E muito grande"</i>	It is big.	Word length /complexity
Learner B	<i>"porque já sabia"</i>	Because I already knew it.	Overconfidence/ familiarity
Learner C	<i>"porque é muito difíceis de falar"</i>	It is difficult because it is hard to say.	Pronunciation issue
Learner D	<i>"foi difícil de falar"</i>	It was difficult to say."	

Source: Collected vocabulary notebooks.

Following the same structure as the previous activity, that is, 'Plan, Do, and Review' with the same learning activities, at the *Review* stage in which learners reflect on their learning progress, they were also prompted to tick the options of which strategies implemented during the lesson (use of a song, writing, colouring, drawing, use of a game) they found more helpful to learn the vocabulary. More than one option could be selected and, to maintain consistency with the presented data, the questionnaires from the same group of eight learners were collected to create Bar Graph 2. These learners were chosen to match the sample size of participants from the previous *First Cycles*'. The results, presented in Bar Graph 2, in comparison to Bar Graph 1 reveal an increased preference for writing, maintaining the preference for the songs at the same level.

Bar Graph 2 – Impact of Learning Activities on YLs' Halloween-related vocabulary acquisition – 3rd graders



To assess how effectively learners could apply the vocabulary in context, still in the *Review* stage, they were encouraged to write a sentence. This helped to measure word recognition and active vocabulary use post vocabulary notebook engagement. The data, shown in Table 3, reveal an elevated level of accuracy and appropriateness in content-related vocabulary selection. For example, learners **F**, **G** and **H** created

surprisingly correct sentence structures, while learner **A** missed the subject. The activity concluded with ten learners assessing themselves with a smiley face from the “smilegram,” representing a percentage of approximately $\approx 83\%^2$ of positive attitude towards their vocabulary acquisition, and two learners provided no answer.

Table 3 – Entries from the vocabulary notebook on Halloween-related vocabulary.

Learners	Selected activity that helped them acquire vocabulary	Written sentence	Appropriate recall of topic-related vocabulary	Analysis
Learner A	song	“is ghost”	Yes	Missing the subject
Learner B	Game	“name is [learner B]”	No	Missing the subject
Learner C	Song / Writing / colouring/ game.	“Halloween”	yes	Not a full sentence.
Learner D	-Song. -Writing. - Game. -Colouring. -Drawing.	“Halloween, skeleton.”	yes	Misspelling of skeleton.
Learner E	Writing	“Happy Halloween”	yes	Correct expression.
Learner F	Writing Game	“I love Halloween”	yes	Correct full sentence

² This percentage was calculated according to the mathematical operation, the Rule of Three.

Learner G	Song	"It's vampire."	yes	Correct sentence structure, exclusion of an article.
Learner H	-	"Are you a vampire?"	yes	Correct full sentence.

4.2.2. Analysis and interpretation of results of the second activity – 3rd graders

Learners became more comfortable with the reflective approach using vocabulary notebooks as the activities became routine. The progression from the learners' reluctance to an increased number of participants revealed that scaffolding plays a significant role in fostering metacognitive language awareness. As shown by the Vygotsky's ZPD theory (1978), learners can progress beyond their current understanding with support from someone who has more knowledge.

When analysing their level of confidence on learning achievement, in comparison to the first cycle of the implementation, there was an increase in positive responses (from five positive answers to ten positive answers). The finding can be debated as the level of participants increased from the first cycle to the second. However, to assure consistency with regards to the previous participants, the data from the same eight previous participants was triangulated with their vocabulary notebooks. After comparing their answers, a positive increase towards the level of confidence in learning achievements was still noted. This may be an indicator of the positive effect of contextualised and engaging activities on vocabulary acquisition (Brewster et al., 2004; Schmitt, 2014).

Regarding the lack of response from two of the twelve learners, it may suggest that this strategy does not suit their preferred learning style for acquiring vocabulary, urging me to adapt and meet the learners' needs in supporting both vocabulary growth

and metacognitive skills. Furthermore, this second cycle activity provided further data on learners' challenges on acquiring vocabulary by including an open-ended question. As previously mentioned, was expected a decrease in the quantity of answers (four answers). Nevertheless, the answers to the question: Which words are difficult to learn and why? underlined difficulties not previously identified shown in Table 2, such as word length mentioned by learner **A** and pronunciation challenges mentioned by learners **C** and **D**. These emerging findings accentuate the importance of contextualised vocabulary drills and meaningful engagement with new lexicon (Schmitt, 2014).

When comparing the answers on the impact of learning strategies on YLs' vocabulary acquisition, the use of a song and writing emerged as the most selected options. The integration of productive skills in vocabulary learning shown in Table 3, such as writing, revealed distinct levels of proficiency. While most learners (**E**, **F**, and **H**) demonstrated high level of competence in the appropriate use of vocabulary and the construction of full grammatically correct sentences, only one learner (**B**) inserted out of context vocabulary, that is, the learner created a sentence recalling her name rather than using Halloween vocabulary. This data can indicate the various levels of learners' linguistic and cognitive development when applying new vocabulary in context. For future practices, additional support, such as sentence writing could be modelled to decrease the high-demanding cognitive challenge. Nonetheless, the data revealed relevant insights into how reflective practice and guided vocabulary notebooks can increase younger learners' ability to acquire vocabulary.

Furthermore, the last question (self-assessment) revealed that approximately 83% of learners were engaged positively with the lesson's vocabulary. In comparison to the previous activity, the learner's self-assessment answers on their level of confidence with the words decreased from 100% to 83%. However, it was a smaller sample size limiting generalisation of the findings.

In general, in the second cycle, was revealed the importance of contextualised learning with a Halloween theme as a meaningful way to engage learners' and consequently acquire vocabulary, as the data shows the third graders' (learners **E**, **F** and **H**) unexpected ability to produce full sentences (e.g., "Are you a vampire?"). The

evidence also confirms that using metacognitive vocabulary notebooks helps improve understanding of words in context. Additionally, Table 2 shows a gradual improvement in learners' self-reflection and awareness of why they struggle with certain words, suggesting a slight development in their metacognitive skills.

4.3. First Cycle – 4th graders

4.3.1. Contextualisation and description of the first activity – 4th graders

The previous cycle demonstrated the effectiveness of the use of vocabulary notebooks as contextual tools for vocabulary acquisition, and a moderate use of younger learners' (ages between seven and nine) metacognitive aptitude towards "thinking about thinking." However, I was still in search for data measuring the impact of metacognitive language awareness exercises on meaningful vocabulary acquisition. Therefore, the strategy was reversed by changing the order of activities in the PDR lesson planning structure, specifically:

- I. **Plan** – At this stage, learners were linguistically prepared for the next stage by drilling the new vocabulary.
- II. **Do** – Differently from the third graders activity implementation, at this present stage, instead of learners experimenting and practising the taught language on the first page of vocabulary notebooks, they were orally guided by me to be linguistically aware and reflect upon the lesson's topic-related vocabulary with the aim of generating their own thinking (see Appendix 5 for the lesson plan). To help learners gradually become metacognitively language aware, all pupils were consciously engaged in the process of acquiring vocabulary by reflecting where numbers can be encountered in real-life (e.g., on a calendar, quantity of learners in a classroom). They were encouraged to notice the written forms of words to notice patterns (e.g., **fifty**, **sixty**), they were also prompted to predict how to say the following number rather than receiving the answer immediately. For example, the classroom board had a visual representation of a cross-curricular activity involving simple mathematical operation of addition. If twenty plus one

