Mobile technology and dyslexic language learners: Exploring the use of iPads to support the development of writing skills in dyslexic pupils learning a foreign language.

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A Research & Development Project

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ABSTRACT

The focus of this study was to explore the extent to which the use of mobile applications focusing on vocabulary, reading and notetaking could support the writing of dyslexic learners of Spanish. The research questions identified were:

1. How can mobile technology such as I-pads can support the development of writing skills in Spanish in dyslexic learners?

2. What are the implications of using mobile technologies in MFL lessons for teacher practice?

An action-research method of three cycles was implemented using combination of quantitative and qualitative instruments:

- ***Quantitative instruments(examples):*** Likert scale questionnaire for dyslexic and non-dyslexic learners of languages; survey questionnaire of teachers of languages.

- ***Qualitative instruments (examples):*** Semi-structured interviews of dyslexic learners of languages; classroom observations of year 7 / 8 with a high number of dyslexic learners; interviews special education staff.

During the initial phase of this study, problems of confidence in reading and writing leading to anxiety were found in dyslexic learners in comparison to non-dyslexic learners.

With regards to the first question, this study found that there was also a clear difference in motivation to complete tasks and engage with applications amongst the dyslexic learners focus of this study. These differences were attributed to internal factors such as self-efficacy, control over learning, individual attributions and digital literacy skills. Positive attitudes towards tasks and completion of perceived difficult writing tasks was more evident in pupils with stronger digital literacy skills and positive self-esteem.

The use of technology such as digital notebook and text to speech technology did not lead to an improvement in spelling but contributed to better organisation in writing for those pupils with

strong digital literacy skills. Online games such as Kahoot can lead to an improvement in participation but problems with behaviour were encountered. However, when weaker pupils were given the opportunity to use it independently, their engagement improved together with their tests results. Nevertheless, there was no strong evidence that the use of applications such as Kahoot could lead to an improvement in retention of Spanish vocabulary.

With regards to the second question, the implications for teacher practice indicate that training is important when using technology for both teachers and students. In addition to this, the type of tasks used are more likely to have a stronger influence than the technology used on the development of language skills. Furthermore, the design of any intervention using technology needs to consider the development of self-regulatory and metacognitive skills and digital skills of students.

TABLE OF CONTENT

Page

LIST OF TABLES viii

LIST OF FIGURES ix

Chapter 1. Introduction 1

1.1 Background 1

1.2 Research Context 2

1.3 Rationale 3

Chapter 2. Background and review of literature 5

2.1 Inclusion and dyslexia 5

2.2 Dyslexia: a definition 5

2.3 Manifestations of dyslexia 7

2.4 Causes for dyslexia 8

2.5 Dyslexia and language learning 9

2.6 Implications for Modern Foreign Language Learners 11
2.6.1 Linguistic and cognitive issues 12

2.7 Teaching strategies for dyslexic language learners 16
2.7.1 Listening and speaking 17
2.7.2 Vocabulary and grammar 17
2.7.3 Reading and writing 18

2.8 Technology and dyslexic language learners 20
2.8.1 Listening and speaking 21
2.8.2 Vocabulary 21
2.8.3 Reading and writing with technology 22
2.8.4 Text to speech and speech to text applications 23
2.8.5 Applications and organisational skills 25
2.8.6 Mobile technology constraints and challenges 25

Chapter 3. Methodology 27

3.1 Research Aim 27

3.2 Study Participants 27

3.3 Collaboration 28

3.4 Ethical considerations 28

3.5 Research Design Approach 28

3.6 Data collection 31
3.6.1 Quantitative methods 32
3.6.2 Qualitative methods 32

3.7 Action Research Cycles 33
3.7.1 Focus of each Cycle 34

3.8 Implementation of Action Research Cycle 35
3.8.1 Student Language Perception and Beliefs Questionnaire 35
3.8.2 Interview with School Dyslexia Specialist 35
3.8.3 Teachers Perception Questionnaire 35
3.8.4 Selection of Application Software 37
3.8.5 Design of Intervention Activities 38
3.8.6 Classroom Observations 40
3.8.7 Student Semi-structured Interviews 41
3.8.1 End of Cycle Student Questionnaire 41

Chapter 4. Findings & Results 43

4.1 Cycle 1 – Identification of Issues 43
4.1.1 Confidence in Communicating in a Modern Foreign Language 43
4.1.2 Level of Anxiety 45
4.1.3 Vocabulary 47
4.1.4 Learner Support and Strategies 48
4.1.5 Other findings: Spanish and French Perceptions 50

4.2 Discussions and interviews with staff 50

4.3 Cycle 1 Semi Structured Interview Results 51
4.3.1 Negative learners' perception of themselves 51
4.3.2 Effort and difficulty 52
4.3.3 Attitude towards failure 53
4.3.4 Use of technology 54

4.4 Cycle 1 Student Observation Results 54
4.4.1 Attention and focus while using the device: 55
4.4.2 Listening to teacher's instructions 55
4.4.3 Engagement and motivation to complete tasks 55
4.4.4 Effort and perseverance to complete tasks: 56
4.4.5 Summary of Cycle 1 Observation Findings 56

4.5 Cycle 1 Intervention development focusing on vocabulary 57

4.6 Cycle 1: End of Cycle Questionnaire 60

4.7 Cycle 1 Reflection 62

4.8 Cycle 2 Overview 62

4.9 Cycle 2 Student Observations 63
4.9.1 Attention and focus while using the device 63
4.9.2 Listening to teacher's instructions 63
4.9.3 Engagement and motivation to complete tasks 63
4.9.4 Effort and perseverance to complete tasks 64

4.10 Cycle 2 Reflection 65

4.11 Cycle 3 Overview 66

4.12 Cycle 3 Student Observation Results 66
4.12.1 Attention and focus while using the device 66
4.12.2 Engagement and motivation to complete tasks 66
4.12.3 Effort and perseverance 67

4.13 Cycle 3 Semi-Structured Interview Results 67

4.14 Cycle 3 Final reflection 69

Chapter 5. Conclusions and Implications 70

5.1 Study Limitations and Issues 70

5.2 Q1 Mobile Technology Supporting Dyslexic Learners 71
5.3 Q1a Impact of assisted response systems on Spanish vocabulary 71
5.4 Q1b Can text to speech apps support the development of writing skills? 72
5.5 Q1c Use text to speech apps to support writing skills 73
5.6 Q2. Implications of using mobile technologies in MFL lessons 74
5.7 Q2a Dyslexic learners' perceptions of learning with technology? 74
5.8 Summary 75
5.9 Implications – Teaching Practice 76
5.10 Implications – Future Research 76

Chapter 6. References 77

Appendix A. Participant Consent Evidence 83
A.1 Request to Conduct Research from School and Evidence of Consent 83
A.2 Participant Information Sheet 85
A.3 Participant Consent Form 88

Appendix B. C1 Student Language Perceptions and Beliefs Questionnaire 90
B.1 Questionnaire Template 90
B.2 Questionnaire Results 92

Appendix C. C1 Transcript from Interview with School's Dyslexia Specialist 102

Appendix D. Teachers perception on dyslexia and mobile technology 103
D.1 Questionnaire (MS Office Forms) 103
D.2 Results 105

Appendix E. Cycle 1 Student Observations Summary 108

Appendix F. C1 Student Semi-structured Interview and Transcript Results 109
F.1 Student Semi-Structured Interview Questions 109
F.2 Student Semi-Structured Interview Results (transcripts) 110
F.3 Coded Results of Structured Interviews 123

Appendix G. C1 End of Cycle Student Questionnaire 124
G.1 C1 End of Cycle Student Questionnaire 124
G.2 C1 End of Cycle Student Results 126

Appendix H. C1 Evaluation Framework for Language App Development 129

Appendix I. Example Intervention Tasks and Activities 130

I.1 Example Vocabulary and grammar quizzes using Kahoot Y7-78 130

I.2 Example Translation and Writing Tasks – Year 7 134

I.3 Example Reading Task – Advanced Reading Year 7 135

I.4 Example Writing framework for extension writing task 136

I.5 Example Grammar Focused Tasks 137

I.6 Example Presentation Resources 138

I.7 Interactive Language Tasks using OneNote / Textivate / PowerPoint 140

I.8 Translation Task Example – Spanish to English 149

I.9 Vocabulary used in Tests using Kahoots 150

I.10 C2 Sample Student Work Extract 151

I.11 Example Vocabulary and Grammar Tasks 153

I.12 Example Translation and Writing Tasks 157

I.13 Example Reading Tasks 160

I.14 Example Reading and Writing Framework Year 7 164

I.15 Example Reading and Writing Framework Year 7 / 8 Lower Ability 169

I.16 Example Writing Samples 174

I.17 Sample Students Digital Work 176

Appendix J. Cycle 2 Student Observations - Summary 177

Appendix K. Cycle 3 Student Observations Summary 178

Appendix L. C3 Final Student Semi-Structured Interview 179

L.1 Final Student Semi-Structured Interview Questions 179

L.2 Student Semi-Structured Interview Results (transcripts) 180

L.3 Coded Results of Interviews 187

LIST OF TABLES

Page

Table 1: Data collection methods 31
Table 2: Application utilise during Cycles 38
Table 3: Activities devised for intervention that follow SAMR model..... 40
Table 4: C1 Vocabulary Test Results Discussion..... 58

LIST OF FIGURES

Page

Figure 1: Five phase of enquiry model by Ferrance (2000) 30
Figure 2: Action Research Analysis Framework 30
Figure 3: Research Cycles 34
Figure 4: Implementation of Action Research Cycle 36
Figure 5: Confidence in Communictaion (Spanish) 43
Figure 6: Confidence in Writing (Spanish) 44
Figure 7: Confidence in Speaking Spanish 44
Figure 8: Confidence in Reading in Spanish 45
Figure 9: Confidence in Listening in Spanish 45
Figure 10: Level of anxiety when writing in Spanish 46
Figure 11: Level of anxiety when reading a text in Spanish 46
Figure 12: Perceived ability to learn Spanish vocabulary 47
Figure 13: Perceived ability to remember words in Spanish 47
Figure 14: Use of vocabulary resources provided by teacher 48
Figure 15: Postive Learning environment 48
Figure 16: Use of vocabulary resources provided by the teacher 49
Figure 17: Use of writing support provided by the teacher 49
Figure 18: Writing in Spanish compared to writing in French 50
Figure 19 - Cycle 1 Vocabulary Test Results 57
Figure 20: Digital Notebook sample showing composition of writing and feedback 59
Figure 21: Has technology helped Spanish Learning? 60
Figure 22: Preference for continued use of mobile technology 61
Figure 23: Motivation to use NotePad Class notes 61

Chapter 1. INTRODUCTION

1.1 Background

In a globalized world, learning a foreign language is considered a vital skill for the development of a prepared workforce and an open society to other cultures. For dyslexic pupils who already struggle with the mechanics of their first language; learning an additional language often represents an additional burden. According to the British Dyslexia Association, (British Dyslexia Association, nd) dyslexia is one of the most common Special Needs Learning Conditions (SNLC) and affects 10% of the population in the UK. Teachers are therefore likely to find dyslexic learners in their classrooms.

There are a range of issues associated with dyslexia including difficulties associating words to sounds, poor working memory, poor auditory discrimination and slow speed of information processing. Reading and writing are likely to be challenging for dyslexic pupils (Crombie, 2000; Kormos & Smith, 2012). These difficulties may also lead to problems with behaviour and motivation (Kormos & Csizér, 2010; Crombie 1997) and dyslexic students may exhibit more anxiety than non-dyslexic students, impacting on their attention and focus on tasks (Piechurska-Kuciel 2008). This anxiety can also be coupled with the feeling of frustration and poor self-esteem. (Ganschow, Sparks & Javorsky, 1998; Scheneider & Crombie, 2003).

Dyslexia is not a one-size fits all problem and each dyslexic learner can show many different characteristics. It is therefore important to understand how dyslexia is manifested and how teaching can address these difficulties.

The Children and Families Act (2014) and the SEND (Special Educational Needs and Disabilities) Code of Practice (2015), stress on the importance of effective differentiation for learners to ensure the curriculum is accessible. However, with the increasing demands of teaching workload and the reduction in spending support for SEND students it is

increasingly difficult for teachers to support such students effectively. The continuous changes to the GCSE exams in languages and the focus on more demanding tasks such as translation, reading and writing, offer additional challenges to dyslexic learners.

Teachers can support the learning of dyslexic pupils by providing effective differentiation and using inclusive pedagogies and approaches that focus on a personalized approach to learning (Crombie, 2000; Reid, 2013). Research on first language acquisition has claimed that methodologies such as the multisensory approach can be beneficial for dyslexic pupils, but the implementation of such an approach may not be easily achieved. With the growing use of technology and the changing dynamic of the digital world, technology could support the use of a multisensory approach (Reid, 2013).

Technology can integrate the interactive element and kinesthetic learning and the multi-sensory approach to ensure dyslexic learners maximize learning opportunities (Reid, Gavin, Strnadova, Iva & Cumming, 2013). The use of tablets and mobile devices in the school environment has not been widely explored and, as Herodotou (2018; 1), argues "despite their increasing uptake and the potential for new and interactive forms of learning", there is still a limited understanding of their impact on children's learning and development.

Much of the existing research on Information Commutation Technology (ICT) has been focused on special needs such as hearing impairment and autism (Istenic Starcic, Andreja & Bagon, Spela, 2014). Existing research has focused on early learning and the use of technology to support teaching literacy skills. There are few studies examining the impact of mobile technology on the teaching of languages to children with special needs.

1.2 Research Context

As a foreign language teacher, I have found it challenging to tailor my teaching to meet the requirements of students with a range of special needs. This has motivated me to identify strategies to make my classroom more inclusive and triggered my interest in this area of education. I have trained in different areas of SEND and differentiation, but the training is limited and not always effective.

As the head of the language department in a non-selective independent co-educational school; I became interested in how technology could support the learning of my dyslexic pupils. The school has a high intake of students with special needs, predominantly dyslexic pupils (40% of students have been diagnosed with dyslexia). It is expected that this will increase in line with the trend outlined by the Department for Education (DFE) indicating that the percentage of pupils with Educational Health Care (EHC) plans attending independent schools has increased over the last eight years from 4.2% to 6.3% (DfE 2018).

When a pupil is diagnosed with dyslexia, they are given an EHC plan and the school offers additional support. The removal of SEND students out of lessons is not common and only those with severe dyslexia or another difficulty receive personalised tuition or drop the subject. There are no teaching assistants in the classrooms as school policy dictates that children with special needs can be fully supported by their teacher.

It is compulsory for students at the senior school to take Spanish and French at Key Stage 3. Dyslexic pupils often find this difficult as they have limited exposure and tend to confuse the languages. Languages are compulsory at GCSE and very few students with special needs are discouraged from taking a language. These factors make the teaching of languages to dyslexic pupils challenging.

One of the goals of the school is to integrate technology into the curriculum. The school is equipped with 20 I-pads and 18 computers and recently acquired Microsoft Surface Tablets. Teachers are encouraged to use mobile technology in their lessons, however this often requires a change to teaching styles.

1.3 Rationale

The main objectives of this study are to explore the role that technology can play in the teaching of foreign language to dyslexic pupils and develop an understanding on how to use mobile technology effectively. I am keen to explore an area that has been underrepresented in education and believe that there is potential in using mobile technology in the language classroom which is beneficial to language teachers and

teachers of children with specific learning difficulties. I am also keen to explore the impact that using mobile technology has in my own teaching practice and approaches.

Chapter 2. BACKGROUND AND REVIEW OF LITERATURE

2.1 Inclusion and dyslexia

The Modern Languages Curriculum which emphasizes in the teaching of languages for all learners; promotes openness to other cultures and citizenship (Jones, 2013; McColl, 2005) and helps to develop social skills which may lead to more tolerant individuals (Jones 2014) regardless of learners' learning difficulties (Jones 2013). However, an inclusive curriculum can be counterproductive for dyslexic learners if the provision of languages is compulsory without considering the specific needs of the learner (Crombie 2000).

This view is supported by McColl (2005) who recognizes that despite all the benefits that languages bring to SEND (Special Educational Needs and Disability) students; there are students who only achieve a "limited competence". In line with this, the provision of languages should be tailored and offered to those pupils who can achieve a certain degree of competence to avoid feelings of frustration and negativity. According to the DfE (2015) National Curriculum "all teachers should set high expectations for every pupil, whatever their prior attainment" and should identify potential areas of difficulty to ensure there aren't any barriers for learning that can prevent access to the curriculum. In the case of dyslexic learners, it is crucial that more emphasis is given to tailored teaching focusing on learners' needs by helping them to compensate their weaknesses (Crombie 2000).

2.2 Dyslexia: a definition

According to the British Dyslexia Association (British Dyslexia Association n.d), dyslexia is one of the most common Specific Learning Difficulties (SpLDs). In the UK about 10% of the population is dyslexic and 4% has severe dyslexia. Because of the varying range of characteristics each dyslexic individual can show, it is a very difficult disability to identify and, in many cases, it can be unnoticed until a formal diagnosis is performed. Like in other

SpLDs, a person can be diagnosed with dyslexia and show other related conditions such as dyspraxia, dyscalculia and attention deficit disorder.

Neuroscience has been at the heart of the understanding of dyslexia as a disability. Adolph Kussmaul, a German physician, was the first person who diagnosed the word blindness in his patients and referred to it as “alexia”, and thought it was the result of a brain injury to the left side of the brain that controls speech (Thomson, 1989). Kussmaul’s discovery influenced Rudolf Berlin’s work. Berlin, an ophthalmologist, believed also that the condition associated with word blindness was the result of a brain injury. Following Berlin’s steps, Hinshelwood examined children with and without brain injury and concluded that the word blindness was present in the two groups and it could not be associated with a brain injury (Thomson ,1989). Hinselwood’s research done by James Kerr and William Morgan, both physicians, would lead to differentiate two types of word blindness: one that was acquired at some point in the adult life and the other one who appeared at birth (The History of Dyslexia by University of Oxford, nd). Their extensive work on word blindness would lead future researchers to believe that dyslexia and intelligence were linked, an assumption that would be challenged years later.

Another significant contribution to the study of dyslexia was made by Orton, a neuropathologist, who despite wrongly linking word blindness and reading difficulties as the result of lack of dominance on the left hemisphere; prompted a new wave of research in areas that developed into cognitive development theories (The History of Dyslexia by University of Oxford nd). The focus on cognitive development would lead researchers to consider aspects such as intelligence, language development, reasoning and memory. It is in this area, that a definition of developmental dyslexia has surged as an interchangeable definition of dyslexia in research.

Dyslexia is a learning difficulty that involves the impairment of specific cognitive skills (Nijakowska 2010). It is usually associated with the difficulties with reading and writing and the underlying cognitive functions associated with these two skills such as decoding skills (learning to read) and encoding (learning to write). Phonological processing is attributed

to playing a role in the general speed process of information which affects reading (Nijakowska 2010) and is also considered an important impairment in dyslexic learners.

Dyslexia does not depend on intelligence (Nijakowska 2010). Research by Siegel and Lipka (2008) reported that there was not link between IQ scores and the cognitive skills used in reading and spelling in dyslexic learners. More recently Ferrer et al (2010) have also corroborated this and concluded that there is not link between reading and cognition in dyslexic readers.

The focus on reading and writing has been criticized by Nijakowska (2010) because of the focus is primarily on the symptoms. Firstly, symptoms can change over time as many dyslexic children may compensate their difficulties by learning strategies when receiving training or support although the "underlying cognitive cause most probably in the form of the phonological deficit, may remain impaired" (Nijakowska 2010 p.8). Secondly, the focus on reading only can be negative as non- dyslexic children can also show reading difficulties. Dyslexia, as Reid (2016: 5) states, should be understood as:

> a processing difference, often characterized by difficulties in literacy acquisition affecting reading, writing, spelling. It can also have an impact on cognitive processes such as memory, speed of processing, time management, coordination and automaticity. There may be visual and/ or phonological challenges and there are usually discrepancies in educational performances.