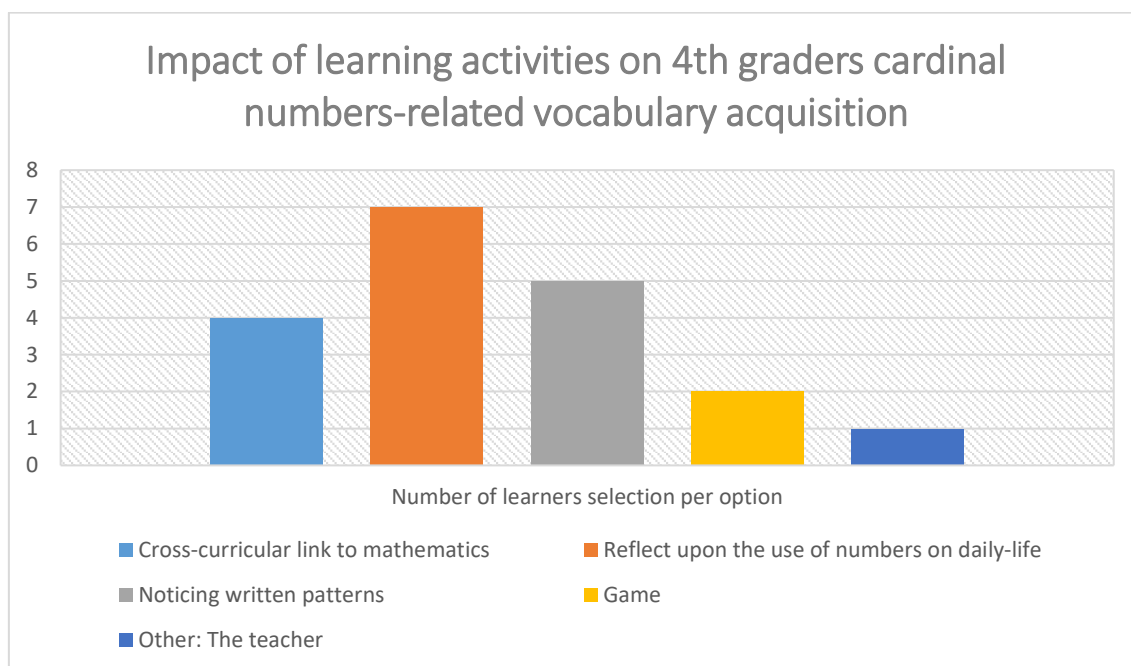
equals twenty-one, and twenty plus six equals twenty-six, what number is fifty plus three?

- III. **Review** – At the end of the lesson, learners assessed how well they did throughout the lesson by using their vocabulary notebook self-assessment section.

The group of participants included seventeen fourth graders to whom cardinal numbers were introduced on 5th November. The older group was specifically chosen due to their open-mindedness and more mature cognitive development. The following implemented activity was divided into two lessons. In the first lesson, the methodology of Plan-Do-Review lesson planning was still used but with moderate changes as mentioned above. Instead of using the vocabulary notebook during the “Do” stage, learners were orally guided with metacognitive reflections to help them actively engage with words and move beyond simple drilling. This implemented activity only uses the second page of the vocabulary notebooks, which includes a self-assessment section for them to reflect further on their cardinal number vocabulary learning performance.

According to the first self-assessments’ question (see Appendix 6), approximately $\approx 88\%$ of pupils felt capable of recalling cardinal numbers and approximately $\approx 12\%$ of learners felt the opposite. To obtain data regarding which learning strategy helped YLs acquire vocabulary, learners were prompted to tick the options consisting of the lesson’s activities (see Bar Graph 3).

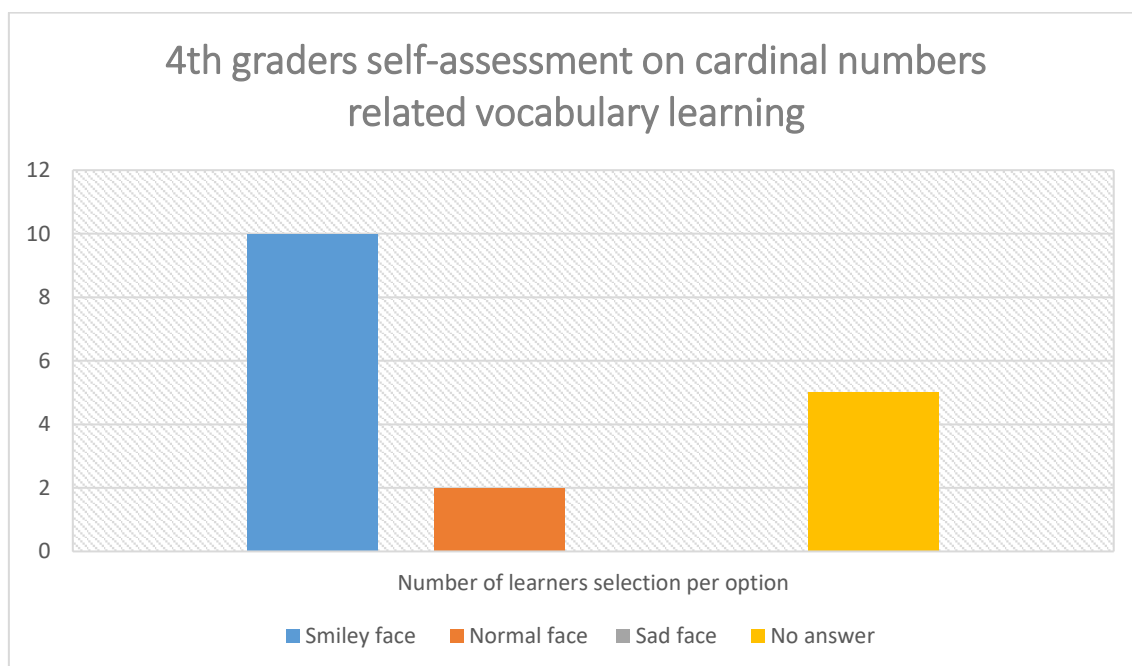
Bar Graph 3 – Impact of learning activities on 4th graders’ vocabulary acquisition



After metacognitively scaffolding the learners with questions such as “*Where do you see numbers?*”; or when guiding them to notice a pattern on written words: “*What do these words have in common?*” at the “*Do*” stage, it can be seen in Bar Graph 3 that the most selected options relate to metacognitive language awareness. To be specific, seven learners selected the option about reflecting on the use of numbers in daily life, while five opted for the pattern noticing.

When self-assessing their progress in that lesson, the outcome seen in Bar Graph 4 presents a significant positive self-assessment in the progress of learning vocabulary, and no negative answers. In terms of percentage, approximately 59% of learners answered positively; approximately 12% presented a normal face; and approximately 29% gave no answer.

Bar Graph 4 – 4th graders self-assessment on their vocabulary progress (1st activity)



4.3.2. Analysis and interpretation of results of the first activity – 4th graders

In this hour-long lesson, I opted to change the focus from metacognitive language awareness in vocabulary notebooks to metacognitive reflections during oral drills in the *Do* stage. Learners were still involved with vocabulary notebooks during the *Review* stage to monitor their progress. The aim was to check the impact of metacognitive language awareness on vocabulary acquisition. Henceforth, unlike the activities implemented in third grade, the data collected from fourth graders presents valuable insights on metacognitive strategies impact on YLs' vocabulary acquisition. From the first question of the vocabulary notebook questionnaire, the evidence shows a high percentage (88%) of learners' capability to recall the newly introduced cardinal number-related vocabulary. Furthermore, when linking with the data presented in Bar Graph 3, the majority of YLs found metacognitive language awareness tasks helpful in aiding their vocabulary acquisition.