2.3 Manifestations of dyslexia

In addition to literacy problems, dyslexic learners may find difficult to understand instructions and access information (Kormos & Smith, 2012). They may also have very poor short-term memory which affect the way they remember information (Foster, 2016). The impaired ability to access information can also influence the ability to concentrate and have sustained attention (Foster, 2016).

Furthermore, dyslexic learners may show problems with gross and fine motor skills which can lead to poor handwriting (Kormos & Smith, 2012). They can also have problems keeping up with deadlines and organizing work (Nijakowska, 2010; Reid, 2016). According

to research, this manifestation is usually overlooked by teachers who perceive dyslexic learners as lazy students (Beltran et al 2013).

2.4 Causes for dyslexia

According to the Phonological Deficit Hypothesis, “dyslexia is caused by an underlying phonological deficit problem, namely impaired phonological awareness” (Kormos & Smith, 2012: p. 33). The phonological awareness is comprised by two levels: one at syllable and another at phonemic level. Because of this impairment dyslexic people find difficult to perform tasks that require phonological awareness such as non-word reading, repetition, letter recognition and breaking syllables of words (Kormos & Smith, 2012).

The Double Deficit hypothesis, states that dyslexia can be caused by two deficits: phonological deficit and naming speed deficits. The emphasis given to these two deficits is criticized by Kormos and Smith (2012) because the studies conducted by Wolf and Bowers in 1999 (cited in Kormos and Smith, 2012) did not yield enough evidence to corroborate that there were more difficulties with name speed deficits but instead there were problems with phonological processing.

From a neurobiological point of view, it has been argued that dyslexic brains tend to show different patterns to non-dyslexic brains (Galaburda & Kemper cited in Vlachos et al 2013). These different patterns play a significant role in determining whether children will have problems with reading or not.

Research conducted with a group of dyslexic adolescents (Vlachos, Filippos, Andreou, Eleni & Delliou, Afroditi, 2013) showed that there was less involvement in the left hemisphere and an increase in the right hemisphere of the brains while the subjects completed reading tasks. A teaching style that matches this hemispheric learning style such as use of pictures, diagrams, charts, visuals has found to be effective for dyslexic learners who struggle with reading in recent research by recent research by the Department of Speech and Hearing Sciences and the Institute for Learning & Brain Sciences at University of Washington (The Science Daily, nd).

2.5 Dyslexia and language learning

Research in students' first language (L1) has suggested that the type of alphabetic orthography or written representation can have an impact on the dyslexic profile of learners in specific languages (Miles, 2000; Ziegler & Goswani, 2006). A transparent language or "one which phoneme grapheme or correspondence is straightforward, is likely to cause less difficulty to dyslexic learners" (Miles, 2000: 194) and Italian, Spanish, Welsh, German and Maltese fall into this category (Liberman, Mattingly and Shankweiler as cited in Spencer, 2007).

On the other hand, in an opaque language the relationship between phoneme and orthographic representation is less clear and therefore more challenging for dyslexic learners. Languages that fall into this category are English, French, Greek, Chinese (Miles, 2000).

These differences are explained by Ziegler and Goswani (2005) who, drawing on the analysis of how letters represent a sound, argue that there are differences in the way dyslexic learners read the words. For example, in transparent languages such as Spanish, there are less demands on the phonetical awareness because the sounds are easily identified. Learners may find that the spelling of the words and the pronunciation are easier because there are not written representations for the sounds. On the other hand, in languages such as English, the demands on their phonological awareness is stronger because there is a more complex phonemic segmentation with more written representations for sounds which learners must learn.

The differences across language's orthographic systems has implications for teaching as learners may find easier to learn a language that is not phonetically demanding. These differences are also relevant for the understanding of how linguistic and cognitive difficulties can affect learning. Section 2.6 examines how linguistic aspects such as phonological awareness in L1 can also be linked to problems in learning a foreign language.

The Linguistic Coding Deficiency Hypothesis (LCDH) proposes that the deficiencies that learners have in their first language (L1) are likely to affect the learning of a second

language (L2). Therefore, problems encountered in L2 are likely to be found in L2. (Skehan cited in Nijakowska, 2010).

This hypothesis was first developed by Dinklage in 1971 (cited in Ganschow and Sparks (1986) who studied the difficulties experienced by a small group of Harvard students learning a foreign language and concluded that these difficulties were linked to problems associated with dyslexia which could be found in L1. This theory formed the central focus of studies conducted by Sparks and Ganschow (1993) which led the researchers to believe that the lack of phonological awareness could explain the poor ability in reading and writing.

The difficulties found were attributed as the result of three levels of deficiency: phonological, syntactic and semantic that could vary in each learner. Similarly, Crombie (1997) also reported that the difficulties children experienced in their native language such as the lack of phonemic awareness influenced the learning of French phonology which affected their reading competence. In a larger study, Sparks et al (2006) also concluded that there was a strong relationship between L1 and L2 skills and stressed the role played by phonological processing in language learning.

Nijakowska (2010) questions the emphasis on the phonological deficiency because students show different degrees of variation which depend on the tasks and demands on their phonological processing. Learners can also use compensatory strategies such as visual memory, slow speed of processing to correct their deficiency (Snowling, 2006). Similarly, the phonological deficit can't account for the dyslexic learner's poor auditory skills found in the earliest studies by Ganschow and Sparks (1986). Instead, an attention deficit during auditory activities which is very common in dyslexic pupils could explain the poor auditory skills (Snowling, 2006).

Sparks and Ganschow's emphasis on L1 deficiencies also needs to be taken with caution. There are unsuccessful language learners who do not have learning difficulties in L1 but can show difficulties as Kormos and Smith (2012) warn. On the other hand, the evidence collected in their small-scale research cannot be generalized.

In view of what it has been discussed in this section, it is important now to clarify the specific aspects of foreign language learning that are problematic for dyslexic learners in the classroom context.

The process involved in learning a language requires the acquisition of vocabulary and understanding on rules such as how to pronounce words (phonology), how to spell words (orthography); and how to structure texts and use verbs accurately to produce meaningful and clear sentences (Kormos & Smith, 2012). Learning a language is also a social process that involves collaboration, negotiation and understanding social conventions in different contexts. This dimension makes it a very complex process that, as Kormos & Smith (2012: 61) state, "does not only involve the acquisition of knowledge" but the application of this knowledge in a wide range of communicative situations.

Learning a second or foreign language can be extremely demanding for many dyslexic learners and it can lead to negative feelings of frustration. These feelings can affect motivation and attitude towards the language (Kormos & Smith, 2012; Schneider & Crombie 2003).

As it has been discussed earlier, dyslexia is not limited to reading and spelling. However, in the process of learning a language, these two areas will be the most affected. The lack of phonological awareness in dyslexic students can lead them to have problems in recognizing words and decoding non-words. This will affect how they read and write. However, dyslexic pupils may find reading easier than writing as they can use visual clues such as recognizing words and use context to compensate their lack of phonological awareness (Kormos & Smith, 2012).

2.6 Implications for Modern Foreign Language Learners

This section outlines two areas that are problematic for dyslexic language learners. The first part of this section examines the linguistic and cognitive aspects. The second section reviews affective aspects.

2.6.1 Linguistic and cognitive issues

The difficulties associated with languages are classified in the following sub-sections.

2.6.1.1 Vocabulary

Phonological awareness or knowing how to link words and sounds is fundamental in language acquisition. According to Kormos and Smith (2012 p. 62) "phonological short-term memory not only aids the acquisition of L2 words, but also the learning of syntactic structures" which are fundamental for language acquisition. In children with reduced phonological short-term memory, the capacity to store and remember words is limited (Jefferies & Everatt, Snowling cited in Kormos & Smith, 2012)

There are two types of vocabulary that as Hulstijn (cited in Sakardi 2008) claims play a significant role in vocabulary acquisition. Intentional vocabulary which is usually directed by the learner and incidental which happens by chance in the learning environment. Dyslexic learners may find this type of vocabulary very difficult to acquire due to their phonological problems (Schneider & Crombie cited in Sakardi, 2008).

2.6.1.2 Acquisition of grammar

The understanding of grammatical concepts and word order rules may be problematic for learners with dyslexia. Languages that have verb intricate conjugation systems may be problematic for dyslexic learners (Kormos & Smith, 2012). The lack of awareness or understanding on grammatical structures can also affect writing and speaking (Kormos & Mikos cited in Kormos & Smith, 2012).

2.6.1.3 Listening and Speaking

Understanding an oral input requires the activation of cognitive and linguistic processes which makes listening a very complex skill. While listening, learners need to understand and retrieve words to make sense of them. Literature in L1 acquisition has showed that poor working memory, difficulty to discriminate sounds together with slow speed of processing can make listening tasks very demanding (Thomson & Snowling cited in

Crombie, 2000). The slow speed of processing can affect the ability to remember details and being able to write them down (Simon, 2000).

The deficiency in phonological processing can lead to problems with auditory skills such as the ability to encode speech sounds and store them in long term memory. This can be extremely stressful in exams or tests. In addition to this, dyslexic pupils may not be able to recognize linguistic features such as tone, intonation, stress and rhythm (Simon, 2000).

Kormos and Smith (2012) summarize the four elements that are part of a spoken production as:

1. Conceptualization or planning what one wants to say;
2. formulation, which includes the grammatical, lexical and phonological encoding of the message;
3. articulation, in other words the production of speech sounds;
4. self-monitoring, which involves checking correctness and appropriateness of the produced output.

Whereas this process is usually automatic in L1, in L2 it requires more attention to the grammatical, lexical and phonological content and therefore it involves more planning and attention (Kormos & Smith, 2012). Planning is essential for dyslexic pupils and it can be used as a compensatory strategy to overcome their reading and writing as Crombie (2000) found in her study of dyslexic pupils learning French.

2.6.1.4 Reading and writing

Reading in a foreign language is challenging due to the differences in orthographies between L1 and L2 which causes problems in identification of letters and subsequently words; lack of morphological, grammatical knowledge and vocabulary, as well as phonological and word naming skills deficiency (Kormos & Smith, 2012). Reduced phonemic awareness and short-term memory can cause problems in finding correspondence between letter and sound.

Matsuda and Silva (2013) define writing as a manifestation of the user's communicative competence and knowledge which is embedded in the writer's context. Unlike L1, young L2 learners must learn the skill of writing parallel to learning the rules of the language. (Matsuda and Jablonski as cited in Matsuda & Silva, 2013). This is problematic for dyslexic learners.

In the process of writing, there are two levels: word and text. The word level deals with spelling and the text involves composition. Learners who have problems with spelling are likely to have problems with the second level and will find difficult to produce coherent pieces of writing (Geva & Ndlovu 2008).

Learners also need to develop motor-coordination skills as well as to break words into segments and convert them into letters. In addition to this, L2 learners need to acquire syntactic rules, grammar, and structural rules (Kormos & Smith, 2012). The lack of vocabulary can lead to a reduction in writing competence and poor quality in writing (Geva & Ndlovu, 2008; Kormos & Smith 2012).

This sub-section outlines the emotional and motivational factors affecting dyslexic learners learning

2.6.1.5 Motivation, self-efficacy and engagement

Self-concept, self-esteem, self-efficacy and learning difficulties play a significant role on the motivation and academic achievement of learners (Riddick cited in Casserly, 2013). In language learning, self-confidence is "defined at one's perceptions to succeed in language learning" (Kormos & Smith, 2012: 64). Self-esteem is explained as "how much the individual's perceived self or self-images match their ideal self" (Burden in Casserly, 2013: 2). Self-efficacy is the individual perceived ability to complete a task (Bandura, 1977).

Self-efficacy influences motivation and the effort learners apply in a task and, as Bandura (1977) argues, learners will try what they think they can do. According to Bandura (1977) learners' beliefs and perceptions of what they can do is influenced by their past experiences. Poor academic performance, in written academic exams, can have a

negative impact on dyslexic learners' self-esteem and therefore on their self-efficacy. Studies on dyslexic' self-esteem are limited but significant evidence on the relationship between academic performance and the development of positive or negative self-esteem were found in studies by Humpreys and Mullins (2003).

The interpretation dyslexic learners make of their own learning and their ability can have an impact on how much effort they apply in classroom tasks (Kormos & Csizér, 2010). Learner engagement can be measured by the task effort and task persistence learners apply and it can be facilitated by their ability to self-regulate (Perry & Steck 2015).

Engagement is understood as a meta construct involving three dimensions: behavioural, emotional and cognitive (Fredericks, 2011). Behavioural is described as class participation, task completion and effort (Perry & Steck, 2015). Emotional engagement is the social connections and attributions learners make with others and the environment. In dyslexic learners, frustration and anxiety can be linked to this type of engagement. Cognitive dimension is explained as the effort learners apply, making use of self-regulation practices and metacognitive strategies. Engagement is then seen as a manifestation of motivation (Fredericks 2011).

In comparison to non-dyslexic language learners, motivation was found to be lower (Kormos & Csizer, 2010) in dyslexic learners. This can be associated with the feelings of sustained failure in language learning which relate to the attribution's learners make when completing tasks (Kormos & Csizer 2010). The attribution theory coined by Weiner (1985) suggests that effort, ability, task difficulty and luck can influence the learners' interpretations of their success or failures. Whereas some learners can explain their success or failure to internal factors such as lack of effort; others may use the task difficulty, ability or luck (Weiner 1985).

In dyslexic learners, task difficulty and ability could be more prevalent (Kormos & Csizer, 2010). Similarly, the perceived lack of control in dyslexic learners plays a key role in their motivation. Learner helplessness theory states that when learners do not have control over

their learning, they are likely to attribute external factors for their failure (Abramson, Seligman & Teasdale, 1978).

As evidenced by Kormos and Csizer (2010), dyslexic learners associate their success or failure not only to internal factors but also to the support and instruction they receive. This view is supported by Burden and Burdett (2005) who argue that a dyslexia friendly environment can make a difference on the learners' self-esteem and therefore motivation.

2.6.1.6 Language learning anxiety

Language learning anxiety is intrinsically related to the language learner's self- perceptions, beliefs and behaviors. Dyslexic pupils have been found to show higher levels of anxiety than non-dyslexic language learners. (Piechurska-Kuciel, 2008).

Anxiety is defined as "the sense of discomfort and worry regarding an undefined threat" (Friedman and Bendas-Jacob cited in Piechurska-Kuciel, 2008). In learners with learning difficulties, anxiety can lead to a reduction in the memory capacity and the ability to access and store information in the long-term memory (Kormos & Smith, 2012).

Anxiety acts in the three cognitive stages of learning which are input, central processing and output (MacIyntyre & Gardner cited in Piechurska-Kuciel, 2008). During the input stage where learner receives information; anxiety can act like a filter that interferes with the acquisition of information and can lead to poor attention. At the second stage or central processing, the worry may overtake the requirements of the task and limit the learner' working memory. Hence, the learner's ability to learn vocabulary is impaired. In the output stage, anxiety and the worry to complete the task can be more visible and affect how to remember information (Piechurska-Kuciel, 2008).

2.7 Teaching strategies for dyslexic language learners

Several studies have identified the use of a multisensory teaching method, which focuses on direct and explicit teaching of core aspects of the language (phonetics, grammar,

vocabulary) as beneficial for dyslexic language learners' reading and spelling (Ganschow & Sparks, 1995; Nijakowska, 2010).

The multisensory approach is based on the "simultaneous activation of the auditory, tactile, visual and kinaesthetic pathways" (Nijakowska, 2010: 125). Therefore, when a word is taught, a learner learns it by hearing it, seeing it and saying it while doing alternative tasks such as miming it, making a model or tracing it with the hands; which can potential help him/ her to remember. This approach involves teaching simple to more complex items by emphasizing on the repetition and revision to ensure learners achieve language automacity. The multisensory approach stresses the teaching of explicit grammar rules which in the context of foreign language teaching can be positive as learners can take advantage of the use of L1 (Kormos & Smith, 2012

Furthermore, it is thought that the teaching of metacognition strategies (breaking the language into small sections) helps learners to be more aware of the structures (Nijakowska, 2010; Schneider & Crombie, 2003; Kormos & Smith, 2012).

The following sub-sections define strategies that follow the multisensory approach.

2.7.1 Listening and speaking

The teaching of listening skills should use visual aids alongside texts and avoid a lot of words in the tasks. Students should be taught listening strategies to help them cope with tasks and reduce their anxiety. Learners can also complete non-written related tasks while listening combining the visual and the kinesthetic elements of learning (Kormos & Smith, 2012). The teaching of speaking should provide extensive opportunities for planning and practice.

2.7.2 Vocabulary and grammar

Following the multisensory approach, teachers should use visual or any other kinesthetic means to present words. Tactile activities such as miming could be used when introducing words and vocabulary (Schneider & Crombie, 2003). Vocabulary should be presented in

context and only in a limited number to avoid overloading of memory in learners. Visual aids and mnemonic clues can also support the recalling of words and spelling. Interactive online games are also suggested to integrate visual and sound in a more motivating way. Learners can make also use of online tools to make their own vocabulary lists, but teachers need to monitor spelling and encourage constant revision of words (Kormos & Smith, 2012).

The teaching of grammar can also benefit from visual tools and flashcards to reinforce grammatical structures and make word associations (Nijakowska, 2010). Activities like matching, ordering, gap filling should be organized from short to more complex sentences. (Kormos & Smith, 2012).

2.7.3 Reading and writing

Reading comprehension in second language acquisition depends on the extent to which the lower order decoding process affects the higher order processing and should follow a sequence where oral input is introduced only at sentence level. To support learning, texts should be motivating and interesting for learners and if possible use audio and visuals. Pre-reading tasks focusing on vocabulary should be also used (Kormos & Smith, 2012).

Writing should focus on the three aspects that are problematic for dyslexic learners: spelling, handwriting, and the structural composing of a text. Brainstorming activities check lists and writing frames are recommended. Equally, a model text should be provided with tasks to ensure students can follow it. The focus for writing should be at organizational level and not just spelling (Kormos & Smith, 2012).

Readers and writers draw on the same type of knowledge to complete the task. These are the domain knowledge which involves understanding, the metacognitive knowledge which consists of understanding the purpose of the language used; the procedural knowledge or knowing how to read or write with a purpose and the pragmatic which includes the understanding of structural aspects such as text, words, syntax and language. In reading and writing, learners use this knowledge to decode and encode words (Graham & Hebert, 2011).

Reading interventions can lead to better writing as explained by Graham & Hebert because "it provides students with information they can use to guide their own writing and thinking about the expectations of the reader (Meyer et al., 2002 cited in Graham & Hebert, 2011). Likewise, teaching students how to read can help students to plan their writing by using knowledge and strategies such as analyzing, goal setting and summarizing (Hayes cited in Graham & Hebert 2011).

The exposure to vocabulary in reading can also make spelling easier to remember (Graham & Hebert, 2011). This is relevant for the development of writing skills in dyslexic learners as the limitation in vocabulary hinders the writing ability. Reading interventions combining phonemic awareness and directed instruction in pre-school children reported that there was a significant improvement in their reading ability. (Graham & Hebert, 2011).

Since L2 learners apply similar writing processes in L1 and L2 but require more attention and focus on their L2 skills, the teaching of writing skills should integrate the processes required for writing: planning, revising, editing and finding appropriate vocabulary (Smith & Conti, 2016). L2 earners also need to be able to integrate new knowledge with previous knowledge while monitoring and executing the task (Smith & Conti, 2016). These simultaneous operations may not be possible for dyslexic learners.

As learners with dyslexia learn more efficiently when the information is presented using a wider range of senses; technology like tablets and computers can enable this access effectively (Reid 2011; Reid 2013). When the presentation of language to students involves "a multimodal fashion" (using image, sound and word simultaneously) students are often involved in a range of cognitive processing activities" (Pachler cited in Smith & Conti, 2016: 282). Hence, technology can enhance learning by enabling access to information in more ways than the traditional classroom (Crombie, 2000). The potential affordances that mobile technology can offer to support the teaching of dyslexic pupils will be discussed in the next section.

2.8 Technology and dyslexic language learners

Central to the study of technology's influence in language teaching is the idea that technology can enhance and facilitate learning (Kryachkov, Yastrebova, & Kravtsova, , 2015) and improve the performance of the psycholinguistic processes associated with language acquisition (Leow, Cerezo & Baralt, 2016).

With the rapid development of technologies, research in language teaching and digital technology has seen a switch from an emphasis on CALL applications (Computer Assisted Language Learning and CELL (Computer Enhanced Language Learning) to a wider focus on teachers and learners' use of online technologies (Kryachkov et al, 2015; Kozar & Benson, 2016). The role of mobile technologies in teaching is regarded as transformative as Leow et al (2016: 13) explain:

> mobile technologies are liberating multimedia, computer-mediated communication and intelligent CALL from the confines of desktop computing.

Online technologies are thought to offer more possibilities for authentic, meaningful and interactive opportunities to language learners (Leow et al, 2016). Online technologies can also provide flexible learning contexts that promote more opportunities for use of target language. Thus, they enable a "learner centred approach that allows learners to have more control over their learning" (Kessler, 2018).

Likewise, online technologies offer endless possibilities to promote collaboration allowing immediate feedback and tracking of learning as well as enabling project work and increase motivating language learning experience through games or augmented reality experiences (Kessler, 2018; Evans 2009).

In tandem with online technology, mobile devices allow learners to personalize their learning (Reid, Strnadova & Cumming, 2013). I-pads can also support the development of literacy skills Falloon (2013) as well as to improve the engagement and motivation of learners with learning difficulties (Cumming a Rodriguez, 2013). A study carried out by Falloon and Khoo (2014) also reported the effects of using I-pads to support collaboration and conversation using Mercer's talk framework in pre-school children. However, the role

played by teachers is more significant than the use of devices as it was evidenced in a study focused on the use of tablets (Falth & Svensson, 2015).

The interactive features existing in tablets and I-pads integrate kinesthetic learning styles that can support the process of remembering vocabulary (Smith, 2012). This aligns with the notion that "learners learn more efficiently when material is presented visually" and when they can interact with information kinesthetically (Reid et al, 2013: 176).

The following sub-sections discuss how mobile technology can support dyslexic language learners.

2.8.1 Listening and speaking

I-pads offer a variety of built-in applications that dyslexic language learners can use to practise their listening and speaking. On one hand, there are resources that students can use independently such as Speak Screen, an application that reads the content on their I-pad; or they can use the device to record themselves or make videos.

On the other hand, teachers can use applications on online and texts to adapt listening exercises and activities enabling differentiated access. Dyslexic learners can rehearse, record and edit their spoken work using a variety of online applications such as Cue Prompter or Voice Recorder (Dale, 2014).

2.8.2 Vocabulary

Over the last decade, the language teaching market has seen an increase in the availability of online applications focusing on language learning. Mobile applications such as Duolingo, an app with built in vocabulary and flashcards in different languages, have evolved from simple set of vocabulary lists to more complex chat rooms where learners can interact with other learners (Spina, 2017). The use of translation as a tool to teach the language, the key element of Duolingo, has been criticized by advocates of the communicative approach, but defended by Cook(cited in Nushi and Eqbali 2017) who argue that translation helps learners to be less anxious and supports assessment. However, the language used by the

application may not relate to the language used in a classroom. More importantly, the lack of explicit teaching on grammatical structures may not benefit learners with dyslexia or associated learning difficulties (Nushi Musa & Eqbali, 2017).

Games can motivate language learners by engaging them in activities that are focused, learner centred, and different to the usual routines in a classroom promoting more intrinsic motivation (Laremenko, 2017). Games can also modify students' behaviour and improve students' engagement which according to Laremenko (2017: 127) is defined as "the tendency to be behaviourally, emotionally and cognitively involved in academic activities".

Recent studies in English as a foreign language, have reported that Kahoot, an online game and student response system, is influential in improving students' intrinsic motivation (Zarzycka-Piskorz, 2016). Zarcycka refers to Weirbach's definition on the impact of gamification in motivation because "gamification can motivate people to undertake activities that they otherwise wouldn't do" (Weirbach 2014 cited in Zarzycka-Piskorz, 2016). Games can also support the consolidation and revision stages for learning (Zarzycka-Piskorz, 2016).

A small-scale study recently carried out by Ciaramella and Accardo (2017), reported that using Kahoot a game-based learning platform helped to improve vocabulary retention in learners with reading disabilities. Previous research using a clicker system also reported a relationship between an increase in participation and enjoyment, but this did not necessarily lead to academic achievement (Stowell & Nelson, 2007). However, the use of this system could potentially have a positive effect on teaching as it enables teachers to track pupils' responses (Ciaramella & Accardo, 2017) and lead to more engagement and improve motivation.

2.8.3 Reading and writing with technology

Research on the impact of mobile technologies and foreign language learning is still underdeveloped. Most of the literature available has focused on the teaching of English as a foreign language or second language. In relation to dyslexic language learners, there is

also a very limited scope of literature. Nevertheless, technology can support the teaching of languages by enabling teachers to create differentiated tasks as well as promoting more creative and authentic tasks (Smith & Conti 2016). It can also enable learners to complete writing tasks using more interactive tools such as online dictionaries and notetaking.

Technology can also effectively support the handwriting and replace the pen and paper for dyslexic learners. It can also integrate the presentation of reading and written texts and audio in digital versions (Kormos & Smith 2012) and enable the writing process approach by making it easier for learners to have checklists and written frames as well as organizers that can be effective in writing.

2.8.4 Text to speech and speech to text applications

The use of applications that combine sounds and texts is one of the most common features offered by mobile technology. Applications ranging from speller checkers, online dictionary to more complex applications which allow user to make annotations and listen to a text being read have a significant role for dyslexic learners (Reid, 2013). The capabilities that these applications are associated with the use of assistive technology.

Assistive technology defined as “any device or product used by individuals with disabilities to help preserve or improve their individual skills or abilities “(IDEA, 2004 cited in Bone, Erin & Bouck 2017, p. 49) supports the reading and writing of dyslexic language learners by enabling access to the language presented. There are two groups that are of interest for this study. The first, text to speech applications allow the conversion of a reading text into spoken words (Bone et al, 2017) which can be beneficial for dyslexic learners.

In a review of this type of application, Bone at al (2017) refers to studies carried out by Meyer and Bouc, who showed that the use of this application in a group of students with reading disabilities, led to better reading comprehension and faster reading (Meyer and Bouc 2014, cited in Bone et al, 2017). Similar findings were reported in a study of college students with dyslexia (Goldfus & Gotesman, 2010 cited in Yeh, Rosenberger, Joshua & Liu, 2014).

In the teaching of English as a Foreign Language, the use of text to speech applications has been linked to an improvement in the oral skills of English learners in special on their intonation, word stress and pitch (Meihami & Hussein & Husseini, Fateme, 2014). Likewise, a study of native Chinese English learners reported that the use of text to speech technology could improve students' spelling and self-study motivation (Huang & Liao 2015).

The second group of applications that are relevant for this study are speech to text applications (STT) which are associated with the development of writing skills. In a recent study carried out in a university in Canada, Haug and Klein (2018) found that the use of STT through the software Dragon Naturally speaking supported the teaching of writing strategies and assisted students with spelling and handwriting difficulties. The extent to which this application could support the process of planning writing has not been documented.

The use of text to speech applications have a positive impact in the writing of dyslexic learners because of features such as word processing, character recognition, online vocabulary word banks and text predictors (Reid, 2013). Furthermore, dyslexic learners can use notetaking applications that use speech to text applications. Some examples of these applications are Dragon Dictate, Dragon Go and Audio Note (Reid, 2013).

Microsoft's latest contribution to the educational market promises many features that are compatible with how dyslexic language learn. Learning tools which are part of Microsoft 365, allow learners to manipulate font and type of text. In addition to this, the Read Aloud application also allows learners to listen to a text while it is being read. However, the most significant aspect of the improved Microsoft version is the use of Immersive Reader in their digital notebook, which allows learners to change speed and volume (Education Blog Microsoft).

In a recent joint small-scale study with Microsoft, the British Dyslexia Association (BDA), reported that children who used the Surface Laptop tablets and the One Note applications improved their reading fluency and accuracy as their spelling. The impact on the children emotional wellbeing and self-confidence was also noted (Education Blog Microsoft, nd;

British Dyslexia Association, nd). Microsoft's features such as Dictate, Editor and Read Aloud also proved to be very effective for dyslexic learners' writing. Despite the small-scale of this project, this project highlights the significant impact that technology may have on dyslexic learners, aspect that is underdeveloped in the existing literature.

2.8.5 Applications and organisational skills

Mobile technology can support dyslexic learners by providing tools for learners to organize their learning such as annotation tools and digital notebooks (Reid 2013). Microsoft 365 offers different tools and a Class note book organizer that enables the organization and different ways for learners to make notes or write (Microsoft 365).

2.8.6 Mobile technology constraints and challenges

As this paper has discussed, there are many advantages in using mobile technology that have the potential to enhance language teaching. Mobile technology can provide learners with more opportunities for language practice (Rosell-Aguilar 2009 cited in Rosell-Aguilar, 2017) and enable learners to have more control over their learning (Kessler, 2018) and personalize their learning (Reid, Strnadova & Cumming, 2013). Mobile technology can also help dyslexic learners to be more organized and provide more motivating channels to access information and review learning (Ciaramella and Accardo, 2017) and facilitate the process of reading and writing (Kormos & Smith 2012) by enabling access to texts. In addition to this, technology aimed at language learning can also significant positive outcomes in grammar understanding and listening and speaking skills (Castaneda & Cho 2016 cited in Rosell-Aguilar, 2017). Notwithstanding these benefits, there are some challenges.

From the technical and design point of view, applications can have features that can hinder learning (Rosell-Aguilar 2017) which for dyslexic learners can be more challenging. The emphasis on translation in combination with the lack of opportunities for collaborative learning can also be negative for learners (Burton, 2014 cited in Rosell-Aguilar 2017).

However, as Rosell-Aguilar (2017) argue, this feature may be positive for learners who may need more repetition and grammatical reinforcement such as drilling.

In the application of technology in the classroom, there are some pedagogical challenges that need to be considered. Firstly the use of mobile technology can lead to more disruption. The potential distractions can put a significant demand on the learners' auditory and visual attention (Loi & Wong 2012 cited in Terras & Ramsey, 2012). For dyslexic pupils, this may represent an additional problem, if they are young learners. Secondly learners need to have strong metacognitive social skills that enable them to self-regulate (Terras & Ramsey, 2012). Thirdly, since every learner is different; all individual differences such as motivations, aptitudes and digital literacies need to be considered when designing and implementing tasks using mobile technology.

Commenting on this, Terras and Ramsay (2012: 12) add:

> technology should be used in an integrated way and students must understand why and how technology can assist their learning.

This view is shared by Leow et al, 2016; 5) who argue that "pedagogy must lead the design and technology is not a substitute for teaching". Therefore, teachers need to have a clear focus on what they want technology to be used for and how it is used to prevent an ineffective use of technology (Van Pragg & Sanchez, 2015) and more effective use of resources leading to learning (Smith & Conti 2016).

Chapter 3. METHODOLOGY

3.1 Research Aim

Based on the literature review, the aim of this study was to develop an understanding on how mobile technology can be used to support the learning of Spanish and the development of writing skills in dyslexic language learners.

In order to achieve this aim, the study addresses the following questions:

1 **How can mobile technology such as I-pads can support the development of writing skills in Spanish in dyslexic learners?**

1A What's the impact of using assisted response systems such as Kahoot on dyslexic learners' vocabulary in Spanish?

1B To what extent can text to speech applications/ speech to text applications support the development of writing skills in Spanish?

1C How do dyslexic learners use text to speech applications/ speech to text applications and online vocabulary activities to support their learning in Spanish?

2 **What are the implications of using mobile technologies in MFL lessons for teacher practice?**

2A What are dyslexic learners' perceptions of learning with mobile technology?

3.2 Study Participants

The participants of this study were a group of 36 students in two years 7 Spanish classes and one year 8 Spanish class. The breakdown of students is as follows:

- Year 7 High ability: 10 students (5 dyslexic).
- Year 7 Low ability: 13 students (10 dyslexic)
- Year 8 Low Ability - 13 students (10 dyslexic).

The sample was selected based on the number of dyslexic learners in the classes, challenges encountered while teaching and frequency of classes.

3.3 Collaboration

I worked closely with the SEND department of school and the language teachers from my team who provided feedback on the development of initial instruments for collection of data. Their role as observers contributed to a more objective view on students' behaviour during lessons. We met every week to discuss any issues arising from observation.

3.4 Ethical considerations

Prior to start the project, I obtained written consent from the headmaster to perform with the study and from students participating (refer to Appendix A. for evidence). A significant ethical issue was the participation of the dyslexic learners who may not have been aware of their dyslexia status as this could potentially affected their perceptions and self-esteem. The SEND specialist confirmed that students were aware of their condition.

Another ethical consideration was that students taking part in the study were at risk of being stigmatised. To prevent this, I made clear to observers that objectivity was essential so if two students being observed, they will look at them in turns at different moments of the lesson and not focus in on specific event.

Data was not stored in the I-pads and each student logged out every time they used the devices (which was checked by myself and the other observers).

Data collected from the students was made anonymous and password protected.

3.5 Research Design Approach

This research study adopts an action research approach which offers several advantages.

It enables the research to identify a problem and formulate theoretical questions (Cohen 2007). However, as Ferrance (2000: 2) warns "it is not a problem- solving situation in the sense of trying to find out what is wrong, but rather a quest for knowledge about how to improve". This aligns with the aim of the project which was to explore how the use of mobile

technology could support the learning of writing skills in dyslexic language learners and improve the teaching.

Secondly, the approach combines a process of action and reflection which enables the researcher to evaluate and adapt their own teaching practice and find alternative solutions to the problems dyslexic learners have in the classroom. This sense of change is stressed by Cohen, Manion and Morrison (2007: 298) when referring to action research as "self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices". This enabled me to comprehend how different factors in the classroom can enhance or deter the learning in dyslexic students.

The approach follows the model proposed by Lewin in 1948 (cited by Cohen, Manion & Morrison 2007) and is based on a cyclical and not liner view of research in four stages: planning, acting, observing and reflecting and the subsequent repetition of all these stages

Lewin stresses the role of monitoring and evaluation as important elements in the process by stating "rational social management can be conceived of as a spiral of planning, action and fact finding about the outcomes of the action taken" (cited in Cohen, Manion & Morrison, 2007: 305).

The action research approach also encourages collaboration as it "establishes self-critical communities of people participating and collaborating in all phases of the research process" (Cohen, Manion & Morrison 2007, p.300).

The framework used has been adapted from the five phases of enquiry model by Ferrance (2000). This is defined in Figure 1 and is used for each cycle of research.

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Ferrance, E. (2000). Action research [Electronic Version], Northeast and Islands Regional Educational Laboratory at Brown University, Providence, RI

Data was analysed using an action research framework for each of the stages of the study

(Ivankoka & Wingo, 2018). This is outlined in Figure 2.

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Ivankova, N. et al., 2018. Applying Mixed Methods in Action Research: Methodological Potentials and Advantages. American Behavioral Scientist, 62(7), pp.978–997.

Figure 2: Action Research Analysis Framework

Quantitative and qualitative data findings were compared at the different points of the research. The triangulation of data enabled the research to have a more holistic approach that considered different variables such as students' behaviour, observer's reflections and comments made by students during interviews.

3.6 Data collection

A mixed approach of quantitative and qualitative methods was adopted as it offers a more systematic and rigorous analysis of all sources and variables within the action research cycle leading to stronger data validity (Ivankoka et al, 2018).

The use of a multiple methods approach was also suitable for the type of questions set for the study as "both quantitative and qualitative data are required when there is a need to address confirmatory (verifying knowledge) and exploratory (generating knowledge) questions within a single study" (Teddlie & Tashakkori, 2013 referred in Ivankoka, 2018: 985). Table 1 summarizes the research questions and the associated data collection methods.

Table 1: Data collection methods

No	Question	Data Collection Method
1	**How can mobile technology such as I-pads can support the development of writing skills in Spanish in dyslexic learners?**	Literature review Observations
1A	What's the impact of using assisted response systems such as Kahoot on dyslexic learners' vocabulary in Spanish?	Literature review + observations Vocabulary tests Questionnaires
1B	To what extent can text to speech applications/ speech to text applications support the development of writing skills in Spanish?	Literature review Observations
1C	How do dyslexic learners use text to speech applications/ speech to text applications and online vocabulary activities to support their learning in Spanish?	Literature review Observations Semi-structured interviews
2	**What are the implications of using mobile technologies in MFL lessons for teacher practice?**	Literature review
2A	What are dyslexic learners' perceptions of learning with mobile technology?	Questionnaires and semi-structured interviews

3.6.1 Quantitative methods

Quantitative methods included closed ended Likert Scale questionnaires were utilised to enable the researcher to explore the feelings or attitudes towards statements (Bell, 2005) as they offer "flexible response with the ability to determine frequencies, correlations and other forms of quantitative analysis" (Cohen, Manion & Morrison 2007: 327).

Data collected from questionnaires was coded and analysed to counter effect limitations such as respondents not being truthful, lack of comments that could expand their answers or unclear answers in the rating. Students were given the choice of keeping their anonymity but participants opted to include their names which enabled an easy tracking and coding of information. To prevent further reliability problems with data, all students were told that their answers needed to be as honest as possible.

Closed multiple choice questionnaires were also used to investigate:

- teachers' opinions and beliefs on dyslexia and teaching approaches used to teach dyslexic students;
- students' opinions and beliefs after the intervention.

3.6.2 Qualitative methods

Qualitative methods included semi-structured interviews, observations and reflective diary notes taken by researcher.

Semi-structured interviews enabled to further follow ideas and investigate responses in participants' responses and clarify any misunderstanding that may arise (Cohen, Manion & Morrison, 2007). Following this, open-ended questions were used as they allow flexibility and enable the researcher to have a clear understanding of the participants responses.

Interviews can yield rich data but can be very complex as Cohen referred by Bell (Cohen 1976 cited in Bell 2005: 157) states: "like fishing, interviewing is an activity requiring careful

preparation, much patience, and considerable practice if the eventual reward is to be a worthwhile catch".

To address this, a schedule of questions was prepared in advance to structure the interview and avoid leading questions. All interviews were recorded, transcribed and coded, interpreted and analysed using a thematic analysis.

Observations are an effective way to compare participants behaviours with what they state. As defined by Copper & Shindler (cited Cohen, Manion & Morrison 2007: 396) "Observation enables a researcher to look afresh at every day behaviour that otherwise might be taken for granted, unexpected or go unnoticed".

Observations followed a structured checklist that included behaviour categories such as engagement, effort and perseverance, a ranking scale to classify the behaviour in "on task or off task behaviour", and other variables such as attention to instructions and completion of tasks (Fredericks, 2011). In addition to this, the focus of the observations was to record the interaction between students, tasks and devices to determine the effectiveness of technology in supporting specific tasks.

To prevent problems with reliability and "selectivity", students were observed over several weeks and three students were the focus of a single lesson during intervals of 10-15 minutes.

3.7 Action Research Cycles

The data was analysed following the 3 cycles of this research and the key variables that were identified as defined in Figure 3.