Considering the literature review of this study, Schmitt (2008) suggests that YLs acquire new lexicons more effectively when they are led towards a more reflective approach of vocabulary learning, as shown by the evidence from the learners' self-assessment positive attitude towards their learning performance. Moreover, when

combined with the findings of Dubiner (2018), the act of promoting reflection has encouraged learners to link new vocabulary (cardinal numbers) with their existing knowledge. That is, a) linguistic, b) conceptual and c) metacognitive. First, according to my observational notes, YLs noticed the fact that many written numbers have a common suffix (e.g., the suffix “-ty” in numbers such as **forty**, **fifty**, etc.); secondly, with the help of my student-teacher colleague, I was able to obtain notes on YLs’ oral reflections on the daily-use of numbers, for example, numbers encountered on a calendar, or on clocks along with some further unexpected reflections on the importance of learning words related to cardinal numbers, such as, “defining quantities”(learner **B**) or “explaining the plural” (learner **F**) (Observational notes, 2024). From their answers, their metacognitive awareness is evident which favourably influences their vocabulary acquisition as the previous mentioned strategy mediates context to their learning experience.

Although vocabulary notebooks were partially used at the end of the lesson, the present data responds positively to the following action-research questions: 1) Do language awareness exercises in vocabulary notebooks help EFL learners obtain contextual support during the introduction of new vocabulary? 2) How effective are metacognitive notebooks in fostering meaningful vocabulary acquisition for young EFL learners? Since metacognitive language awareness alone has proven to help with vocabulary acquisition in the initial activity for fourth graders, even with limited use of vocabulary notebooks, the following activity outlined in section 4.4.1. (page 62) was designed to verify the actual impact of metacognitive language awareness by using the two-page vocabulary notebooks.

Finally, the answers related to learners’ reflections on vocabulary learning demonstrates that more than a half of learners (59%) foster not only metacognitive awareness but also demonstrate confidence in using the newly introduced vocabulary. On the other hand, the 29% of YLs who did not respond to the self-assessment, suggest those learners lack of engagement with self-assessment due to factors, such as, learners’ individuality, the necessity to support learners further in using unusual tools such as metacognitive ones, or insufficient and unclear instructions.

Findings suggest that metacognitive guidance can effectively support vocabulary acquisition and contextual learning, even with limited notebook use. The several positive and high recalls on reflective practices seen in Bar Graph 3 (reflections in daily use of numbers and word pattern noticing), support meaningful engagement with words progressing from passive to active learning (Fowle, 2002; Schmitt, 2008).

4.4. Second Cycle – 4th graders

4.4.1. Contextualisation and description of the second activity – 4th graders

The second activity, implemented on November 13, 2024, expanded upon the first intervention by focusing on the same topic of cardinal numbers to the same fourth-grade group. In this activity, learners were given the vocabulary notebook at the beginning of the lesson (*Plan* stage) and were asked to engage autonomously with the vocabulary. In contrast to the first activity, I did not drill the vocabulary for more accurate data collection on the effectiveness of metacognitive language awareness scaffolding. At the end of the lesson, vocabulary notebooks were collected to assess learners' ability to recall and spell the previously learnt cardinal numbers (from 0 to 50) correctly and provide feedback. The aim was to check the impact of guided metacognitive prompts previously taught in the first lesson, on vocabulary engagement. The present activity consists of the following stages:

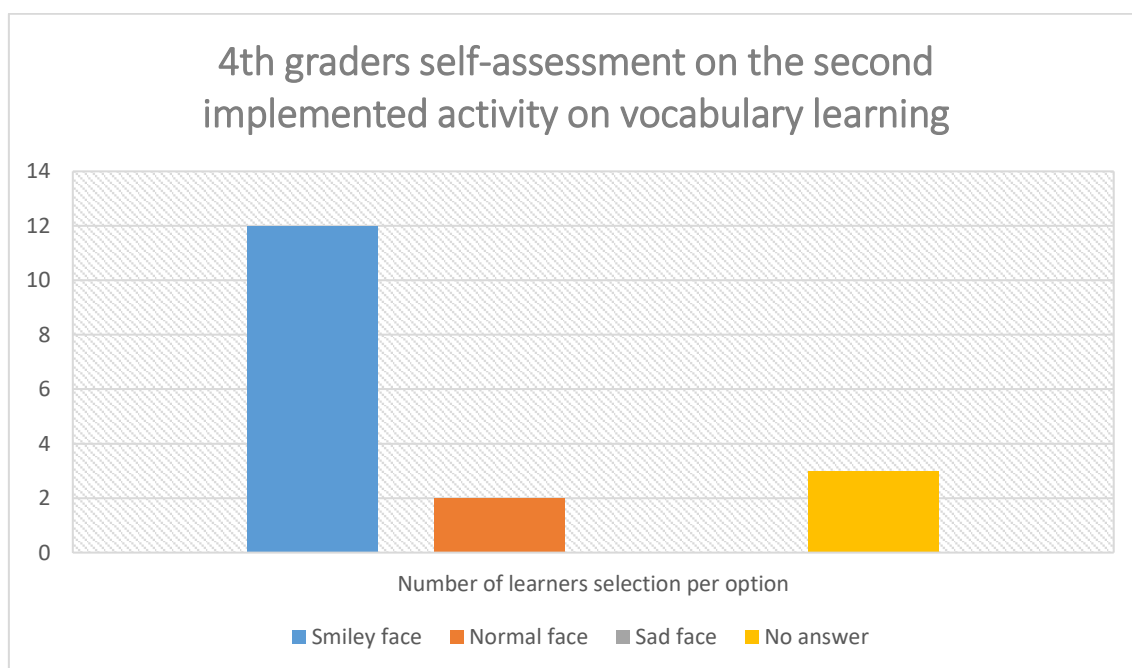
- I. **Plan** – At the beginning of the lesson, instead of the usual routine of drilling words, learners were encouraged to reflect about what they already know, or are expected to know, (cardinal numbers) by completing their vocabulary notebooks with the written form of the learned numbers (see Appendix 7). Since learners were actively focusing on form noticing in the previous lesson, I hoped that this change of order in the activity would allow them to complete this study cycle with accurate written recall of vocabulary. Thus, this vocabulary notebook was filled in without any visual aid. The learners were not allowed to check their coursebook, nor their notebooks. This activity was designed to check how correctly YLs spelled the learned numbers independently. After finishing the

activity, learners unconsciously noted their own new vocabulary, not realising that by completing the notebook, they were engaging autonomously with vocabulary. This aims to address the second action-research question: Do language awareness tasks help EFL learners obtain contextual support during the introduction of new vocabulary?

- II. **Do** – After concluding the above-mentioned task in the vocabulary notebook, learners were asked to complete the self-assessment section to evaluate and reflect on their performance. At the end, their notebooks were collected to check their written answers. As the data had already been collected, this activity was shorter. After analysing their notebooks, learners received feedback in the next lesson to increase their motivation. The rest of the lesson was not related with this activity.