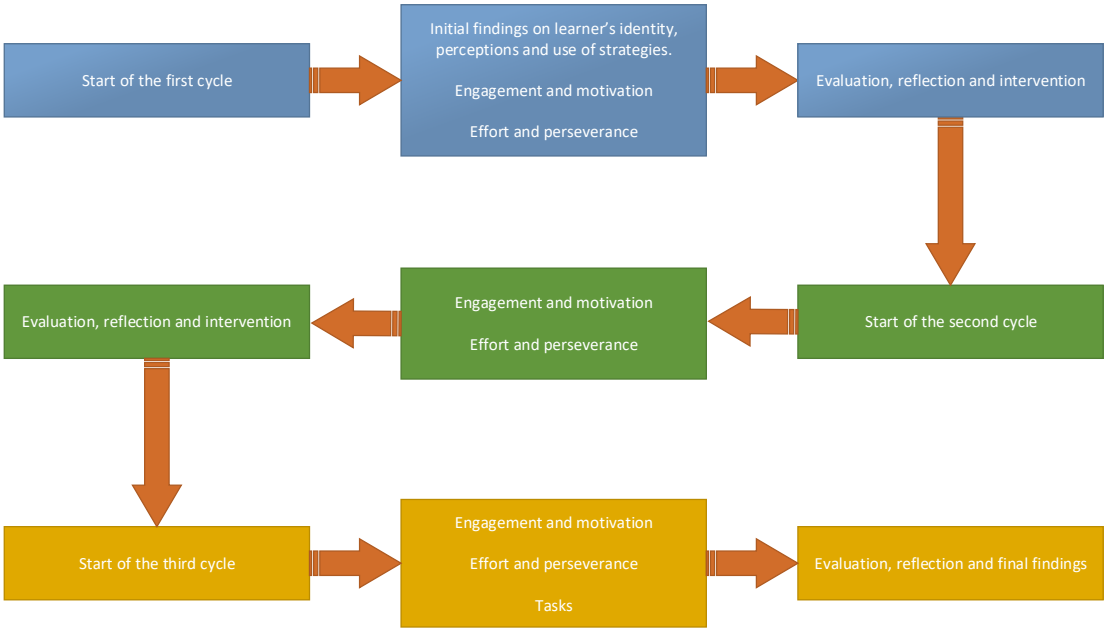


Figure 3: Research Cycles

3.7.1 Focus of each Cycle

The focus of this Cycle 1 was to collect data to investigate students' perceptions and beliefs as language learners and establish if the issues highlighted in the literature review were present. It also investigated teachers' perceptions and informed the design of a mobile based interventions.

The focus of Cycle 2 was to implement changes in the use of activities based on the output of cycle 1 and the feedback received from the data acquisition.

The focus of cycle 3 was to explore the use of collaborative writing and assessment using the embedded tools for collaboration on Class Note One. Digital stories were created using Textivate and shared with students who completed vocabulary and reading comprehension tasks. In the final part, students planed their own stories using Microsoft 365 and Class One Notebook to make notes and access feedback

3.8 Implementation of Action Research Cycle

Whilst the previous sections define the research cycle from a theoretical perspective Figure 4 and the following sub-sections define the application of the approach in the classroom environment.

3.8.1 Student Language Perception and Beliefs Questionnaire

A Likert scale questionnaire was devised to collect data on students' perceptions and beliefs as language learners. Appendix B. contains the full details of the questionnaire and the associated results enabling a comparison of dyslexic and non-dyslexic learners.

The statements used for the questionnaire were consulted with two language teachers and the SENCO specialist who suggested areas for improvement to enable student's engagement with the questionnaire. The questionnaire was piloted with two classes different to those in the study to improve the validity and reliability of the questionnaire and the language of the statements was revised and similar statements that reverse their meaning were also included to ensure more consistent responses (Taber 2013).

3.8.2 Interview with School Dyslexia Specialist

An interview with the SEND specialist was conducted (Appendix C). The aim of this interview was to clarify any misconceptions on the different levels of dyslexia and discuss possible students who could be the focus of the study.

3.8.3 Teachers Perception Questionnaire

A questionnaire was distributed to the language teachers with the aim to find out what their perceptions on teaching dyslexic students. This information served as point of discussion prior and after each observation conducted (refer to Appendix D).

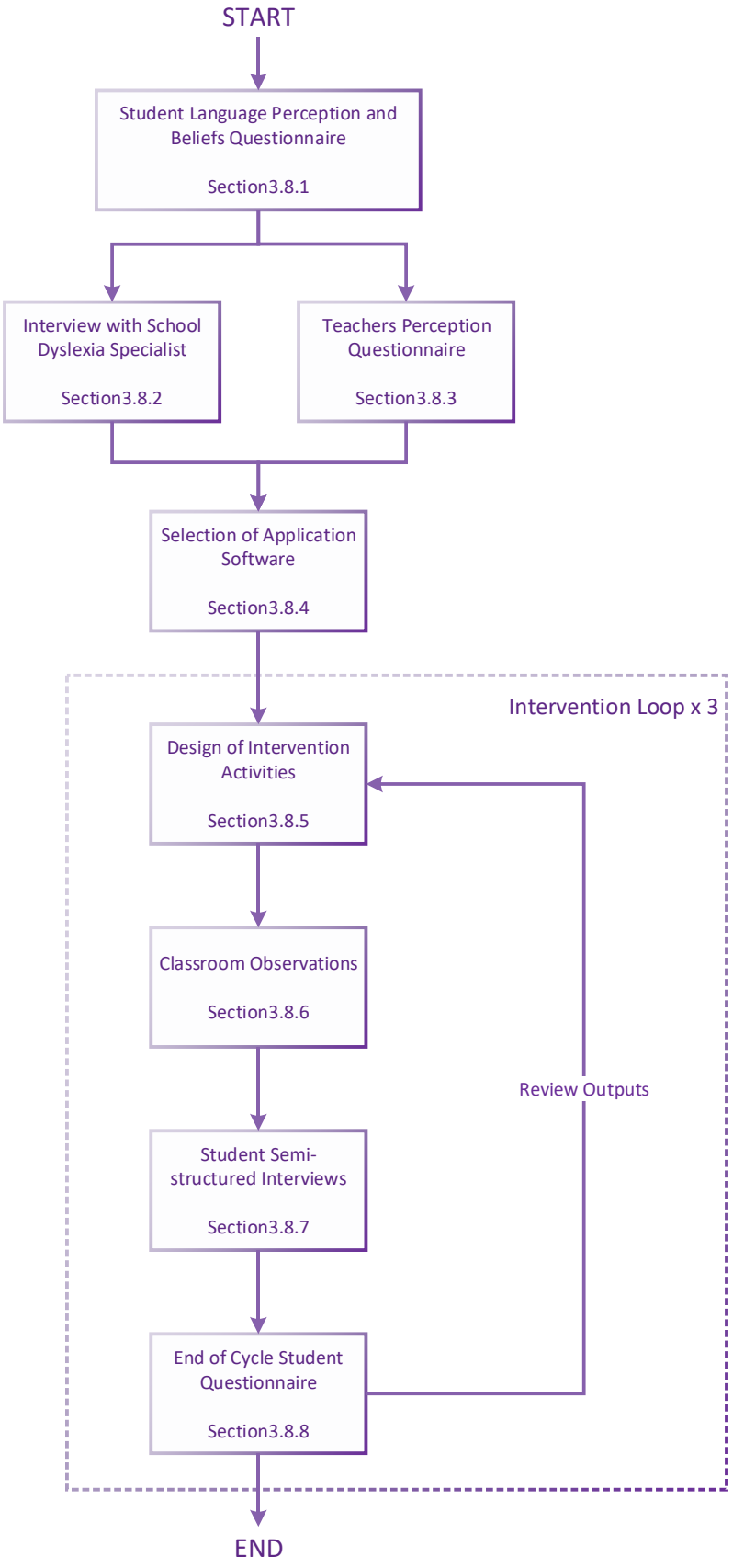


Figure 4: Implementation of Action Research Cycle

3.8.4 Selection of Application Software

In the search for suitable applications, this study adopted the view by Smith and Conti (2016) which states that technology use should only follow if it can enhance the teaching and learning in ways that traditional methods cannot. The initial applications considered the interaction of skills, but special interest was given to applications that focused on reading, writing and vocabulary use. It was very difficult to find applications focusing on these aspects and most of them required payment or were not compatible with Apple operating system or the IT network requirements of the school.

The evaluation framework for Language Learning Application Evaluation was Rosell-Aguilar (2017) was adapted and used to assess suitable applications (See *Appendix H.*). However, since most of the applications initially found were not explicitly designed for language learning and dyslexic learning; other applications offer interactivity and easy access and feedback possibilities to teachers and students.

In line with some of the benefits in the literature review, Kahoot was chosen as a vocabulary application. In addition to this, Textivate, an immersive reader online tool that integrated reading and games as well as the flexibility to design differentiated tasks was also chosen. The use of digital notebooks available in Microsoft 365 which was adopted by the school was also included in the intervention.

Table 2 summarises the applications used and the associated interactions from a teacher and student perspective.

Table 2: Application utilise during Cycles

Application	- Student Usage	- Teacher Usage
 Kahoot	- Students answer two weekly vocabulary quizzes set by teacher. - Students create their own quizzes for each unit taught. - Students use the application to create reading comprehension questions.	- Teachers sets weekly quizzes and uses vocabulary in translation tasks. - Teacher uses students' quizzes to focus on errors and integrates them in self-correction activities.
textivate	- Students used the text to speech technology feature to practise reading texts. - -Students completed online tests and challenges. - -Students worked with texts looking at sequences of phrases prior to complete writing tasks.	- Teacher set reading tasks taken from textbooks, vocabulary and verb challenges with games for revision. - Teacher modelled activities for writing using activities in website.
OneNote Notebook	- Students continued using the app to access resources and shared writing on collaboration space.	- Teacher encouraged students to use the application to access resources and share content

3.8.5 Design of Intervention Activities

The design of activities to be used in the intervention followed the Substitution, Augmentation, Modification and Redefinition (SAMR) model (devised by Ruben Puentedura as cited in Giangiulio & Lara, 2017).

This model classifies each learning activity according to their cognitive level and the learning activities can be simplified in four levels:

- The **Substitution** level is when technology is "a direct substitute for other non-digital learning tools" (Giangiulio & Lara 2017: p.128)

- The **Augmentation** level, exemplified as technology that enhances the learning by improving the features of content presented, for example online practice tests, or the ability to track changes available in Word documents.

- The **Modification** which enables collaboration and cooperative work as students can create tasks or products and share them with their classmates (Giangiulio & Lara, 2017).

- The **Redefinition** level or the "technology that allows for the creation of tasks, projects or learning activities that could not have been done without it" (Giangiulio & Lara, 2017 p.129). Students can create digital presentations or videos to show their learning at this level.

The SAMR model provides a structural framework to integrate technology in the classroom, but it is only at the Modification and Redefinition level which effective learning can take place as students can use higher level thinking skills (Hockley, 2013).

According to Hockley (2013), the use of this approach can be very effective for measuring mobile learning within a language context environment such as the English as first language. Activities that move students from the SAMR's lower to the higher levels have the potential of enhancing learning, but this requires teachers to be able to understand how to design tasks that require high level thinking (Giangiulio & Lara, 2017; Pfaffe & Annunziato, 2017). The activities initially devised for the intervention that followed this model are summarized in Table 3.

Table 3: Activities devised for intervention that follow SAMR model

SUBSTITUTION	- Students answer to vocabulary tests on Kahoot. - Students answer to questions on reading texts available on Textivate. - Students complete self-reflective forms after each lesson.
AUGMENTATION	- Students complete grammar quizzes set on Microsoft forms. - Teacher sends verbal feedback to students using Class One Note book and students track feedback.
MODIFICATION	Students create their own vocabulary lists using Kahoot. - Students create reading comprehension tests using Kahoot and share them with class. - Students create mind maps and add images.
REDEFINITION	- Students make posters to summarize grammar points using Microsoft One Note and share them on Collaborative space. - Students create stories and record them using tools in One Note. - Students share ideas and collaborate in writing tasks using Classroom space in One Notebook. - Students create digital stories using videos and notes from Class Note.

Examples of the activities developed as part of the intervention are defined in Appendix I.

3.8.6 Classroom Observations

Classroom observations were implemented with a focus on 10 dyslexic pupils during each cycle.

A protocol was developed to ensure observers followed a consistent approach and observation form was designed following Fredericks (2011) observation guidelines which emphasize observing not only on the on-off task behaviour but the level of cognitive engagement such self-monitoring, giving directions and supporting others, and using devices to stretch their own learning.

The form included a section where observers could make their own note and add descriptive accounts of what they observed in the classroom. There was no time limit to the observations but in general, three students were observed per class at 10 to 15 minute intervals.

Data collected by all these instruments informed the design of the intervention and the choice of applications to be use.

- Appendix E. contains the coded results of the observations from Cycle 1.
- Appendix J. contains the coded results of the observations from Cycle 2.
- Appendix K. contains the coded results of the observations from Cycle 3.

3.8.7 Student Semi-structured Interviews

The responses given by the students and the observation led to the development of a semi-structured interview model (Refer to Appendix F. questions and full transcripts) to explore the findings of the observations further.

The semi structured interviews were performed during Cycle 1 and Cycle 3 of the Action Research Cycle.

- Appendix F. contains the transcripts from Cycle 1.
- Appendix L. contains the transcripts from Cycle 3.

3.8.1 End of Cycle Student Questionnaire

An online questionnaire to gather data on learners' perceptions on learning with technology was devised and distributed using Microsoft forms. Appendix G. contains questionnaire descriptions of questions and summary of results.

It was intended that a the same online questionnaire would would be used for Cycle 2 and 3, unfortunately due to a Cyber attack on the schools ICT infrastructure this information is not avalaible for review as part of thus study.

Chapter 4. FINDINGS & RESULTS

4.1 Cycle 1 – Identification of Issues

The responses obtained in the questionnaire reflected several differences and issues between the dyslexic and non-dyslexic pupils with regards to their confidence that aligns with the research conducted and documented within Chapter 2. The full range of results can be found within the appendices of this report.

4.1.1 Confidence in Communicating in a Modern Foreign Language

Figure 5 indicates the students are broadly confident in communicating in Spanish with a total of 78 percent feeling confident all or most of the time. However, if we compare the dyslexic students to the non-dyslexic students the level of confidence between the two groups varies with 100 percent of the non-dyslexic students feeling confident all or most of the time whereas this figure drops to 68 percent for dyslexic students.

Question 1	I feel I can communicate in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	3	6	27	12	17
2. This applies to me most of the time	8	14	22	73	56	61
3. This sometimes applies to me	0	6	6	0	24	17
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100

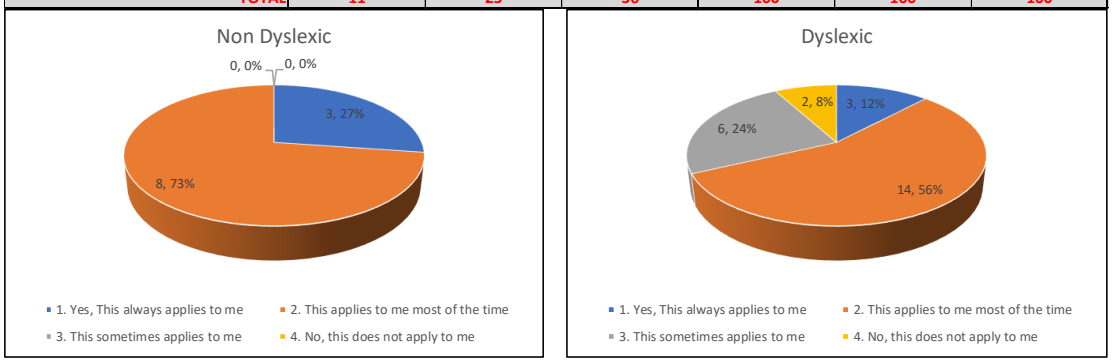


Figure 5: Confidence in Communictaion (Spanish)

Similar results are evident in writing tasks as shown in Figure 6 where non-dyslexic pupils maintain a level of 100 percent confidence in writing in Spanish all or most of the time.

However, the equivalent percentage for dyslexic pupils drops to 52 percent with 12 percent rarely feeling confident when writing in Spanish.

Question 2	I think I can write in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	4	1	5	36	4	14
2. This applies to me most of the time	7	12	19	64	48	53
3. This sometimes applies to me	0	9	9	0	36	25
4. No, this does not apply to me	0	3	3	0	12	8
TOTAL	11	25	36	100	100	100

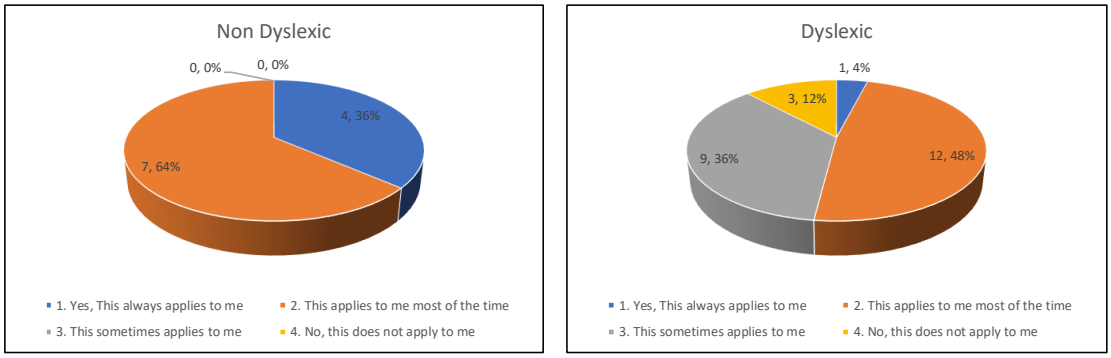


Figure 6: Confidence in Writing (Spanish)

This theme continues for speaking, reading and listening to Spanish with the non-dyslexic pupils feeling more confident that dyslexic pupils for each of these linguistic skills as shown in Figure 7, Figure 8 and Figure 9 respectively.

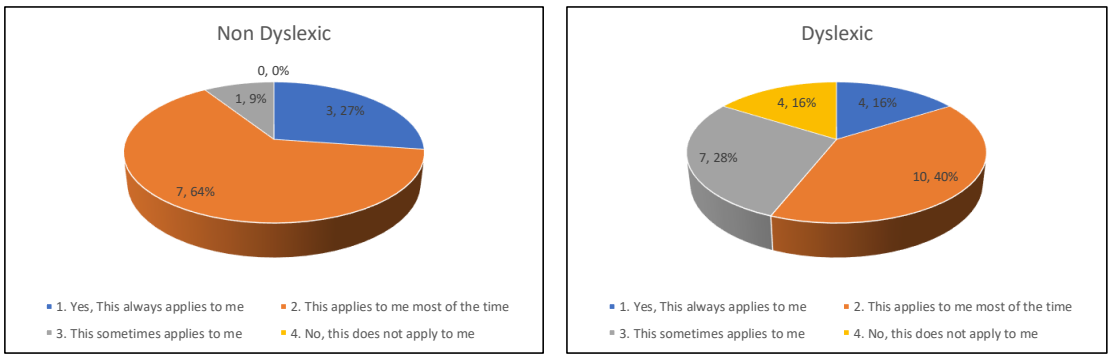


Figure 7: Confidence in Speaking Spanish

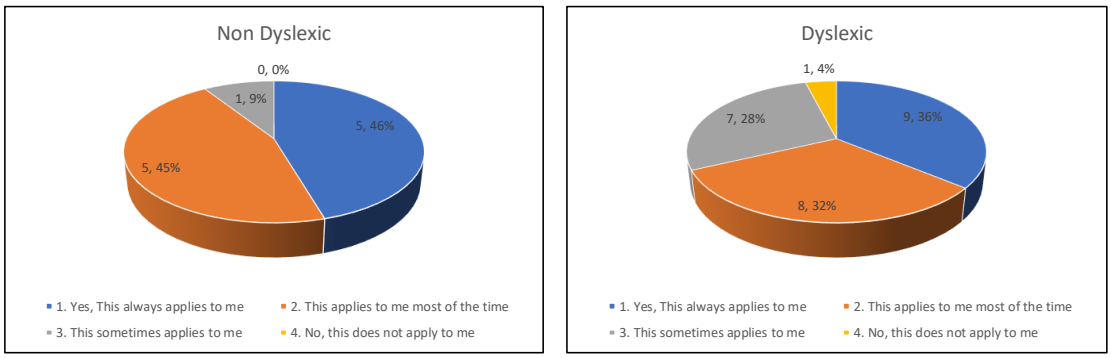


Figure 8: Confidence in Reading in Spanish

Whilst the theme continues for listening to Spanish, for both dyslexic and non-dyslexic pupils there is a reduced level of confidence with 36 percent of non-dyslexic and 56 percent of dyslexic pupils only feeling confident sometimes or not at all.

This is likely due to the listening tasks being outside of their control in terms of speed of conversation as well are problems in their phonological awareness.

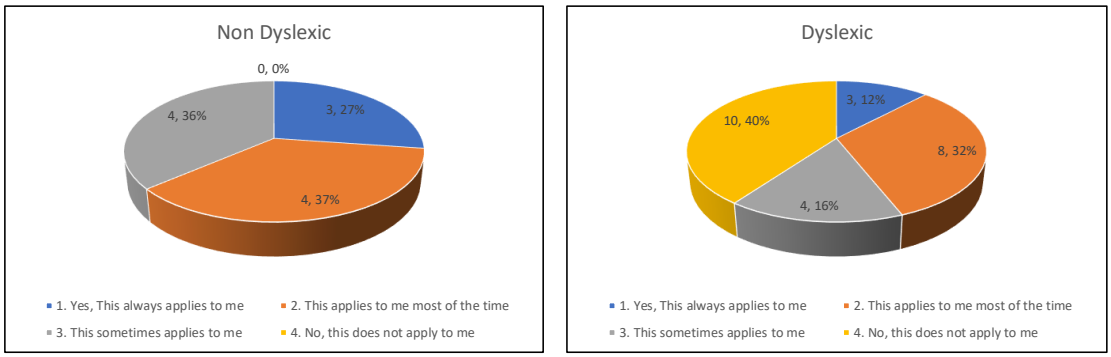


Figure 9: Confidence in Listening in Spanish

4.1.2 Level of Anxiety

The level of anxiousness felt by dyslexic and no -dyslexic pupils followed a similar theme with dyslexic pupils reporting that they felt a more significant level of anxiousness when writing or reading in Spanish.

The contrast is more pronounced between the two groups than the previous areas of comparison. For example, Figure 10 shows that only 9 percent of the non-dyslexic pupils

feel anxious always or most of the time when writing in Spanish compared to 54 percent of dyslexic pupils.

Question 7	I feel anxious when the teacher asks me to write in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	0	1	1	0	4	3
2. This applies to me most of the time	1	12	13	9	48	36
3. This sometimes applies to me	5	7	12	45	28	33
4. No, this does not apply to me	5	5	10	45	20	28
TOTAL	11	25	36	100	100	100

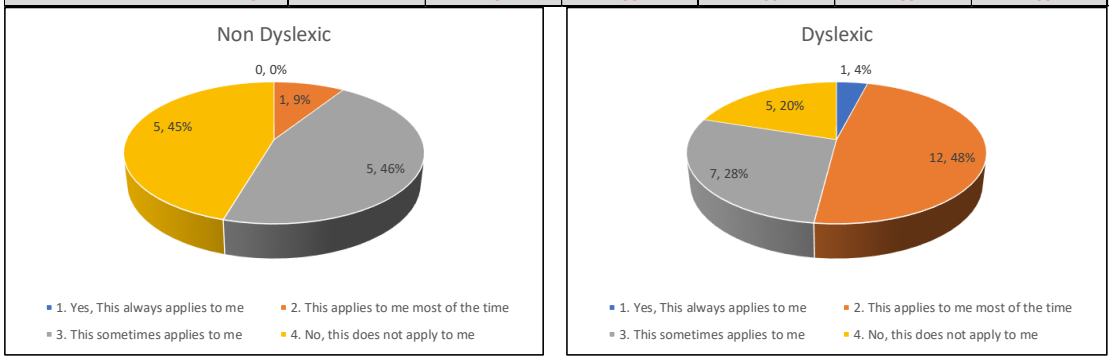


Figure 10: Level of anxiety when writing in Spanish

As shown in Figure 11 this theme again is replicated for reading with 9 percent of the non-dyslexic pupils feel anxious always or most of the time when reading a Spanish text compared to 44 percent of dyslexic pupils.

Question 9	I feel anxious when I have to read a text in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	2	3	9	8	8
2. This applies to me most of the time	0	9	9	0	36	25
3. This sometimes applies to me	4	9	13	36	36	36
4. No, this does not apply to me	6	5	11	55	20	31
TOTAL	11	25	36	100	100	100

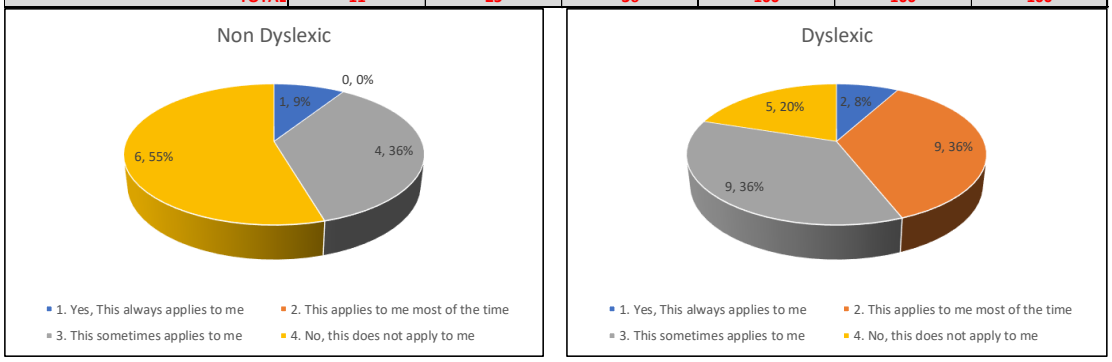


Figure 11: Level of anxiety when reading a text in Spanish

4.1.3 Vocabulary

Figure 12 shows that both dyslexic and non-dyslexic are broadly in alignment when learning Spanish vocabulary with 52 percent of dyslexic and 55 percent of non-dyslexic pupils claiming that they learn Spanish quite well most or all the time.

Question 15	I can learn vocabulary in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	3	4	9	12	11
2. This applies to me most of the time	5	10	15	45	40	42
3. This sometimes applies to me	4	6	10	36	24	28
4. No, this does not apply to me	1	6	7	9	24	19
TOTAL	11	25	36	100	100	100

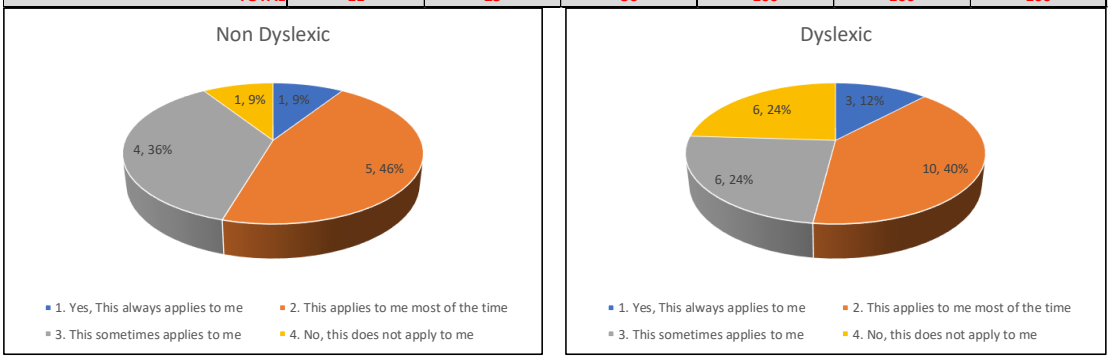


Figure 12: Perceived ability to learn Spanish vocabulary

However, as Figure 13 indicates that there is an increase in variation when remembering words in Spanish with 64 percent of dyslexic pupils finding it difficult most or all of the time to remember Spanish words compared to 55 percent for non-dyslexic pupils.

Question 16	I find it difficult to remember words in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	2	7	9	18	28	25
2. This applies to me most of the time	4	9	13	36	36	36
3. This sometimes applies to me	4	3	7	36	12	19
4. No, this does not apply to me	1	6	7	9	24	19
TOTAL	11	25	36	100	100	100

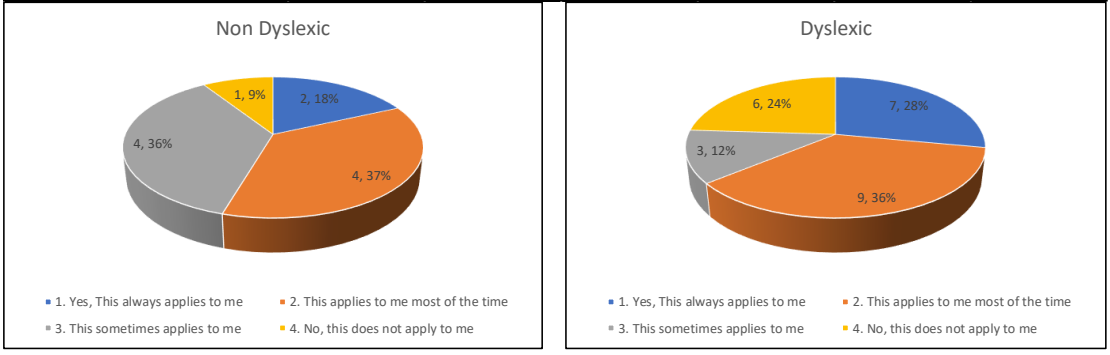


Figure 13: Perceived ability to remember words in Spanish

Finally, as shown in Figure 14 there is a difference in use of teacher provided resources with 100 percent of non-dyslexic pupils using the teacher provided resources most or all of time compared to 72 percent of dyslexic pupils.

Question 19	I always use the vocabulary list band the resources given by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	11	14	27	44	39
2. This applies to me most of the time	8	7	15	73	28	42
3. This sometimes applies to me	0	5	5	0	20	14
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100

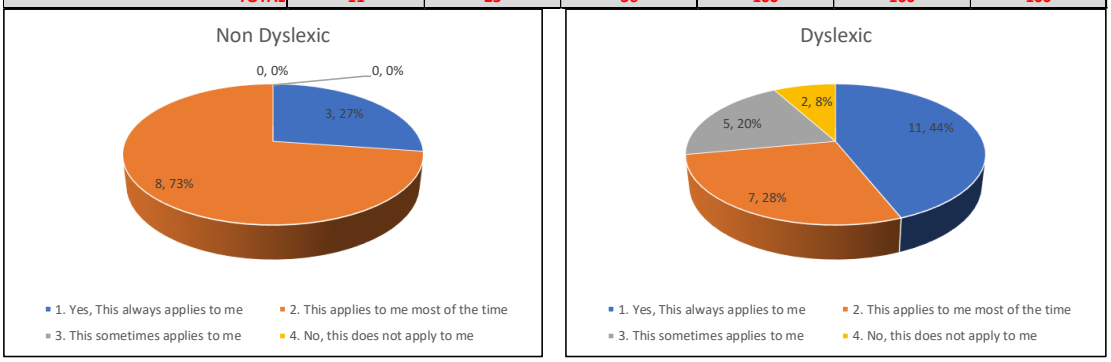


Figure 14: Use of vocabulary resources provided by teacher

4.1.4 Learner Support and Strategies

Figure 15 shows that of the sample of students, 100 percent of non-dyslexic students felt that a positive learning environment was provided most or all of the time. In contrast this value drops to 80 percent for dyslexic students.

Question 20	The teacher encourages a positive learning environment					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	10	9	19	91	36	53
2. This applies to me most of the time	1	11	12	9	44	33
3. This sometimes applies to me	0	4	4	0	16	11
4. No, this does not apply to me	0	1	1	0	4	3
TOTAL	11	25	36	100	100	100

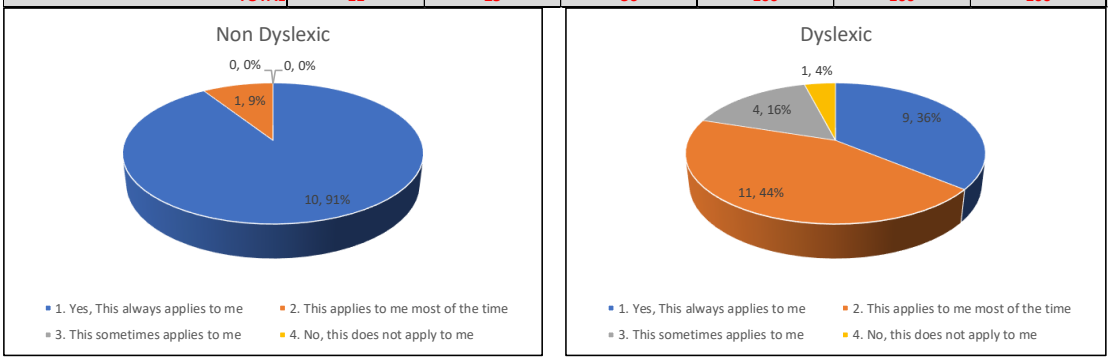


Figure 15: Postive Learning environment

When asked if they felt supported by the teacher, the majority of both non-dyslexic and dyslexic feel supported by the teacher most of the time (91 percent and 83 percent respectively) as shown in Figure 16.

Question 19	I always use the vocabulary list band the resources given by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	11	14	27	44	39
2. This applies to me most of the time	8	7	15	73	28	42
3. This sometimes applies to me	0	5	5	0	20	14
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100

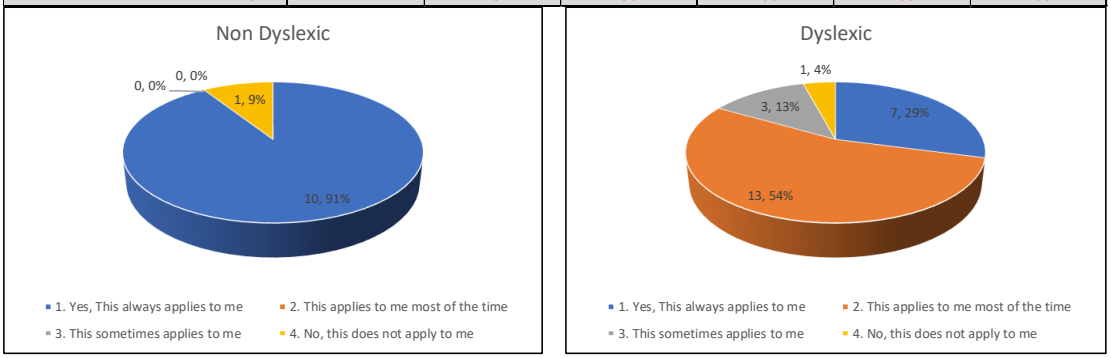


Figure 16: Use of vocabulary resources provided by the teacher

However, as shown in Figure 17 there was a perceived reduction in use of writing support provided by the teachers by the dyslexic students with only 58 percent using the writing support provided by the teaching staff compared to 91 percent of non-dyslexic pupils.

Question 18	I always use the writing support give by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	7	6	13	64	24	36
2. This applies to me most of the time	3	8	11	27	32	31
3. This sometimes applies to me	1	10	11	9	40	31
4. No, this does not apply to me	0	0	0	0	0	0
TOTAL	11	24	35	100	96	97

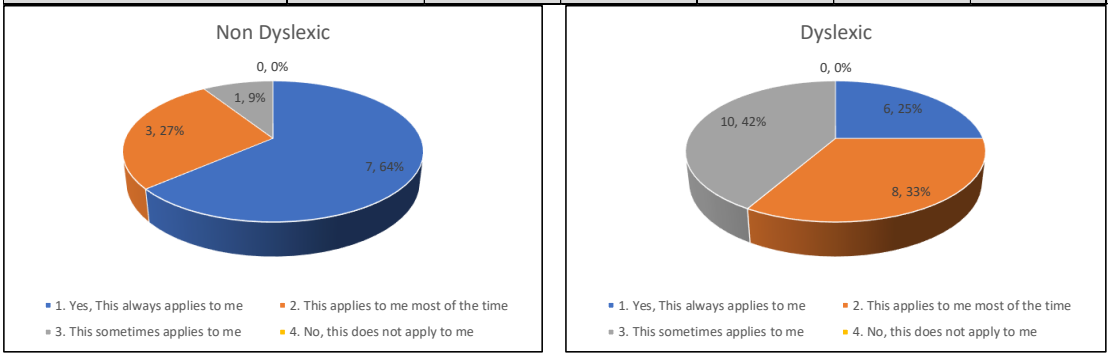


Figure 17: Use of writing support provided by the teacher

4.1.5 Other findings: Spanish and French Perceptions

When asked to compare how they found writing in Spanish compared to writing in French, 92 percent of the dyslexic students found writing in Spanish easier that French most or all of the time compared to 72 percent of non-dyslexic students as shown Figure 18.

Question 13	I think it is easier to write in Spanish than in French					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	11	13	24	100	52	67
2. This applies to me most of the time	0	3	3	0	12	8
3. This sometimes applies to me	0	7	7	0	28	19
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100

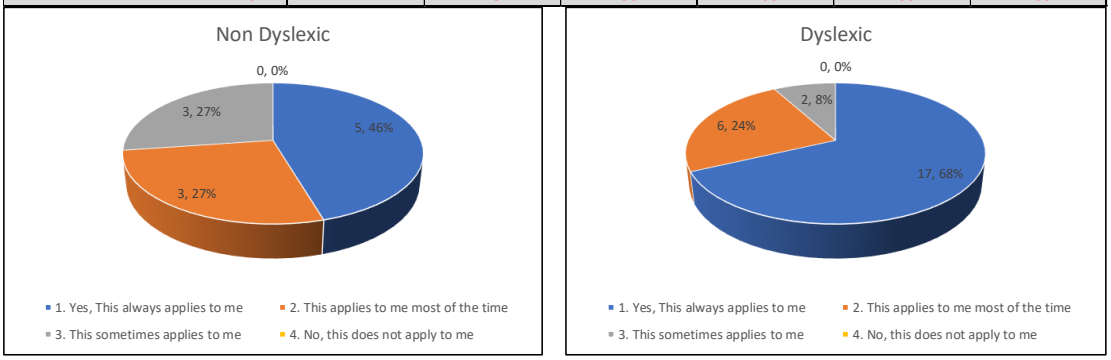


Figure 18: Writing in Spanish compared to writing in French

4.2 Discussions and interviews with staff

Overall the responses given by the teachers in the questionnaires and informal discussions reported that as Crombie (2000) suggests, teachers are likely to believe that dyslexia is only associated to literacy difficulties such as spelling and writing. The two language teachers indicated that the reduction of writing and use of fonts and visuals were the main strategies used in the classroom. Informal discussions with them showed that they felt dealing with the aspect of writing was the best approach used to teach dyslexic learners. It was also evident that teaching dyslexic learners was a challenge that regularly resulted in behavioral problems in the classroom. Their answers contrasted to the responses given by the SEND specialist, who stressed that dyslexia was the sum of three levels of deficiency: phonological, speed of processing and working memory and teachers needed to understand these deficiencies to support the learning more effectively (please refer Appendix C. for full transcript).

Overall, the initial findings identified in the questionnaires and interviews are summarised below:

- Negative perceptions as language learners in dyslexic students was linked to lack of confidence and difficulties in reading and writing and problems with vocabulary acquisition. These negative perceptions were also linked to anxiety in reading and writing.

- Teachers use of methodologies relied on their limited understanding of what dyslexia was.

4.3 Cycle 1 Semi Structured Interview Results

There were some significant differences and similitudes in the responses given by the dyslexic pupils who were the focus of the interviews (please note the full results are defined in Appendix F. including the interview transcripts and the coded results).

These differences corroborated some of the findings identified in the questionnaire and showed how self-efficacy plays a key role in how pupils deal with failure in language learning. The responses are summarised in the following sub-sections.

4.3.1 Negative learners' perception of themselves

Overall all dyslexic pupils reported the notion of "difficulty" when asked how they viewed themselves as language learners. The view as language learners was associated predominantly with difficulties in writing, spelling and learning vocabulary as well as listening. Some pupils felt stronger about their inability, for example:

> *"languages are not easy because of my problems in English to spell words"*
>
> **Student B**

The notion of ability and aptitude was stressed by student F who was the only student who reported a clear low motivation for languages.