In comparison to the previous self-assessments, Bar Graph 5 reveals a decrease in the number of learners who provided no answer and an increase in the number of learners who answered positively towards their progress in vocabulary learning. To be specific, 70% felt confident with their cardinal numbers-related vocabulary; approximately 12% felt normal; and approximately 18% of learners gave no answer.

Bar Graph 5 – 4th Graders' self-assessment on their vocabulary progress (2nd activity)



In the second question of the self-assessment if learners felt about difficulty in recalling vocabulary, learners were asked “Why?”. Their affirmations presented in Table 4, curiously, indicate a high level of metacognitive thinking regarding their vocabulary learning processes. While learners **A** and **B** present a learning strategy related to memorisation, learners **E** and **F** recognise a language awareness metacognitive practice, such as pattern recognition. More importantly, when comparing these learners’ self-assessment to the first activity with the ability to recall the vocabulary in the second activity, a small number excelled in accurately spelling the learned words previously taught in the first lesson (learner **C** and **F**). To clarify, these specific six learners are presented in the table as they were the only ones to answer to the open-ended question on the reason they experienced or did not experience difficulty with recalling vocabulary.

Table 4 – Learners’ affirmations on level of difficulty in vocabulary recall (2nd activity) – 4th graders

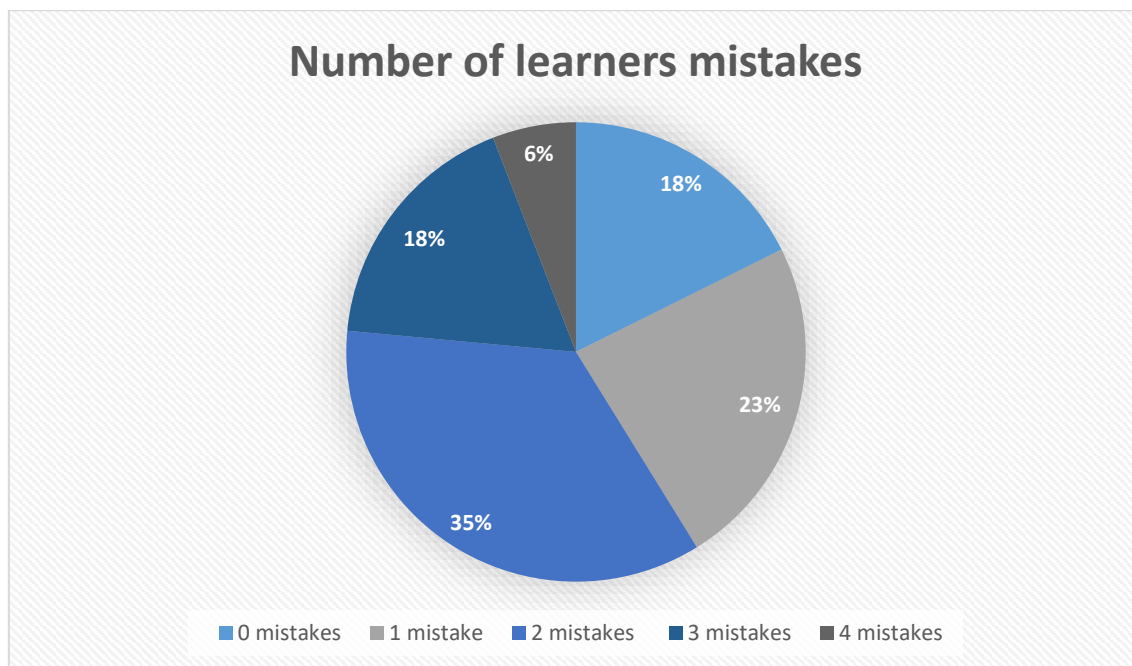
Learners	A	B	C	D	E	F
Original quote	“porque sei decor mas não é tudo”	“porque eu decorei os nubers”	“porque era fácil”	“porque eram grandes”	“é só aquere scentar ten ou ty”	“pelo h”
English translation	Because I know by heart, but not everything.	Because I memorise d the numbers	Because it was easy.	Because they were big [extensive].	It’s just adding “-ten” or “-ty” [suffixes].	For the “h” [Learner’s learning strategy]

Analysis	Ability to acknowledge vocabulary acquisition	Identified learning strategy	Self-confidence on learning monitoring	Ability to identify challenges, namely, word length	Pattern recognition as an opted strategy to learn the vocabulary	
Learners' relation between their self-assessment and written recall						
	A	B	C	D	E	F
Self-assessment on the first activity	Smiley face			No answer	Smiley face	
Vocabulary recalls on the second activity	Produced errors on word spelling (e.g., "firteen")	Produced errors.	Exceled in word spelling.	Produce d one spelling mistake ("fourty")	Added the suffix "-ten" at the end of each word.	Exceled in word spelling.

On a larger scale, and after analysing the vocabulary notebooks of the whole group (seventeen pupils), I assessed the learners' ability to recall and spell eleven cardinal numbers (see Table 4). The data reveal varying levels of accuracy, with some learners excelling in spelling while others made consistent errors, such as writing "fourty" instead of "forty" or adding the incorrect suffixes (e.g. "-ten" on the word fifteen"). To be precise, in Circle Graph 2 several learners (35%) revealed recalling numbers with two spelling mistakes; 23% of learners recalled with one mistake; and of

equal percentage, 18% of learners recalled with either zero mistakes (totally excelled) or with three mistakes.

Circle Graph 2 – Learners’ ability to recall cardinal numbers-related vocabulary on the 2nd activity – 4th graders.



4.4.2. Analysis and interpretation of results of the second activity – 4th graders

Regarding the self-assessment data, it was possible to perceive fourth graders’ higher levels of confidence with the implemented strategy of using vocabulary notebooks (see Bar Graph 5). There is a clear increase in engagement and self-awareness in vocabulary monitoring. Whereas in the first activity there is a percentage of 59% of positive answers, the second activity reveals a percentage of 70%. In the same way, the number of answers reveals a decrease in non-responses, moving from 29% to 18%. Besides indicating a growth in learners’ adaptability to the approach, it also correlates with the Schmitt and Schmitt (1995) studies, in which they argued that pupils become more autonomous and reflective in their language acquisition, in this case, within the vocabulary notebooks.

Addressing the answers to the second question, the diverse range of metacognitive thinking revealed in Table 4 can be aligned with Schmitt’s (2008)

affirmations, as both learners **A** and **B** mentioned memorisation strategies, yet, curiously, both presented spelling mistakes on vocabulary recall, confirming that acquiring vocabulary through rote memorisation can be challenging. Conversely, learner **F** by opting to be language aware, recalled correctly all the eleven words. Similarly, in the studies of Anderson and Tran (Anderson, 2002; Tran, 2006; as cited in Dubiner, 2018), it was pointed out that “through documentation of, and reflections on, vocabulary gains, the use of vocabulary notebooks contributes to heightened metacognitive skills, vital in the development of autonomous learning” (p. 290).

Unexpectedly, the findings have aligned with Anderson’s and Tran’s studies, as by documenting the vocabulary along with reflecting upon it, learners have developed metacognitive thinking. This data further enhances the fact that vocabulary teaching based solely on drilling may not be as effective as mediating together with metacognitive practices, such as scaffolded use of vocabulary notebooks, illustrated by learner’s **F**’s and **C**’s positive recall on all of eleven words.