> *"I don't really like languages and find the writing and listening hard"*
>
> **Student F**

Despite the notion of difficulty and its influence on their perceptions as language learners, some pupils displayed a positive outlook and were very articulate to express their views on why they felt they were confident:

> *"I think I am good at doing and I am quite confident when it comes to language"*
>
> **Student H**

> *"I think I have somewhere to go with, I could learn more and improve my skills"*
>
> **Student I**

In general, all students predominantly reported difficulties with reading and writing and felt that speaking was an easier because of planning required. This corroborates what it has been said in this paper on the role played by planning and support when teaching dyslexic pupils (Kormos & Smith, 2016). Speaking was also perceived as the most enjoyable skill for most students interviewed. When asked why, some students pointed out that they could rehearse beforehand and that was useful for them, see student E's response.

> *"I like speaking because it is easier than writing. I can practice and say the words and don't need to write"* **Student E**

4.3.2 Effort and difficulty

Pupils responses showed negative and positive traits of self-efficacy. Students C, I and J, reported a link between effort and success and a clear perceived ability that they could success if they try hard. This was more evident in student C's response:

> *"I think you must try different things and not give up. My mum always says that if I don't put effort in anything I would never get anywhere"* **Student C**

Student I and J also showed that there was a clear understanding that if they did not try hard they would never learn. This was more evident in student I who showed a clear range of strong metacognitive strategies:

> *"I think instead of I know the words I am just going to translate it I am going to think about it carefully. Does it mean something else? have I got it? and maybe I could use the cognates I know"* **Student C**

4.3.3 Attitude towards failure

Overall, some of pupils' responses showed learned helplessness traits when reflecting on how they deal with failure in language tasks. This finding supported the view reported by Humphreys and Mullins (2003) who argue that the negative self-image result of academic failure can have a negative impact on dyslexic learners' perceptions of themselves.

Helplessness traits were also more evident in pupils A, E and F, who reported a lack of perseverance and control when dealing with difficult tasks. Their responses also demonstrated that the attributions made to explain their success or failure were mainly based on task difficulty and ability and not on effort applied.

For pupils B, E and F, it was ability in the subject which dominated their thinking.

However, three students reported a positive attitude towards failure in the language classroom. One of them, student C added that:

> *"failure did not mean she was not learning and she did not feel disappointed when she did not do well in exams"* **Student C**

Similarly, student B stated that:

> *"I know that I feel low if I get a bad grade, but I feel it pushes me to be better"* **Student B**

Student G' s answer also highlights the positive attribution between learning and failure:

> *"I feel that if the results are not good do not mean that I am not learning. It is way of learning and it means that you can learn from this."* ***Student G***

4.3.4 Use of technology

Overall all pupils reported the use of mobile devices such as I-pads and interactive applications at home to help them learn vocabulary as student B said:

> *"I like Linguascope and using the online quizzes because they are useful for memorization"* **Student B**

For some students, there were other benefits of using online applications:

> *"The pronunciation because you can listen to the words as they are pronounced and then you can say back to it, so it helps you to have the right pronunciation"* **Student C**

Student C also reported a high level of confidence as a language learner and awareness of how each dyslexic learner learned differently with and without technology:

> *"Most people learn in same ways but some people for instance dyslexic people learn in different ways. I think it depends on what each of us find it is useful, for example I like using vocabulary charts and flashcards and using my I-pad for revision, but student's name does not like using computers because she prefers writing on a piece of paper".* **Student C**

4.4 Cycle 1 Student Observation Results

Data collected by observers was summarized and discussed with teachers and SEND specialists (please refer to Appendix E. for full results of observations). The main findings from the observations are defined in the following sub-sections.

4.4.1 Attention and focus while using the device:

Attention and focus differed and it not only depended on the task performed by students but also on the type of application used. Pupils were more focused while using Kahoot and tasks such as playing vocabulary quizzes and creating vocabulary tests, however, weaker dyslexic pupils did not show focus during tasks that require writing or reading even when while using the devices or assistive technology.

Pupils with low literacy digital skills were predominantly more off task while using the device and struggled to cope with the workload of information. Kahoot was very disruptive for some of these pupils who would take longer to concentrate and focus. Whereas pupil E and F were consistently disrupted while using Kahoot and Textivate and could not always complete vocabulary tasks and writing tasks. However pupils C, G, H and I showed a greater focus even when completing more difficult reading tasks using Textivate.

4.4.2 Listening to teacher's instructions

Lack of listening skills was common amongst dyslexic pupils. This was particularly evident during the first lessons taught with the device, but their focus and attention improved as the pupils got used to using the technology in the classroom. However, for pupils with attention deficit and memory access issues such as pupil F; poor listening and understanding teachers' instructions was consistently evident during all lessons.

4.4.3 Engagement and motivation to complete tasks

High levels of engagement in activities were observed predominantly while using Kahoot. High level of disruptive behavior was also observed. Lack of self-regulatory behavior as described by Terras and Ramsay (2012) was more persistent in some of the pupils, especially those with lower digital literacy skills and negative self-confidence.

For more confident dyslexic learners, the engagement was consistent in tasks such as vocabulary quizzes, listening activities and reading tasks using the Immersive Reader; for less confident dyslexic learners their engagement varied, and off task behavior was more

common at the beginning and end of tasks. Pupils with low digital literacy skills such as pupil A, B and E struggled to remain engaged in tasks that require more careful thinking but pupils C, G and I were consistently engaged despite finding tasks such as reading very challenging. In the same way, pupils B, D, E and F enjoyed activities that required careful planning such as translation tasks.

Issues with self-perception and negative identification were evident when pupils used the Immersive Reader. Pupils B, D, E and F were keen to use the application to complete reading tasks in class but refused to use the application while completing formal test because according to them they did need it.

4.4.4 Effort and perseverance to complete tasks:

Dyslexic pupils with moderate abilities such as C, G, H and I showed perseverance to complete all tasks even though some of the tasks were challenging. However, pupils B, D, E and F did not show perseverance and appeared not to be able to cope with the number of steps needed to use applications such as Textivate and One Notebook.

Learned helplessness traits were seen in more severe dyslexic pupils than those who have mild dyslexia. This was evident when students were asked to use the reflective post exam comments recorded for them on their Class Notebook sections. Students could not access the audio because they did not know where to find it and felt they needed to use their books. They were also reliant on other students' comments to write their own as they did not understand what they needed to do to improve their spelling or vocabulary.

4.4.5 Summary of Cycle 1 Observation Findings

Overall, the observations corroborated the findings stated by Ciaramella and Accardo (2017) who argue that friendly game competition, the use of audio and music create a positive learning environment which leads to more participation. Attention focus and engagement with tasks was higher in pupils with strong digital literacy skills and positive self-efficacy. Perseverance and effort was also more evident in these pupils.

It was also clear that not all dyslexic students used their writing frames or their books which agreed with the initial findings that showed that pupils did not always use the resources given to them. It was also evident that for some of these weaker pupils having someone to work with was useful as it gave them reassurance and confidence when completing difficult tasks.

4.5 Cycle 1 Intervention development focusing on vocabulary

Kahoot was initially used a teaching tool to introduce vocabulary in combination with visuals and audio as well as an assessment for learning tool at the beginning and end of lessons.

However following this I sought to investigate the functionality of Kahoot as a revision tool for vocabulary for dyslexic learners. Figure 19 shows the results of a series of vocabulary tests using different revision mediums.

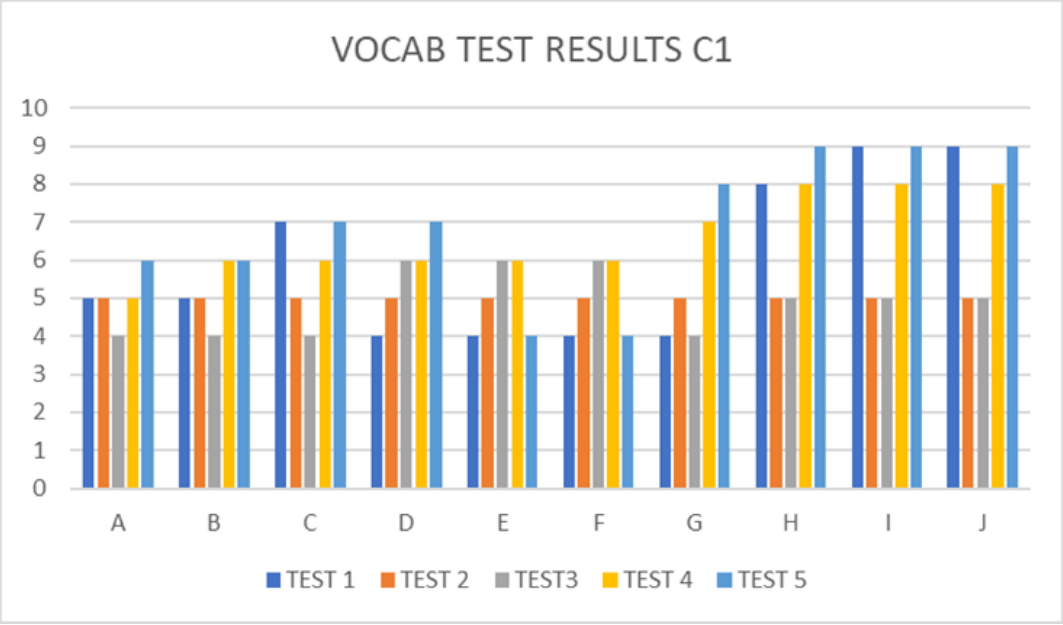


Figure 19 - Cycle 1 Vocabulary Test Results

Table 4 provides a discussion of the results from the vocabulary tests.

Table 4: C1 Vocabulary Test Results Discussion

Lesson	Activities and tasks used Kahoot	Issues encountered	Results	Possible explanations
L1	– I used Kahoot to introduce words and reinforce it with flashcards and visuals. – Pupils complete tests online first. – After this paper tests are applied.	– No significant issues encountered. – High levels of enjoyment and for some pupils this caused disruption.	Pupils H I and Js' results are high higher than the rest. Question: too many variables (use of vocabulary, words that are similar in English and Spanish, how much time did they spend revising at home?)	More confident learners showed high levels of effort and perseverance. Link between effort and perseverance and positive outcomes.
L2	– Introduce words using Kahoot and visuals. – Pupils complete tests online using Kahoot and then on paper. – Students create their own tests using vocabulary sets given to them.	– Monitoring students' work was required to ensure accuracy of words. – Problems accessing IT and network. – Off task behaviour more evident with weaker students at the beginning of lesson. – High levels of engagement with tasks and devices. – Lack of digital literacy skills and understanding in pupils and training for teachers needed to deal with troubleshooting issues. – Pupil D, E and F enjoyed working on their own. – Only more confident able pupils such as pupil J, H and I were using the device and application to stretch their learning.	Pupils D, E and F's test results improved in comparison to results of C, H, I and J whose results decreased. Question: too many variables (use of vocabulary, words that are similar in English and Spanish, how much time did they spend revising at home?)	Proposed evidence suggests that weaker pupils with low efficacy and low motivation could feel motivated to complete tasks because they feel more in control. A student focused approach could enable learners to monitor their learning more effectively but results of tests are inconclusive.
L3	Same as L2	Same as L2	Same trend as L2	Proposed evidence suggests that weaker pupils with low efficacy and low motivation could feel motivated to complete tasks because they feel more in control. A student focused approach could enable learners to monitor their learning more effectively but results of tests are inconclusive.
L4	Same as L1	– Returned to original format of the lesson due to problems encountered in the first session.	When teacher takes control, tests results for pupils G, H, I and J improved Pupils D, E and F achieved same results as from L3 (maintained but no improvement)	Confident learners need support and like teacher centred approach?
L5	Same as L1	As L4	G, H, I and J improve again however E and Fs results significantly drop off.	Confident learners need support and like teacher centred approach? Proposed evidence suggests that weaker pupils with low efficacy and low motivation could feel less motivated to complete tasks as they are not in control.

In summary the findings discussed in Table 4 suggest that a student focused approach of tailoring the content and delivery to the specific needs of each student may lead to enhanced results

However, further data is required to conclude this and because of the small scale of this study; it is impossible to determine the extent to which the use of Kahoot (or equivalent Technology) could enhance the vocabulary learning skills of pupils who like D, E and F in the long term. Alternatively, there are other variables such as the recurrence of similar words in English and the frequency pupils used these in English which may have influenced the results.

Translation tasks showed the same interference from French words even though students had access to online checkers and digital lists of vocabulary on their digital notebooks. Despite this, there was a significant improvement in the structure of writing as it is shown in the Figure 20 below, in particular for students with poor organization skill who used their digital notebooks to complete tasks.

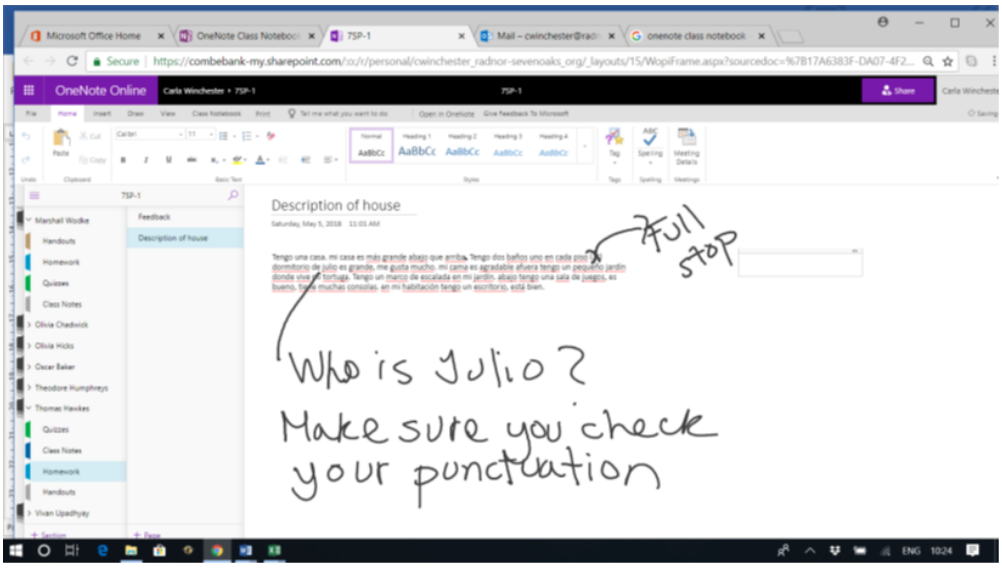


Figure 20: Digital Notebook sample showing composition of writing and feedback

4.6 Cycle 1: End of Cycle Questionnaire

Due to technical difficulties with the I-pads, only 26 students were able to respond the questionnaire given to them at the end of the cycle (see appendix G).

As Figure 21 below shows, 82% of dyslexic students believed that using mobile technology helped their Spanish reporting that it was more fun and easier to research words that they did not know. One pupil (6%) of the dyslexic students did not agree as they 'are not very good on devices and prefer to use a pen and paper'.

Question	Do you think that using mobile technology (I-pads) in lessons has helped your Spanish learning?			
	Value	Percentatge	Value	Percentatge
	Dyslexic	Dyslexic	Non-Dyslexic	Non-Dyslexic
Yes	14	82	5	56
No	1	6	0	0
Maybe	2	12	4	44

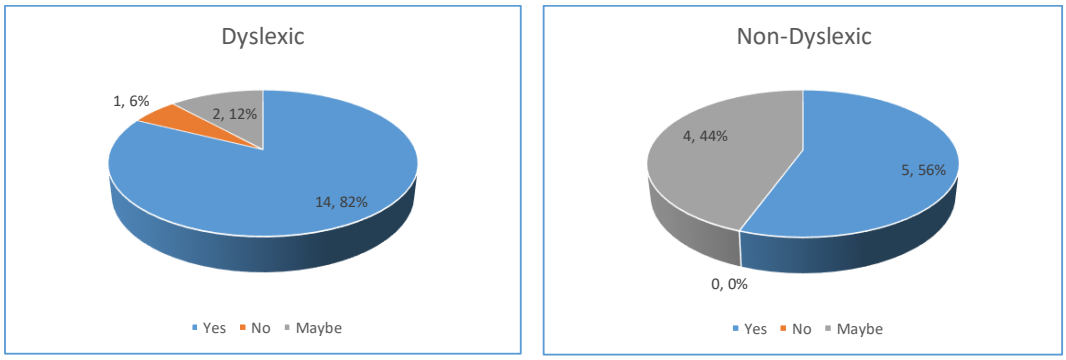


Figure 21: Has technology helped Spanish Learning?

Figure 22 indicates that 88% of dyslexic students would like to continue using I-Pad in lessons as it was easier to access content and to remember information.

Question	Would you like to continue using I-pads in lessons?			
	Value	Percentatge	Value	Percentatge
	Dyslexic	Dyslexic	Non-Dyslexic	Non-Dyslexic
Yes	15	88	5	56
No	1	6	1	11
Maybe	1	6	4	44

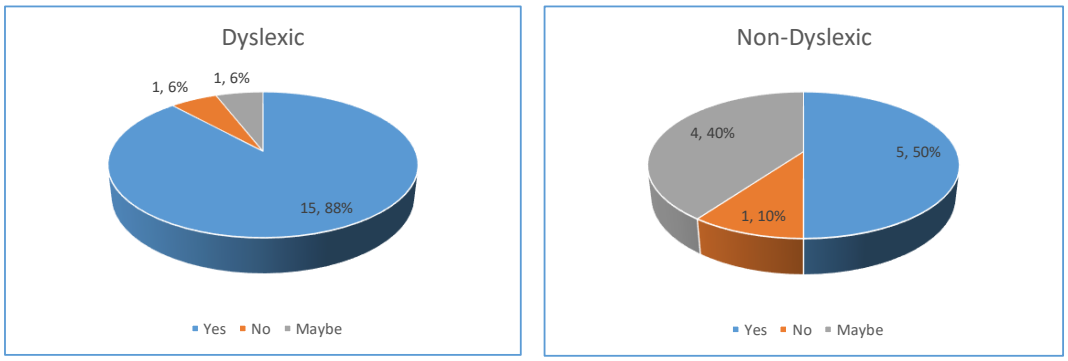


Figure 22: Preference for continued use of mobile technology

As shown in Figure 23 when questioned how motivated they were to use Class Notes (essentially a digital platform for sharing resources and for pupils to make note) 76% were motivated due to factors such as the structure being more organized, it is more proactive and it allowed them to practice their Spanish.

Question	How motivated are you to use Class Notes in your Spanish course?			
	Value	Percentatge	Value	Percentatge
	Dyslexic	Dyslexic	Non-Dyslexic	Non-Dyslexic
Extremely motivated	3	18	1	11
Very motivated	5	29	5	56
Somewhat motivated	5	29	2	22
Not so motivated	3	18	0	0
Not at all motivated	1	6	1	11

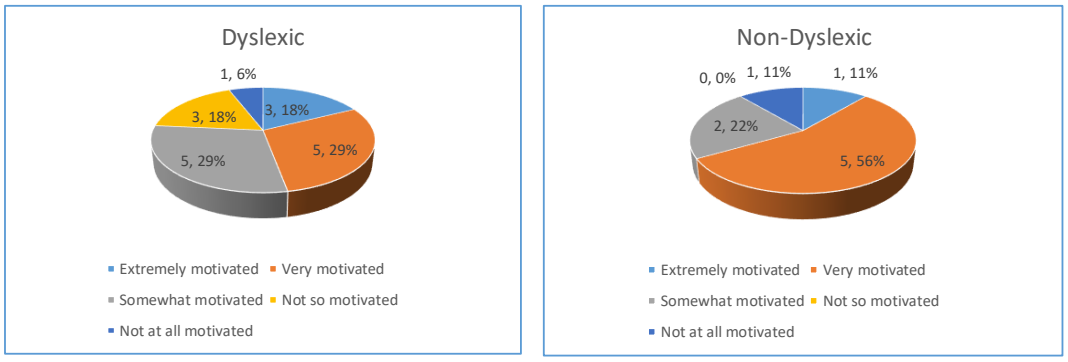


Figure 23: Motivation to use NotePad Class notes

Overall, dyslexic pupils indicated that using Kahoot helped them to remember vocabulary because it was fun and they could concentrate more. Following this, students rated as their applications of preference as: Immersive Reader, followed by Textivate and then ClassNote Notebook.

4.7 Cycle 1 Reflection

Kahoot was positive as it allowed me to find out how many learners knew the vocabulary. Spelling was challenging for pupils because their I-pads did not enable an easy typing of accents and online checkers did not always work. High levels of engagement were higher in activities that use Kahoot, but the competitive element of the game was a demotivator for students who did not do as well as the others. The use of Class Note One Notebook was problematic because of the lack of familiarity with the application and the technological constraints offered by the school network. Only pupils who were more adept with the application and had strong digital literacy skills were able to benefit from it to improve their organization skills, and access the feedback shared on the collaborative area.

4.8 Cycle 2 Overview

Upon reflecting on the evidence collected, it was evident that more attention needed to be paid to the number of instructions and procedures presented to students as well as the number of tasks given to them. Following the findings from the previous stage, more time was spent on the revision of words and more scaffolded tasks were created for weaker pupils whose vocabulary recognition was still problematic.

Activities that integrated repetition and reinforcement using the multisensory approach were devised in combination with the use of Kahoot and the use of resources such as Textivate included audio to support learners' reading and listening.

In addition to this, more time was included in the integration of vocabulary in translation tasks using activities in Textivate and the feedback given to students on One Notebook.

Having observed that collaboration was positive for some of the weaker pupils, more pair work was implemented.

4.9 Cycle 2 Student Observations

The observations (see appendix R) reports a summary of the evidence of collected in the observations. The following sub-section provides an overview of the main findings.

4.9.1 Attention and focus while using the device

The attention and focus of pupils observed during this cycle showed similar patterns of disruptive behavior in weaker pupils with lower level of digital literacy skills. This was more evident in pupils B, D, E and F. The focus of pupils was significantly weaker in boys than in girls. In addition to this, technical problems with the devices and the Internet contributed to lack of focus in these pupils. Behavioral contracts were adopted to reinforce rules of use for devices. Lack of attention and focus was predominantly a problem in the year 8 class, a class with many students with severe learning difficulties. The use of images and visuals was particularly disruptive for weaker pupils and touch to screen activities lend themselves to disruption.

4.9.2 Listening to teacher's instructions

Similarly, to the first cycle, there were consistent poor behavior shown by pupils D, E, and F. Pupil E and F who have severe short term memory showed consistently lack of concentration while using the devices but their focus improved as the lessons went on.

4.9.3 Engagement and motivation to complete tasks

Levels of engagement remained the same across all tasks but for weaker pupils the use of Textivate was challenging because students could not remember how to login in. Translation tasks from English into Spanish proved demanding for pupils F and D even though they were scaffolded, and pupils had access to the sample vocabulary on their I-

pads. Weaker pupils showed higher levels of engagement while completing tasks that did not require writing but just choosing an answer.

Tasks that did not require writing were preferred by weaker pupils. Fill in the gaps tasks with audio set on Textivate proved to be beneficial for pupils' recognition of vocabulary and for most of the dyslexic pupils and it was useful when they were asked to write a similar model on their tablets. However, difficult typing the accents down was evident during observations. Overall, pupils enjoyed the interactive activities more than the writing tasks set for them.

4.9.4 Effort and perseverance to complete tasks

Like in the first cycle, the level of effort applied in tasks varied across pupils. Pupils C, H, I and J, showed higher levels of effort while completing tasks. Pupil D showed a higher level of effort and perseverance but only when she could use a pen and a piece of paper and not the tablets. This was interpreted because of her lack of confidence with the Class One Notebook and the lack of understanding on instructions and procedures which she highlighted in her interview.

Whereas more confident dyslexic learners completed most difficult tasks, pupils B and F showed learned helplessness traits while completing translation tasks. The use of Textivate was challenging for student B and J who could not complete the grammar gap fill tasks in a few of the lessons and decided to continue with the matching task and reading tasks. Pupil J showed also anxiety and dependency on teacher support when mistakes in translation tasks were made but completed the task.

Pupils B, D and F were not able to complete the written descriptions despite having been given a model and writing frame on Class Note. All these pupils showed anxiety and problems with behavior in a few of the lessons observed. The rest of pupils who were the focus of the observations interacted with the tasks positively and showed more perseverance despite finding tasks difficult.

Overall, pupils were more motivated to complete writing tasks that encouraged them to use their creativity and using visual sources. This motivation was particularly higher in student C, G and J who showed not only high levels of perseverance but also confidence while using the writing frames on One Note, the online dictionary and the language checker feature on One Note that enabled autocorrect.

When presented with feedback, pupils C, D, E and F expressed preference for their feedback to be given to them in a piece of paper because they could not access the feedback on their Notebooks. The access to the site proved difficult for a lot of students deleted the teacher's feedback by mistake.

4.10 Cycle 2 Reflection

Like in cycle 1, there was poorer lack of focus in boys than girls. This issue was interpreted because of the composition of classes with a large number of boys and not as a result of their learning difficulty. The effort and the engagement seen in this cycle was more evident in pupils with stronger digital literacy skills and for those who have more familiarity with applications. Anxiety was also evident during a few of the lessons that included translation tasks into Spanish.

Because of the many difficulties encountered with the IT system at school and the loss of lessons due to these problems, it was not possible to teach all the lessons implemented for this stage and see the full extent of the writing tasks developed for this stage. Overall, the pupils H and J were the only pupils who improved their writing skills by following models and using their digital notebooks to make and access notes.

The approach following the SAMR model was found to be less effective for tasks such as translation tasks using the I-pad because of the difficulties typing accents and checking spelling. It was clear that the substitution and augmentation of tasks could be effective for some pupils who needed the reinforcement, but it did not support the learning of weaker pupils. These pupils needed more scaffolding to complete activities.

Speech to text technology features of OneNote was an effective tool to allow pupils to record their planning prior to writing tasks by enabling the sharing of writing frames and checklists but only pupils more confident with the application benefited from this.

4.11 Cycle 3 Overview

The final stage of this study considered the extent to which pupils' abilities and digital literacies were a match for the technology and the tasks set for them. More differentiation strategies and group work were also considered to support weaker dyslexic students. Equally, more scaffolding and support to pupils in using checklists and writing frames were planned for this cycle. The design of tasks for this cycle focused on creative writing tasks that followed a process approach in writing. Therefore, activities that required planning, drafting and redrafting were included in the cycle.

4.12 Cycle 3 Student Observation Results

4.12.1 Attention and focus while using the device

As the observation form summary shows (see appendix U), there was much better focus and attention in this stage and in general all pupils showed more focus while completing tasks, even tasks that were challenging. Pair work proved to be effective in helping weaker pupils to focus on tasks while completing the tasks.

4.12.2 Engagement and motivation to complete tasks

Overall all dyslexic pupils enjoyed the activities and tasks sets for them. The motivation to complete the online translation tasks and writing tasks was higher than what was seen in the previous cycle. This could have been explained by the fact that the choice of topic and tasks moved away from the textbook and encouraged students' creative and artistic skills rather than focus on tasks associated with tests and assessments.

Motivation to complete activities using Textivate was higher than previously seen during lessons. Collaborative work was also positive for pupils B and F who engaged more with the applications. Pair work proved to be effective for weaker dyslexic pupils who were able to complete the tasks despite taking longer than more confident dyslexic learners. The use of strategies and checklists was more effective for all learners, but it was more effective for dyslexic students who initially had lacked organization and structure while writing. However, the use of accents and correct spelling was a problem for pupils D and E as the I-pad did not enable them to correct and their typing skills were not strong.

The use of collaboration space in Class Note One Notebook also encouraged most pupils to show their written work but many students dyslexic and non-dyslexic preferred using colored pens and a piece of paper to highlight the mistakes found in the writing in the two consecutive writing tasks implemented for this part of the cycle. The use of the collaboration space contributed also to discussion in small groups on the importance of spelling, punctuation and problems found when writing in Spanish.

Overall students showed more engagement and motivation with tasks and applications used with the use of their digital notebooks. In addition to this, there was a higher level of attention and focus on pupils who have previously lacked focus in these two areas.

4.12.3 Effort and perseverance

Pupils C, G, H and J were more consistent in the effort applied while completing tasks. This effort was also linked to the use of checklists and vocabulary notes available on their digital notebooks. However, the most significant change observed was the change in effort applied in pupils who previously have showed a lack of effort and perseverance. This was more evident for pupil F.

4.13 Cycle 3 Semi-Structured Interview Results

Overall the pupils' s responses indicated much more positive feelings towards the use of technology in class as indicated by the typical response from Pupil H:

> *"I like it because it is easier. You have a wider access and you can also set it up so it is Spanish and you don't have to have a hard time looking what it says because it is set automatically which is good for accents and spellings and it proofs read if you get something wrong."* **Pupil H**

The advantages offered by technology were also stressed by pupil G

> *"I think using Kahoot has been fun and good for checking but I think being able to create our own vocab lists on One Note has been also good because we can check and go over whenever we need to"*. **Pupil G.**

The difference made using technology and its impact on writing was also noted by pupil F who stated:

> *"It is easier for me to look at a text for instance when we used the readers I can read a text and listen to it"* **Pupil F**

Furthermore, the acknowledgment of the need for alternative methodology was also stressed by pupil H:

> *"I like using technology because sometimes it feels like you are back in the 90's . If you use technology, you can do more. Me personally, and children like me have grown up in an era of technology, so I feel we should start using it a bit more".* **Pupil H**

The impact that the use of technology has was particularly significant for pupil H who added:

> *"I like it because it is easier. You have a wider access and you can also set it so it is Spanish and you don't have to have a hard time looking what it says because it is set automatically which is good for accents and spellings and it proofs read and if you get something wrong."* ***Pupil H***

Unlike pupil H, pupils D and B showed preference for a pen and paper when they had to complete writing tasks. When asked the reason for this, it was clear that the difficulties they

had while trying to access and remembering instructions caused them anxiety and frustration.

Overall all students interviewed indicated that they felt they applied more effort if they were able to work with a partner or used technology to support their learning. This corroborates the impact of a supportive environment on dyslexic learners' motivation and effort reported by Csizer,Kormos and Sarkadi (2010).

> **Structured Interview Question:** *Do you think you give up sometimes in class?*
>
> **Pupil G Response:** *I do when it is something that is not interesting but when it is something that is a challenge I try doing my best.*

Pupil G added that the effort applied depended on the task difficulty and how much technology could help him. This view was also shared by pupil J who added that tasks that require writing about imaginary people were more interesting.

4.14 Cycle 3 Final reflection

Overall, the findings in this cycle showed a greater improvement in focus and motivation to complete tasks but this improvement was not associated with the use of technology directly but to the use of tasks and support received by students. The support given to students included collaborative tasks which proved to be more beneficial for weaker pupils who were able to complete most of the tasks given to them. The improvement in motivation and the effort applied was also linked to the use of tasks that promoted creativity and imagination.

Chapter 5. CONCLUSIONS AND IMPLICATIONS

This section outlines the limitations observed and addresses each of the original questions as well as highlighting the implications on my teaching practice and future research.

5.1 Study Limitations and Issues

- ***Lack of research studies in the area:*** The lack of empirical studies exploring issues associated with foreign language learning in dyslexic learners presented a challenge when identifying theories and solutions for the design of the interventions. Most of the research in dyslexic language learning is restricted to issues in first language acquisition and not in foreign language learning. However, the use of the existing literature in second language proved to be beneficial for understanding issues such as vocabulary acquisition and its impact on reading and writing.

- ***Sample size:*** The size of the sample used makes it difficult to generalize results that could be explored in other settings and determine the effectiveness of the use of mobile technologies in the language classroom.

- ***Duration of study and data collection***: The planned and unplanned end of term curricular activities impacted the timetable leading to a reduction of number of lessons taught. This study would have benefited from a longer duration to explore changes in students' attitudes to perceived difficulties in the language classroom.

- ***Cyber-attack:*** The cyber-attack affecting the school network mid-way through the project made impossible to carry out all activities planned and resulted in a loss of lessons and results that would have contributed to the findings.

- ***Staff & student training:*** A limitation was the lack training of staff and students to use technology in the classroom. This was exacerbated by the unplanned change of technology mid-way through the study that meant that all parties had to quickly adapt to the applications used with minimal time for familiarisation and training. Significant

time was often focused on fixing technical issues rather than exploring different ways to exploit the resources. The lack of understanding on how to use specific applications coupled with the lack of digital skills in pupils influenced the outcome of some of the tasks and had a negative impact on some pupils' motivation and confidence.

5.2 Q1 Mobile Technology Supporting Dyslexic Learners

Full Question: ***How can mobile technology such as I-pads support the development of writing skills in Spanish dyslexic learners?***

The findings suggest that, as Smith and Conti (2016) argue, technology can support the development of writing skills by replacing pen and paper for those learners who may have problems with handwriting. They also support the idea that using technology allows learners to monitor their learning and take control of the cognitive process (planning, revising drafting and editing). However, the extent to which this is applicable for all learners remains inconclusive. The use of individual digital notebooks where pupils kept their vocabulary lists, made notes and accessed writing frames / checklists proved to be effective for those pupils who have strong digital skills and a strong motivation but not for pupils with lower motivation and weaker digital skills.

5.3 Q1a Impact of assisted response systems on Spanish vocabulary

Full Question: ***What is the impact of using assisted response systems such as Kahoot on dyslexic learners' vocabulary in Spanish?***

This study corroborates that using an assisted response system like Kahoot can increase the engagement and participation of learners who otherwise would be afraid to participate (Weirbach, 2014 cited in Zarzycka-Piskorz, 2016). From a teaching perspective, using an assisted response system like Kahoot which integrates competitive elements of a game was positive to increase motivation and to inform the teaching as it enabled the immediate

feedback of pupils' responses as Ciaramella and Accardo (2017) claim. However, the extent to which the engagement and participation of learners led to an improvement in the vocabulary or the writing of learners remains unclear corroborating what Stowell and Nelson (2017) concluded in their research.

The results of vocabulary tests showed consistent achievement in pupils with strong digital skills and positive motivation and self-confidence. Positive self-efficacy attributes were present in these learners who integrate the vocabulary in the writing even though they still have problems with spelling. However less motivated pupils showed difficulty in identifying words and also in using technology to assist their learning. This could be a result of their lack of understanding on how to use technology as well as the lack of metacognitive skills which are crucial to solve problems and monitor their learning. This highlights the need for further training so they can use the technology more effectively.

Overall, it was unclear to what extent an application such as Kahoot could be used to improve the vocabulary learning of learners. However, Kahoot could be integrated in a systematic way to enhance motivation and increase engagement if used in a context where learners have stronger digital literacy skills.

5.4 Q1b Can text to speech apps support the development of writing skills?

Full Question: ***To what extent can text to speech applications / speech to text applications support the development of writing skills in Spanish?***

The extent to which text to speech technologies can assist and enhance the development of writing skills in Spanish is unclear. The exposure to reading texts in a digital format and the use of text to speech enabled dyslexic learners to access vocabulary and answer questions. However, the extent to which learners use of vocabulary in their writing was not consistent in the group used for the study. This study is unable to demonstrate that, as Graham and Hebert (2011) argue, the exposure to reading can make spelling easier to remember and use in writing. Nevertheless, the findings indicate that whereas for some

pupils the use of technology was a motivator, for less confident students the use of text to speech technology had a negative impact on their self-esteem.

The interaction between students and the type of technologies described above differed amongst students. It was evident that confident ICT users were more adept with the use of applications to support their learning while less confident ICT users were less likely to use them effectively. This highlights the importance of considering individual differences when implementing tasks, using mobile technology and determining how much digital support they need (Terras and Ramsay, 2012). This finding also confirms the importance of promoting the use of metacognitive skills and self-regulation in students.

5.5 Q1c Use text to speech apps to support writing skills

Full Question: ***How do dyslexic learners use text to speech applications to support the development of writing skills in Spanish?***

The differences found in the way dyslexic pupils used text to speech technologies highlighted two factors.

1. The use of these technologies varied across the pupils observed and tasks types. Tasks that integrated visual elements and audio proved to be more effective for pupils with strong self-efficacy but a disruptor for less confident dyslexic learners. For the first group of learners, the use of this type of technology proved beneficial not only for stretching their reading skills but also as a model for their writing and a revision tool when they needed to read a text.

2. The extent to which students used this technology to reinforce their learning was not clear as many pupils lacked the procedural knowledge to access the application online which was clearly an obstacle.

5.6 Q2. Implications of using mobile technologies in MFL lessons

Full Question: ***What are the implications of using mobile technologies in MFL lessons for teacher practice?***

The findings of this study indicate that, as existing literature suggested, the use of technology needs to be considered carefully and should be embedded into a methodological framework that has clear learning and teaching goals and should not be adopted without considering the needs of the students.

Teachers also need to be trained to understand the potential of new technology and how can this be used in lessons. Likewise, students need to be trained on how to use technology effectively to benefit fully.

The impact that technology has on the learning of dyslexic pupils is associated with the type of task. The results of this study suggest that tasks that provide immediate feedback and allow the learner to take control of their learning are more effective to increase engagement. Tasks that integrate technology that helps learners to own their work are more likely to have a positive impact on students' views of their learning and what they can achieve in a language lesson.

The findings also suggest that tasks that require individual learning with technology may not be as effective for less confident learners who may benefit more of collaborative tasks.

5.7 Q2a Dyslexic learners' perceptions of learning with technology?

Full question: ***What are dyslexic learners' perceptions of learning with mobile technology?***

Overall, dyslexic pupils were positive about learning with mobile technology. They associated fun activities with learning and helping to improve their concentration. The use of visual and images was predominant in their answers and conversations in lessons.

Dyslexic pupils who have stronger digital literacy skills were more positive about the use of tablets and I-pads and believed that having access to different ways of learning was better for them as it helped to overcome the barriers in the language classroom. Most dyslexic students were motivated to complete writing tasks that encouraged the use of creativity and imagination.

The findings also suggest that the motivation of learners who use technology does not lead directly to enhancement or improvement of their writing skills in Spanish.

5.8 Summary

This finding corroborates what existing literature has identified: “it is unlikely that particular technologies bring about changes in learning directly, but some have the potential to enable changes in teaching and learning interactions” which in the context of the project was to support the writing and other skills. (Higgins et al, 2012).

Technology can have a significant impact on the way language teachers interact with students as it can enable immediate feedback and personalisation of learning. In this study, the use of text to speech technology enabled the differentiation of learning for pupils with dyslexia as well as the creation of interactive tasks that moved away from the teacher centred approach towards a more student led approach.

Likewise, the use of Kahoot allowed me to know what my pupils knew and gave them the opportunity to be more independent. The difficulties encountered while using OneNote Notebook make very difficult to determine its real potential in the classroom but highlights the impact that appropriate training has on teachers using technology. This is an area that has been problematic for my school as colleagues are not adept with technology or don’t want to integrate it in their teaching.

5.9 Implications – Teaching Practice

The practical implications of this project on my teaching practice are broad and the findings are already being utilized:

1. They have led me to consider how I teach my pupils to write and the effectiveness the use of a methodology that focuses on a 'product rather than process' approach.

2. They have prompted discussions on strategies and actions within my department to support the schools growing number of dyslexic learners. For example, they have influenced a change in the language path provision of foreign languages which enables dyslexic learners to focus on one language.

3. They have identified potential challenges that my department may have when the full integration of Microsoft 365 takes place and the training required to address these challenges.

5.10 Implications – Future Research

The real potential that technology has in language learning for dyslexic learners remains unclear and, as the findings of this study indicates, inconclusive. However, these findings do highlight the need for further research on the extent to which online mobile technologies can enhance (or not) the writing of language learners.