Regarding the data presented in Circle Graph 2, a few learners (18%) committed no mistakes in spelling the cardinal number-related vocabulary, 35% committed two mistakes, presenting the highest percentage of the pie chart. These findings reveal younger learners experienced difficulty in recalling the written form of the previously taught numbers. To hypothesize these findings, it is important to compare the two implemented activities. In the first activity (section 4.3.1, page 57), learners used vocabulary notebooks during the *Review* stage, in which results revealed successful vocabulary acquisition when YLs are committed with guided prompts to think about the vocabulary [metacognitive language awareness] together with context-supported tools, such as vocabulary notebooks. In contrast, during the second activity implementation, YLs worked with vocabulary notebooks from the beginning of the lesson (at the *Plan* stage). From this activity, evidence has revealed YLs’ weak recall on written form lexicon previously taught, indicating that at an earlier stage, such as the *Plan* stage, when no scaffolded metacognitive language awareness is provided to the class, the context becomes insufficient, limiting their ability to fully acquire vocabulary in all language skills – writing, speaking, listening, and reading skills.

Although the latter result may not sound promising, both activities provided relevant insights for this Action-Research project. That is: (a) metacognitive language awareness tasks and reflections support the newly introduced vocabulary beyond sole memorisation but with context and meaning; (b) vocabulary notebooks alone produce minimal impact on vocabulary attainment. Thus, these findings highlight the importance of including more effective strategies within the notebook, such as metacognitive ones to improve their understanding of the newly introduced vocabulary.

Even though this Action-Research aimed to improve vocabulary acquisition through metacognitive strategies, unpredictable results emerged from this type of activity implementation. Besides proving vocabulary notebooks as effective contextual tools, according to my observation notes and linked to Dubiner's (2018) studies, I observed a possible extension of this type of approach on this groups learning behaviour and attitude towards learning. For example, in an informal interview, learner **F** shared a learning strategy acquired because of my role in metacognitively scaffolding the learners throughout the lessons (see Appendix 8). Learner **F** autonomously created at home a list of words learned during the lesson, taking inspiration from the activities I have implemented. Learner **F** affirmed that writing helped to acquire new words. This learner can indicate that by actively encouraging learners to engage in more metacognitive thinking and built metalanguage awareness through the tasks, not only can a learner become more conscious of their learning strategies, but they can also become an autonomous learner who creates their own preferred word acquisition strategies from an early age. Additionally, the unexpected results from learner **F**, when related to the first action-research question: *How do learners use Vocabulary Notebooks to improve their contextual understanding of vocabulary?* can provide helpful insights. This shows how this particular learner (with proper scaffolding) chose to adapt my metacognitively guided strategy in a way that suited the learner better. However, this "thinking about thinking" observed in a small sample of learners (one) cannot be generalised. For future studies, a larger sample of learners should be involved and studies on metacognitive awareness and autonomy could be developed for further exploration on a long-term basis.

5. Chapter V - Conclusion

This action-research report focused on the process of Young Learners' vocabulary acquisition, specifically focusing on the impact of metacognitive language awareness activities within vocabulary notebooks. To address three action-research questions: (1) How do learners use vocabulary notebooks to improve their contextual understanding of vocabulary? (2) Do language awareness exercises in vocabulary notebooks help EFL learners obtain contextual support during the introduction of new vocabulary? and (3) How effective are metacognitive notebooks in fostering meaningful vocabulary acquisition for young EFL learners? data sets with relevant evidence emerged.

Based on the above-mentioned results, vocabulary notebooks are more effective when merged with metacognitive language awareness tasks, such as pattern noticing, and reflective monitoring and questioning. By including a PDR lesson planning methodology, learners became critically involved in their learning process increasing their motivation to acquire unfamiliar words. Moreover, when the teacher prompted reflective tasks, for instance, the reflections on practical use of numbers, results revealed refined word retention and application. In contrast, decontextualised learning has proven to be ineffective when pupils, who relied on memorisation strategies, encountered challenges on word recall.

In general, therefore, the results show that using vocabulary notebooks can be a valuable tool for mediating reflection on YLs learning and connecting novel words, accompanied by word-writing, can lead to a stronger form-meaning connection, hence, more impactful vocabulary learning. However, the data also revealed challenges in learners' engagement with metacognitive vocabulary notebooks. Young Learners necessitated significant scaffolding, likely due to their underdeveloped cognitive and linguistic competence for reflective practice, and occasionally unclear instructions from me or the tasks.

Although it can be argued that the variety of introduced activities may have influenced the results, this approach was intentional. As outlined in Portugal's guiding document: *"Aprendizagens Essenciais"* (2018), one of the educational objectives is to

develop independent, autonomous thinkers to become an informed and engaged member of the society. Thereafter, it is not the Teacher's position to impose a single strategy to acquire vocabulary and limit YLs' thinking. As a professional, the teacher can and must scaffold learners until they opt for their preferred strategy. Therefore, this research project encouraged learners to think critically about their learning process. Nevertheless, even though the variety of learning activities were always consistent, according to this small-scale research, metacognitive language awareness exercises within the vocabulary notebooks have proven to be effective in acquiring new vocabulary. Additionally, the findings reveal promising potential for future research on the connection between autonomy and the effects of metacognitive language awareness tasks on vocabulary acquisition.

Language teaching has not only influenced the learners to engage with reflective thinking and benefited them with the use of metacognitive vocabulary notebooks but also engaged them and pushed them meaningfully and forward towards a more solid vocabulary acquisition. Besides, this approach has contributed to overall reflection from both teachers and learners. When one reflects upon one's own thinking, benefits emerge. From my perspective, I believe that to teach is to be open to flexibility and adaptation, as teachers are constantly learning throughout the teaching journey. To be able to teach is to be able to commit to constant progression rather than striving for perfection. For that reason, being surrounded by learners in this action-research has not only contributed to my personal growth and helped build my teaching identity but has also helped me to understand the importance of being able to step back, reflect, and then move forward.

5.1. Limitations of the study and future research suggestions

The findings are subject to at least four limitations. For instance, the Teaching Practice took place from September until mid-December, which can be sufficient time to intervene and monitor the data. However, that brief period, in addition to being spent with my student-teacher colleague, was almost interrupted weekly by general strikes of

personnel. This had implications for the continuity and adaptability of learners to the reflective approach within the vocabulary notebooks as the classes were susceptible to different teaching approaches, including the mentor's.

Another implication of these findings is the small sample size that can lead to inconsistency. As all seven classes suffered constant lesson interruptions, it was challenging to collect continuous and consistent data from the implemented activities. Thereafter, a limited number of learners were presented in this study as those were the main classes presenting reliable data from undergoing all the uninterrupted activities.

Furthermore, the project lacked pre-test questionnaires to verify the learners' knowledge with regards the vocabulary or pre-test for spelling to analyse and compare the data with the implemented activities. Moreover, the nature of this approach was cognitively demanding, especially with third graders. This required significant adaptation when designing the vocabulary notebooks, leading perhaps to implementation inconsistencies in the different research cycles.

Despite its size and limitations, this action-research project led to preliminary insights that enabled learners to contextualise words beyond oral reiteration. Regarding future projects, the project could benefit with a more personalised vocabulary notebook that holds more personal meaning for learners. For instance, instead of glueing it to the notebook, they could fold it into a booklet to make it feel different from a regular worksheet. For future projects, it could be also improved by including consistent variety of activities in both year grades – third and fourth, implementing comparison elements, such as, pre and post questionnaires, and as mentioned in the conclusion section, the study could benefit from further potential research on the impact of vocabulary notebooks on developing learners' autonomy. Additionally, apart from the self-assessments using a "smilegram" scale, the project could have been supported by learners' voices on the use of vocabulary notebooks.

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Appendices

Appendix 1 – Lesson plan of the first implemented activity on 3rd graders.

Preliminary information:

SCHOOL: EBI Fontinha/ Fernão de Magalhães STUDENT TEACHER: Margaryta Chirkova		
DATE: 16/10/2024	LENGTH OF LESSONS: 60m	TIME: -
CLASS LEVEL: 3 rd year primary		CLASS SIZE: 26 students
SUMMARY: Introduction and practice of new vocabulary: colours and sentence structures: "This is/ It's ____;" "My favourite colour is ____."		
AIMS (4Cs) Content: (thematic ideas/ concepts) Colours. Communication: (Language of content theme; language needed for communication in tasks) colours (<i>blue, yellow, green, pink, brown, white, orange, purple, grey, black, red</i>) and sentence structures: "My favourite colour is ____." / <i>This is ____.</i> "Listening, speaking, and writing skills development. Cognition: (Thinking skills development). Associating colours to feelings, sentence writing and reflections. Culture: (Target culture(s); intercultural communication; perceptions of self and others). For learners to work together as a class. To understand the existence of a variety of colours in real life.		
TIMETABLE FIT: These lessons are the first on the new topic of colours. After these lessons children will develop their understanding of different colours, recycle previous knowledge of feelings and orally express their favourite colour.		
ASSESSMENT: Through observation and monitoring of learners' performance. The teacher will note down observations.		
ASSUMPTIONS: Learners can recognise feelings (e.g., sad, happy, fine). - L1 might be used for more complex reflective questions.		
ANTICIPATED PROBLEMS AND SOLUTIONS: - During the new vocabulary introduction there might be L1 interference, especially on more reflective questions. - Slow internet is prevented by bringing a pen drive with the necessary materials. - Fast finishers will have an extra exercise. - Pronunciation will be drilled with extra scaffolding (use of a song, teachers modelling)		
TEACHING AIDS: Board (chalkboard/ whiteboard), markers, chalk, coloured pencils, vocabulary notebook, song, PowerPoint, painting.		

STAGE TIME INTERACTION		PROCEDURE	AIM	SCAFFOLDING STRATEGIES
P L A N	Beginning the lesson	a) -T starts the lesson by greeting the Ss: "Hello!" and asks them to open their notebooks to write the date, day of the week, month, year, and the weather. -T elicits by pointing to a calendar: "What day is it today?" "Is it Saturday? No, today is ____;" "What is the weather like today?"	a) Formulaic language and routine.	a) Use of the board.
	Routine: a) 5 min T ↔ Ss			
	Warm-up: b) 5 min T ↔ Ss	b) -T asks Ss to stand in front of their desks to sing a song called "I am happy" and asks to mimic the T. (https://www.youtube.com/watch?v=1rTBwQ-fyEU) Metacognitive question: Why do we sing songs in lessons? How does the song make you feel?	b) Prepare children for the English classroom and settle into a routine.	b) The modelling of the teacher. - Movement (hand gestures). - Use of a song.
	c) Lesson aim: T ↔ Ss 10 min	c) -T asks Ss to display their coloured pencils and introduces the lesson topic: "Today we will learn colours." d) -T proceeds to show each colour in PowerPoint for Ss to repeat: "It's ____."	c) - To visual aid Ss and arouse curiosity. d) - Drilling to practise pronunciation. Introducing the sentence structure: "It's ____."	c) - Teachers' modelling. d) - Use of a PowerPoint.

D O	Activity cycle 1 a) 5 min T ↔ Ss	a) – After repeating the vocabulary, T plays a game: “Show me the colour _____.” - And then reverses the game by showing the colour and eliciting the word. Metacognitive question: “Was it easier to remember the words by saying or seeing? Why?”	a) - Assimilate the vocabulary in a physically engaging way.	a) – Use of a PowerPoint.
	Activity Cycle 2 b) 5 min T ↔ Ss	b) – T plays a song (“Rainbow colours”: https://www.youtube.com/watch?v=SLZcWGQQsmg) for Ss to find the missing colours.	b) - Reinforce the vocabulary.	b) – Use of a song.
	Activity cycle 3 c) 10 min Ss	c) – T distributes a vocabulary notebook and asks Ss to 1) read, 2) unscramble the words and 3) colour. - T corrects by asking them to spell the written words.	c) –Autonomous work, reading and writing skills. The aim is to consolidate in the written form.	c) – Vocabulary notebook.
	d) 5 min Ss	d) –T shows a painting (“Seasons - Spring” by Giuseppe Arcimboldo) while they listen to a song and asks them what colours they see. Metacognitive question: “Why do you think different colours make us feel different? Did you like the painting?”	d) – Speaking skills through a cross-curricular component related to Art. Incorporate real-world context.	d) -Painting.
	e) 5 min Ss	e) – T introduces a new sentence structure: “My favourite colour is _____.” by exemplifying the last exercise from the vocabulary notebook. -T says she feels happy when she sees those colours, then asks students to complete their own. Metacognitive question: Which colours make you feel happy? Do	e) – Recycling previous knowledge by associating colours to feelings.	e) – Vocabulary Notebook.

R E V I E W		you think other people feel the same?		
	f) 5 min Ss a) 5 min Ss	f) – After they finish, they answer what is their favourite colour and draw an object to which they associate their favourite colour. Plan B: If there is no time to reflect, Ss will reflect at home with guided reflections through the vocabulary notebook. Or Play the “hanged man” adapted to a house by spelling letters. a) – Then, T warns Ss that the lesson has finished and instructs to tidy up. Then they sing a song called “Rainbow song” if there is time.	f) – Associate colours to real-life and writing skills. a) Wrap-up	f) – Vocabulary notebook. - Coloured pencils.

Appendix 2 – Third graders vocabulary notebook from the 1st implemented activity (first page).

MY VOCABULARY NOTEBOOK

Colours:

1. Read , Look and complete .

What colour is this?

a) What colour is this?

b) What colour is this?

c) What colour is this?

d) What colour is this?

This is red

This is green

This is orange

This is yellow

This is pink

2. What colour is this? Write and colour .

1 ULEB It's <u>blue</u>	2 PNKI	3 ELYWLO	
4 RDE	5 GEERN	6 NGAORE	10 PRUPLE
7 NWORB	8 ERGY	9 LKCAB	11 HWIET

3. Write and draw .

What is your favourite colour?

Hello!

My favourite colour is _____.

It's _____.

Appendix 3 – Third graders vocabulary notebook from the 1st implemented activity (second page).

MY VOCABULARY NOTEBOOK		Self- reflection:												
1. Today I learned new colours like red, orange, yellow, green and blue? (<i>"Hoje aprendi novas cores como"</i>) Yes  / No 														
2. Which colour was difficult to learn? Tick ✓ (<i>"Que cor foi difícil de aprender?"</i>) <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td style="padding: 2px 10px;">Red</td> <td style="padding: 2px 10px;">Purple</td> </tr> <tr> <td style="padding: 2px 10px;">Orange</td> <td style="padding: 2px 10px;">Pink</td> </tr> <tr> <td style="padding: 2px 10px;">Yellow</td> <td style="padding: 2px 10px;">White</td> </tr> <tr> <td style="padding: 2px 10px;">Green</td> <td style="padding: 2px 10px;">Brown</td> </tr> <tr> <td style="padding: 2px 10px;">Blue</td> <td style="padding: 2px 10px;">Grey</td> </tr> <tr> <td style="padding: 2px 10px;">Black</td> <td></td> </tr> </tbody> </table>			Red	Purple	Orange	Pink	Yellow	White	Green	Brown	Blue	Grey	Black	
Red	Purple													
Orange	Pink													
Yellow	White													
Green	Brown													
Blue	Grey													
Black														
3. What helped you learn the colours? Tick ✓ (<i>"O que é que te ajudou a aprender as cores?"</i>) ☐ Song (música)  ☐ Colouring (pintar)  ☐ Drawing (desenhar)  ☐ Painting (o quadro do pintor)  ☐ Writing (escrever)  ☐ Game (jogo) 														
4. Write  a sentence using a colour. (<i>"Escreve uma frase a usar uma cor."</i>)														
5. Easy - Peasy?   														

Appendix 4 – Examples of 3rd graders answers to the metacognitive questionnaires.

Which words were difficult to learn? Tick ✓ ("Que palavras foram difíceis de aprender?")

Monster	Spider
Witch	Halloween
Vampire	Jack O' Lantern
Ghost	Pumpkin
Black cat	Skeleton
Bat	

Porquê? é muito grande

Which words were difficult to learn? Tick ✓ ("Que palavras foram difíceis de aprender?")

Monster	Spider
Witch	Halloween
Vampire ✓	Jack O' Lantern ✓
Ghost	Pumpkin ✓
Black cat ✓	Skeleton
Bat	

Porquê? É difícil porque é muito difícil de falar

2. Which words were difficult to learn? Tick ✓ ("Que palavras foram difíceis de aprender?")

Monster ✓	Spider
Witch	Halloween ✓
Vampire ✓	Jack O' Lantern
Ghost ✓	Pumpkin ✓
Black cat ✓	Skeleton ✓
Bat ✓	

Porquê? foi difícil falar

Appendix 5 – Lesson plan of the first implemented activity on 4th graders.

Preliminary Information:

SCHOOL: EBI Fontinha/ Fernão de Magalhães		
STUDENT TEACHER: Margaryta Chirkova		
DATE: 5/11/2024	LENGTH OF LESSONS: 60m	TIME: -
CLASS LEVEL: 4 th year primary		CLASS SIZE: 24 students
SUMMARY: Introduction of a new unit – numbers from 50 to 100 and practice of its new vocabulary.		
AIMS (4Cs) Content: (thematic ideas/ concepts) Numbers from 50 to 100, with a focus on counting in tens, comparison (<i>greater than, less than, equal to</i>), linking to basic math operations. Communication: (Language of content theme; language needed for communication in tasks) Language of content theme – numbers 50-100 (e.g., 52 – fifty-two) and mathematical terms like “<i>more than, less than and equals</i>”. Functional language: “<i>How many...?</i>”; “<i>Is this more than...?</i>”. Skill focus: developing listening, speaking, and reading. Cognition: (Thinking skills development). Associating numbers to real-life scenarios. Applying basic operations (addition) while using English, with an emphasis on understanding numbers as quantities and comparisons. Culture: (Target culture(s); intercultural communication; perceptions of self and others). Fostering intercultural communication and teamwork by exploring how numbers are used in daily life. Reflect on how numbers are a universal language connecting cultures.		
TIMETABLE FIT: These lessons are an introduction of a new topic - numbers. After these lessons children will develop their understanding of larger numbers, recognise in the written and spoken form and recycle previous learnt knowledge (numbers from 1 to 20).		
ASSESSMENT: Through observation and monitoring of learners’ performance. The teacher will note down observations.		
ASSUMPTIONS: Learners can recognise numbers from 1 to 20. - L1 might be used for more complex reflective questions. - Some exercises might be cognitive challenging or take more time. - Young learners are likely to understand the concept of counting and identify patterns on sequences.		
ANTICIPATED PROBLEMS AND SOLUTIONS: - Young learners might confuse numbers whether in the written form or spoken (e.g., fifteen vs. fifty), which will be aided with pronunciation through repetition, exercises that include writing the numbers and the use of games. - Spelling incorrectly the numbers as they sound different from the written form (e.g.; “eight”); Solution: drilling and written exercises. - It’s the pupils first time reflecting at the end of the lesson; therefore, the guided reflection might have L1 interference, including in the worksheet.		
TEACHING AIDS: Board (chalkboard/ whiteboard), markers, chalk, worksheet, video, PowerPoint.		

STAGE TIME INTERACTION		PROCEDURE	AIM	SCAFFOLDING STRATEGIES
P L A N	Margaryta Ormkova Beginning the lesson Routine: a) 3 min T ↔ Ss Lesson aim: b) 5 min T ↔ Ss c) Warm-up: T ↔ Ss 5 min	a) -T starts the lesson by greeting the Ss: <i>"Hello!"</i> and asks them to open their notebooks to write the date, day of the week, month, year, and the weather. -T elicits by pointing to a calendar: <i>"What day is it today?"</i>; <i>"Is it Saturday?"</i>; <i>No, today is _____."</i> <i>"What is the weather like today?"</i>. b) – T provides a reflection moment: 1) <i>"Today, we are going to explore a new unit, we are going to learn about numbers. Numbers are everywhere!"</i> (T shows a PowerPoint) 2) <i>"Look at the image. Let's think for a while. Where do you see numbers? At home? At school? On the Tv?"</i>. 3) <i>"Now, if you know a place, raise your hand and tell me!"</i> c) – Then T proceeds to elicit known vocabulary: 1) <i>"How many girls are there in the class? Let's count!"</i>, Ss count and tell the answer. 2) Then T using her fingers asks to: - Count from 1 to 10! - Count from 10 to 1! - Count from 10 to 20! - T distributes a handout with the numerical and written form of the numbers and drills by 10s until number 50.	a) Formulaic language and routine. b) – Arouse reflection moment and curiosity. Incorporate real-world aspect. Introduce the lessons topic. c) – Recycle and assess their knowledge on numbers from 1 to 20.	a) Use of the board. b) Use of a PowerPoint. c) - Teachers' modelling. - Hand-out.

D O	Activity cycle 1 a) 5 min T ↔ Ss	a) –When it comes to 60, T provides a reflection moment by asking what have the words in common (Answer: The suffix – “-ty” on <u>thirty</u> , <u>forty</u> , etc.), Ss underline/highlight. - T writes on the board the number “6”: 1) “ <i>What number is this?</i> ” (Writes the written form - “six”). 2) - T adds a “0”: “ <i>Let’s think a little bit, raise your hand to answer. What number is this now?</i> “.	a) Teach meaningfully the numbers by engaging them in cognitive thinking.	a) – Use of a PowerPoint. -Use of the board.
	a.1) 2 min T ↔ Ss	a.1) T drills numbers by 10s until 100: 3) “ <i>Now, you can count until 100! Let’s see</i> ” - T writes on the board: 4) “ <i>20 + 1 equals</i> _____”. - “ <i>What about 50+3 =</i> _____”.	a.1) Drilling to practice pronunciation.	
	Activity Cycle 2 b) 5 min Ss	b) – T distributes a handout in which Ss must: 1) Read and transform the written form of the number into a numeric form. 2) Watch a video to “Unlock the puzzle”, that is, Ss will see the numeric form that appears on the video and select the correct option. 3) Say aloud when T asks: “ <i>What numbers did you see?</i> ”.	b) 1) - Reinforce the vocabulary by reading for meaning. 2) Association of the numeric form to the written form. 3) Speaking skills.	b) – Use of a video.
	Activity cycle 3 c) 15 min Ss	c) – Ss do cross-curricular activities related to mathematics: 1 st) Write the missing numbers. 2 nd) Complete the sequence by 2s, by 5s, by 10s.	c) –Autonomous work to consolidate in the written form. Cross-curricular link to mathematics.	c) – Worksheet.

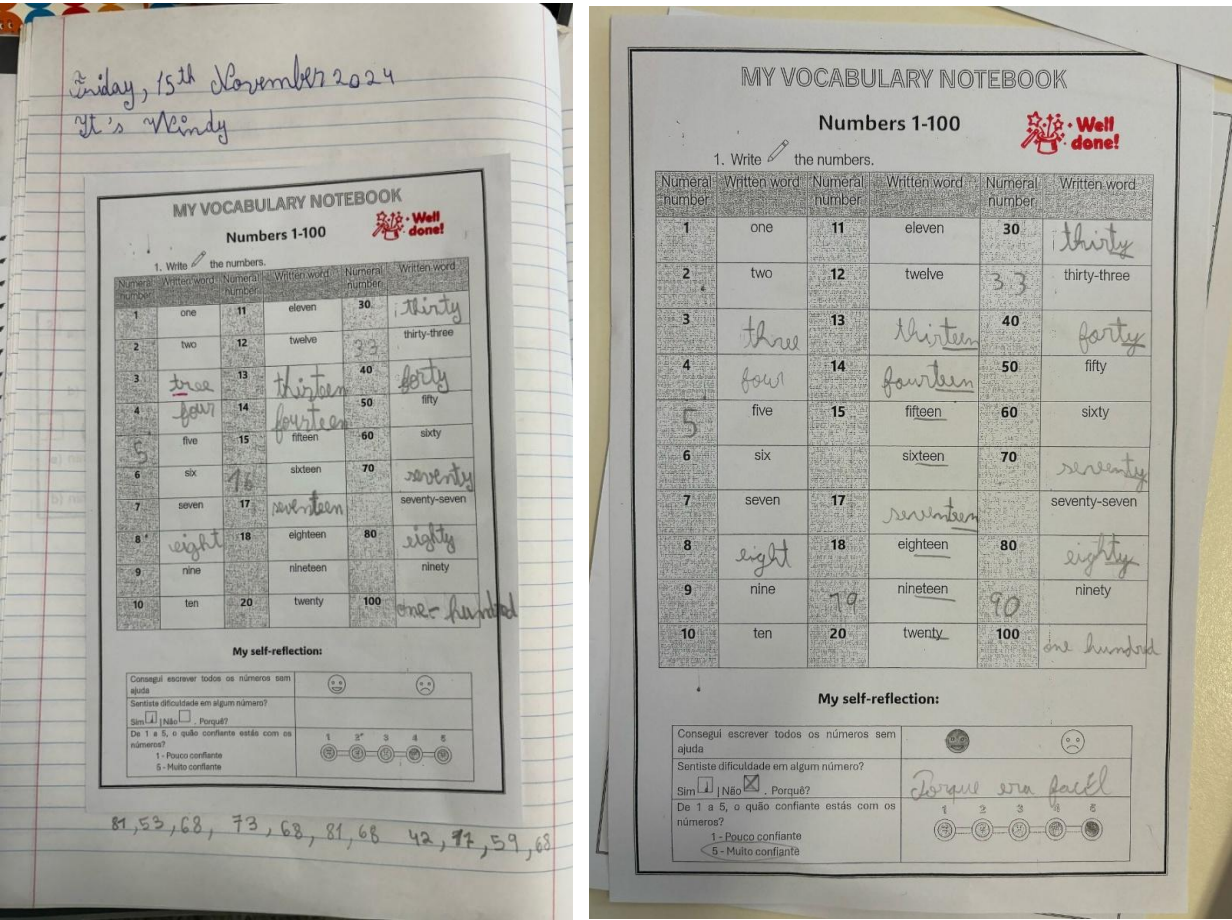
R E V I E W	Activity Cycle 4	3 rd) Ss complete with "> more than"; "< less than" and "= equals" (e.g., "54 < sixty-one")		
	d) 10 min T ↔ Ss	d) – After the worksheet, T tells Ss are going to play a game called "<i>Buzz the number</i>". - T will play with multiples of 5. Ss will count from 1 up to 100. - Each time the number contains the digit "5" or a multiple of five, the pupil must replace the number with the word "<i>Buzz</i>". (e.g., "1, 2, 3, 4, BUZZ, 6, 7, 8, 9, BUZZ")	d) – Speaking skills.	d) - Game.
	a) 5 min Ss	a) To finish the lesson Ss reflect on their lesson autonomously by answering some reflection questions.	a) Metacognitive and self-assessment.	a) – Reflective worksheet
	b) 5 min T ↔ Ss	b) T informs that the lesson is coming to an end, asks Ss to tidy up and creates an exit-game: 1) "<i>I have more than 20 and less than 30 candies inside the pumpkin. How many candies do I have?</i>" Ss must guess the riddle.	b) Use of knew vocabulary.	b) – Realia (candy).

Appendix 6 – Self-assessment of fourth graders in the first implemented activity.

Self-reflection										
1. Olha para a escala e diz para ti os números em inglês:										
10	20	30	40	50	60	70	80	90	100	
Conseguiste? Sim ☐ Não ☐										
2. Os números que achei mais fácil de aprender foram_____.										
3. Os números mais difíceis de aprender foram_____. Porquê?										
Pronúncia difícil ☐ Semelhança com outro número ☐										
Escrita diferente ☐ Números com nova pronúncia ☐										
4. O que te ajudou a aprender os números?										
Refletir sob o uso dos números no dia a dia ☐ Reparar na forma escrita ☐										
Associar a matemática ☐ O jogo "Unlock the puzzle" ☐										
O jogo "Buzz" ☐ A reflexão ☐ Outro: _____										
5. What's your favourite number?										

Easy - Peasy?   										

Appendix 7 – 4th graders examples of vocabulary notebooks - cardinal numbers.



Appendix 8 – 4th grader autonomous and preferred learning strategy.

Numbers English

1 - one	22 - twenty-two	61 - sixty-one
2 - two	23 - twenty-three	62 - sixty-two
3 - three	24 - twenty-four	63 - sixty-three
4 - four	25 - twenty-five	64 - sixty-four
5 - five	26 - twenty-six	65 - sixty-five
6 - six	27 - twenty-seven	66 - sixty-six
7 - seven	28 - twenty-eight	67 - sixty-seven
8 - eight	29 - twenty-nine	68 - sixty-eight
9 - nine	30 - thirty	69 - sixty-nine
10 - ten	31 - thirty-one	70 - seventy
11 - eleven	32 - thirty-two	80 - eighty
12 - twelve	33 - thirty-three	81 - eighty-one
13 - thirteen	34 - thirty-four	82 - eighty-two
14 - fourteen	35 - thirty-five	83 - eighty-three
15 - fifteen	36 - thirty-six	84 - eighty-four
16 - sixteen	37 - thirty-seven	85 - eighty-five
17 - seventeen	38 - thirty-eight	86 - eighty-six
18 - eighteen	39 - thirty-nine	87 - eighty-seven
19 - nineteen	40 - forty	88 - eighty-eight
20 - twenty	50 - fifty	89 - eighty-nine
21 - twenty-one	60 - sixty	90 - ninety