The progression of new technologies has influenced the way learners acquire knowledge and learn languages. Research on technology use in teaching languages needs to understand the potential and restriction that each type of technology presents. The understanding of these two aspects not only will benefit the teaching of dyslexic but also of non-dyslexic language learners.

Chapter 6. REFERENCES

Abramson, L.Y, Seligman, M. E. P., & Teasdale, J.D. 1978. Learned Helplessness in Humans: Critique and Reformulation. *Journal of Abnormal Psychology* Vol. 87, No. 1, 49-74.

Bandura, A., 1977. Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, 84(2), pp.191–215

Beals, K., 2016. *Speech and language technology for language disorders*, Boston, [Massachusetts]; Berlin, [Germany]

Bell, J., 2005. *Doing your research project: a guide for first-time researchers in education, health and social science (*4th ed.), Maidenhead, England; New York: Open University Press.

Beltrán, E.V., Abbott, C. & Jones, J., 2013*. Inclusive language education and digital technology*, Bristol: Multilingual Matters

Bone, Erin K. & Bouck, Emily C., 2017. Accessible Text-to-Speech Options for Students Who Struggle with Reading. *Preventing School Failure*, 61(1), pp.48–55

British Dyslexia Association. (n.d.) *What are Specific Learning Difficulties?* Retrieved from http://www.bdadyslexia.org.uk/educator/what-are-specific-learning-difficulties. Accessed on 2nd August 2018

Burden, R.L., 2005. *Dyslexia and self-concept: seeking a dyslexic identity*, London

Burden, R., & Burdett, J., 2005. Factors associated with successful learning in pupils with dyslexia: A motivational analysis. *British Journal of Special Education*. https://doi.org/10.1111/j.0952-3383.2005.00378

Burden, R., & Burdett, J., 2007. What's in a name? Students with dyslexia: Their use of metaphor in making sense of their disability. *British Journal of Special Education, 34*(2), 77-82. doi: 10.1111/j.1467-8578.2007. 00459.x

Casserly, A.M., 2013. The socio-emotional needs of children with dyslexia in different educational settings in Ireland. *Journal of Research in Special Educational Needs*, 13(1), pp.79–91.

Casserly and Ndlovu (2008) Writing abilities in First and Second Language Learners with Reading Disabilities in *Language Learners with Special Needs*, Kormos and Kontra (ed), London, Channel View Publications pp.36-62

Children and Families Act 2014, c. 6. Available at: https://www.legislation.gov.uk/ukpga/2014/6/contents/ena cted (Accessed: 8 December 2017).

Ciaramella, K. & Accardo, Amy, 2017.*The Effects of Kahoot! on Vocabulary Acquisition and Retention of Students with Learning Disabilities and Other Health Impairments*, pp. ProQuest Dissertations and Theses.

Cohen, L., Manion, L. & Morrison, K., 2007. *Research methods in education* (6th ed.), London; New York: Routledge.

Crombie, M.A., 1997. The Effects of Specific Learning Difficulties (Dyslexia) on the Learning of a Foreign Language in School. *Dyslexia*, 3(1), pp.27–47.

Crombie, M.A. et al., 2000. Dyslexia and the learning of a foreign language in school: where are we going? *Dyslexia*, 6(2), pp.112–123.

Csizér, kata, Kormos, J., & Sarkadi, Á. (2010). The dynamics of language learning attitudes and motivation: Lessons from an interview study of dyslexic language learners. *Modern Language Journal*. https://doi.org/10.1111/j.1540-4781.2010.01054.x

Cumming, T.M. & Rodriguez, C.D., 2013. Integrating the iPad into Language Arts Instruction for Students with Disabilities: Engagement and Perspectives. *Journal of Special Education Technology*, 28(4), pp.43–52.

Dale, J (2014) "Teaching languages with technology: tools that help students become fluent" in *The Guardian*, June 2014

DfE, 2014 *National Curriculum in England: framework for key stages 1 to 4*

Department for Education (2015) Special educational needs and disability code of practice: 0 to 25 years. Available at: https://www.gov.uk/government/uploads/system/uploads/ attachment_data/file/398815/SEND_Code_of_Practice_Jan uary_2015.pdf (Accessed: 12 October 2017)

Dizon, Gilbert & Tang, Daniel, 2017. Comparing the Efficacy of Digital Flashcards versus Paper Flashcards to Improve Receptive and Productive L2 Vocabulary. *The EUROCALL Review*, 25(1), pp.3–15.

Donovan, K. & Accardo, Amy, 2017. The Effect of the Video Game Quizlet on the Acquisiton of Science Vocabulary for Children with Learning Disabilities. *The Effect of the Video Game Quizlet on the Acquisiton of Science Vocabulary for Children With Learning Disabilities*, pp.ProQuest Dissertations and Theses.

Falloon & Khoo, 2014. Exploring young students' talk in iPad-supported collaborative learning environments. *Computers & Education*, 77(C), pp.13–28.

Falloon, G., 2013. Young students using iPads: App design and content influences on their learning pathways. *Computers & Education*, 68(C), pp.505–521

Ferrance, E. (2000). Action research [Electronic Version], Northeast and Islands Regional Educational Laboratory at Brown University, Providence, RI. Retrieved June 2017 from http://www.alliance.brown.edu/pubs/themes ed/act research.pdf.

Foster, I. (2016). *Metacognition and Dyslexia: Towards an increased understanding of the cognitive knowledge and self-regulation practices of students with dyslexia in higher education* (Unpublished doctoral thesis). Lancaster University.

Franciosi, Stephan J. et al., 2016. The Effect of a Simple Simulation Game on Long-Term Vocabulary Retention. *CALICO Journal*, 33(3), pp.355–379.

Graham, S. & Hebert, M., 2011. Writing to Read: A Meta-Analysis of the Impact of Writing and Writing Instruction on Reading. *Harvard Educational Review*, 81(4), pp.710–744.

Evans, M., 2009. *Foreign-language learning with digital technology*, London; New York: Continuum.

Everatt, J., & Reid, G. 2009. Dyslexia: an overview of resent research. In G. Reid (Ed.), *The Routledge companion to dyslexia* (pp. 3-22). London: Routledge

Hannelore Montrieux et al., 2015. Teaching and Learning with Mobile Technology: A Qualitative Explorative Study about the Introduction of Tablet Devices in Secondary Education. *PLoS ONE*, 10(12), p.e0144008.

Education Blog Microsoft (nd) Learning Tools and Immersive Reader updated for OneNote, Word and Outlook. Retrieved from https://educationblog.microsoft.com/2017/08/learning-tools-word-desktop-immersive-reader-update/

Ferrer, Emilio, Shaywitz, Bennett A, Holahan, John M, Marchione, Karen, & Shaywitz, Sally E. (2010). Uncoupling of Reading and IQ Over Time: Empirical Evidence for a Definition of Dyslexia. *Psychological Science, 21*(1), 93-101.

Flewitt, R., Kucirkova, N. & Messer, D., 2014. Touching the virtual, touching the real: iPads and enabling literacy for students experiencing disability. *Australian Journal of Language and Literacy*, 37(2), pp.107–116.

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. L. Christenson, A. Reschly & C. Wylie (Eds.), *Handbook of Research on Student Engagement* (pp. 763-782). New York, NY: Springer.

Ganschow, L., & Sparks, R. (1986). Overcoming Learning Difficulties LEARNING DISABILITIES AND FOREIGN - LANGUAGE DIFFICULTIES : DEFICIT IN LISTENING SKILLS ?, *Journal of Reading , Writing , and Learning Disabilities International 7630*(August). https://doi.org/10.1080/0748763860020409

Ganschow, L., Sparks, R. & Javorsky, J., 1998. Foreign Language Learning Difficulties: An Historical Perspective. May/June, 31 (3), pp. 248-258.

Ganschow, L., Sparks, R., Javorsky, J., Pohlman, J. & Bishop-Marbury, A., 1991. Identifying native language deficits among foreign language learners in college: A 'foreign' language learning disability? *Journal of Learning Disabilities*, 24, pp. 530-541

Giangiulio Lobo A & Rocío Lara Jiménez, 2017. Evaluating Basic Grammar Projects, Using the SAMR Model (La evaluación de proyectos de Gramática Básica según el modelo SAMR). *Letras*, 1(61), pp.123–151.

Graham, S. & Hebert, M., 2011. Writing to Read: A Meta-Analysis of the Impact of Writing and Writing Instruction on Reading. *Harvard Educational Review*, 81(4), pp.710–744.

Haug, K.N. & Klein, P.D., 2018. The Effect of Speech-to-Text Technology on Learning a Writing Strategy. *Reading & Writing Quarterly*, 34(1), pp.47–62.

Herodotou, C., 2018. Young children and tablets: A systematic review of effects on learning and development. *Journal of Computer Assisted Learning*, 34(1), pp.1–9.

Hockly, Nicky, 2013. Mobile Learning. *ELT Journal*, 67(1), pp.80–84

Huang, Y.-C. & Liao, L.-C., 2015. A STUDY OF TEXT-TO-SPEECH (TTS) IN CHILDREN'S ENGLISH LEARNING. *Teaching English with Technology*, 15(1), pp.14–30.

Humphrey, N., & Mullins, P. M. (2003). Research Section: Personal Constructs and Attribution for Academic Success and Failure in Dyslexia. *British Journal of Special Education,* 29(4), 196–203. https://doi.org/10.1111/1467-8527.00269

Leow, R.P., Cerezo, L. & Baralt, M., 2016. *A psycholinguistic approach to technology and language learning*, Berlin, [Germany] ; Boston, [Massachusetts

Humphrey, N., & Mullins, P. M. (2003). Research Section: Personal Constructs and Attribution for Academic Success and Failure in Dyslexia. *British Journal of Special Education*, 29(4), 196–203

Istenic Starcic, Andreja & Bagon, Spela, 2014. ICT-Supported Learning for Inclusion of People with Special Needs: Review of Seven Educational Technology Journals, 1970-2011. *British Journal of Educational Technology*, 45(2), pp.202–230.

Ivankova, N. et al., 2018. Applying Mixed Methods in Action Research: Methodological Potentials and Advantages. *American Behavioral Scientist*, 62(7), pp.978–997.

Kessler, G., 2018. Technology and the future of language teaching. *Foreign Language Annals*, 51(1), pp.205–218.

Kormos, J. & Csizér, K., 2010. A comparison of the foreign language learning motivation of Hungarian dyslexic and non-dyslexic students. *International Journal of Applied Linguistics*, 20(2), pp.232–250

Kormos, J., & Smith, A. M. (2012). *Teaching languages to students with specific learning differences*. Bristol: MM Textbooks.

Kozar & Benson, 2016. Language pedagogy and the changing landscapes of digital technology. *System*, 62, pp.1–2.

Kryachkov, D.A., Yastrebova, E.B. & Kravtsova, O.A., 2015. *The magic of innovation: new techniques and technologies in teaching foreign languages*, Newcastle upon Tyne, England

Jones, J. (2013). Modern Foreign Languages as an Inclusive Learning Opportunity: Changing Policies, Practices and Identities in the Languages Classroom in Inclusive Language, Vilar Beltrán, E., Abbott, C., Jones, J. (Eds.) (2013). Inclusive language education and digital technology. Bristol: Multilingual Matters. p. 3- 29

Laremenko, N., V. 2017. ENHANCING ENGLISH LANGUAGE LEARNERS' MOTIVATION THROUGH ONLINE GAMES. *Ìnformacìjnì Tehnologì ì Zasobi Navčannâ*59(3), pp.126–133.

Learning Tools and Immersive Reader updated for OneNote, Word and Outlook Available at https://educationblog.microsoft.com/2017/08/learning-tools-word-desktop-immersive-reader-update/#TOiDY3U4HtB2iUH1.99

Matsuda,P and Silva (2013) Writing in 'An introduction to Applied Linguistics', in Schmitt, N (ed). London, Routledge, 232-247

McColl, H, 2005. Foreign Language Learning and Inclusion: Who? Why? What? -- and How? *Support for Learning*, 20(3), pp.103–108.

McKnight, L & Davies, C, 2012. The Kellogg College Centre for Research into Assistive Learning Technologies.

Miles, E., 2000. Dyslexia may show a different face in different languages. *Dyslexia*, 6(3), pp.193–201

Meihami, Hussein & Husseini, Fateme, 2014. Bringing TTS Software into the Classroom: The Effect of Using Text-to-Speech Software in Teaching Reading Features. *Teaching English with Technology*, 14(1), pp.23–34.

Nijakowska, J., 2010. *Dyslexia in the foreign language classroom*, Bristol, UK: Multilingual Matters.

Nushi, Musa & Eqbali, Mohamad Hosein, 2017. Duolingo: A Mobile Application to Assist Second Language Learning. *Teaching English with Technology*, 17(1), pp.89–98.

Perry, David R. & Steck, Andy K., 2015. Increasing Student Engagement, Self-Efficacy, and Meta-Cognitive Self-Regulation in the High School Geometry Classroom: Do iPads Help? *Computers in the Schools*, 32(2), pp.122–143.

Pfaffe, L. & Annunziato, Anthony J., 2017. Using the SAMR model as a framework for evaluating mLearning activities and supporting a transformation of learning. *Using the SAMR model as a framework for evaluating mLearning activities and supporting a transformation of learning*, pp.ProQuest Dissertations and Theses.

Piechurska-Kuciel E (2008) Input, processing and output anxiety in students with symptoms of developmental dyslexia in *Language Learners with Special Needs*, Kormos and Kontra (ed), London, Channel View Publications pp.86-110

Reid, G., 2016. *Dyslexia: a practitioner's handbook* Fifth., Chichester, England.

Reid, Gavin, Strnadova, Iva & Cumming, Therese, 2013. Expanding Horizons for Students with Dyslexia in the 21st Century: Universal Design and Mobile Technology. *Journal of Research in Special Educational Needs*, 13(3), pp.175–181.

Rosell-Aguilar, F., 2017. State of the App: A Taxonomy and Framework for Evaluating Language Learning Mobile Applications. *CALICO Journal*, 34(2), pp.243–258.

Sakardi, A (2008) Vocabulary learning in dyslexia. The case of a Hungarian learner *Language Learners with Special Needs*, Kormos and Kontra (ed), London, Channel View Publications pp.110-233

The Science Daily https://www.sciencedaily.com/releases/2018/06/180614213556.htm

Siegel, L. and Lipka, O. (2008) The Definition of Learning Disabilities: Who is the Individual with Learning Disabilities? In Schools in G. Reid, A. Fawcett, F. Manis, L. Siegel (Eds.) The Sage Handbook of Dyslexia. Sage Publications. London.

Simon, Charlann S., 2000. Dyslexia and Learning a Foreign Language: A Personal Experience. *Annals of Dyslexia*, 50, pp.155–87.

Smith, S., & Conti, G. 2016. The Language Teacher Toolkit. Great Britain; Amazon.

Spina, C., 2017. Making the Most of Duolingo. *School Library Journal*, p.22

Stowell, J.R. & Nelson, J.M., 2007. Benefits of Electronic Audience Response Systems on Student Participation, Learning, and Emotion. *Teaching of Psychology*, 34(4), pp.253–258.

Schneider, E., & Crombie, M. (2003). *Dyslexia and foreign language learning*. London: David Fulton Publishers

Snowling, M.J., 2001. From language to reading and dyslexia1. *Dyslexia*, 7(1), pp.37–46.

Snowling, Margaret J. & Hayiou-Thomas, Marianna E., 2006. The Dyslexia Spectrum: Continuities between Reading, Speech, and Language Impairments. *Topics in Language Disorders*, 26(2), pp.110–126.

Snowling, M & Göbel, SM 2010, Reading Development and Dyslexia. in U Goswami (ed.), *The Wiley-Blackwell Handbook of Childhood Cognitive Development. .* Wiley-Blackwell, pp. 524-548.

Sparks, R. L., & Ganschow, L. (1993). The Impact of Native Language Learning Problems on Foreign Language Learning: Case Study Illustrations of the Linguistic Coding Deficit Hypothesis The Impact of Native Language Learning Problems on Foreign. *Source: The Modern Language Journal*, *77*(1), 58–74. Retrieved from http://www.jstor.org/stable/329559

Sparks, Richard L et al., 2006. Native Language Predictors of Foreign Language Proficiency and Foreign Language Aptitude. *Annals of Dyslexia*, 56(1), pp.129–160

Spencer, K., 2007. Predicting children's word-spelling difficulty for common English words from measures of orthographic transparency, phonemic and graphemic length and word frequency. *British Journal of Psychology*, 98(2), pp.305–338.

Sparks, R. L., & Miller, K. S. (2000). Learners : A Review. *Dyslexia*, *6*(2), 124–132.

Stowell, J.R. & Nelson, J.M., 2007. Benefits of Electronic Audience Response Systems on Student Participation, Learning, and Emotion. *Teaching of Psychology*, 34(4), pp.253–258.

Taber, K. S. (2013). *Classroom-based Research and Evidence-based Practice: An introduction* (2nd ed.). London: Sage

Terras, M.M. & Ramsay, J., 2012. The five central psychological challenges facing effective mobile learning. *British Journal of Educational Technology*, 43(5), pp.820–832

Thomson (1989) Developmental Dyslexia,2nd Ed London: Edward Arnold Ltd

The History of Dyslexia (nd) A brief History. https://dyslexiahistory.web.ox.ac.uk/timeline-dyslexia. Accessed on August 2nd 2018.

Vlachos, Filippos, Andreou, Eleni & Delliou, Afroditi, 2013. Brain Hemisphericity and Developmental Dyslexia. *Research in Developmental Disabilities: A Multidisciplinary Journal*, 34(5), pp.1536–1540.

Weiner, B. (1985) An attributional theory of achievement motivation and emotion. Psychological Review, 92 (4), 548–573.

Yeh, R., Rosenberger, Joshua & Liu, Sunny, 2014. Effective Strategies for Using Text-to-Speech, Speech-to-Text, and Machine-Translation Technology for Teaching Chinese: A Multiple-Case Study. *Effective Strategies for Using Text-to-Speech, Speech-to-Text, and Machine-Translation Technology for Teaching Chinese: A Multiple-Case Study*, pp.ProQuest Dissertations and Theses.

Zarzycka-Piskorz, E., 2016. KAHOOT IT OR NOT? CAN GAMES BE MOTIVATING IN LEARNING GRAMMAR? *Teaching English with Technology*, 16(3), pp.17–36

Ziegler, Johannes C. & Goswami, Usha, 2006. Becoming Literate in Different Languages: Similar Problems, Different Solutions. *Developmental Science*, 9(5), pp.429–436.

Ziegler, J. C., & Goswami, U. (2005). Reading acquisition, developmental dyslexia, and skilled reading across languages: a psycholinguistic grain size theory. *Psychological Bulletin*, *131*(1), 3–29. https://doi.org/10.1037/0033-2909.131.1.3

Appendix A. PARTICIPANT CONSENT EVIDENCE

A.1 Request to Conduct Research from School and Evidence of Consent

UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION

15 Norham Gardens, Oxford OX2 6PY
Tel: +44(0)1865 274024 Fax: +44(0)1865 274027
general.enquiries@education.ox.ac.uk www.education.ox.ac.uk

Director [redacted]

UNIVERSITY OF OXFORD

[redacted]

12 December 2017

[redacted]

I am writing to request permission to conduct research at the school this academic year. As you know, I am studying for the Master's in Learning and Teaching at Oxford University, supervised by Dr James Robson. In my final research project "Mobile technology and dyslexic language learners: Exploring the use of I-pads to support the development of writing skills in dyslexic pupils learning a foreign language" I will explore the impact of using mobile technologies such as I-pads on students' writing in Spanish and motivation.

The research will take place with two classes of year 8 and 9 who are currently studying Spanish and who have different levels of ability. I am working on developing strategies that could enhance the teaching of dyslexic learners and support their language learning more effectively. My research focus is on students' writing skills development and how teachers can use assistive technology to support reading and writing in languages. All members of my department are willing to collaborate with this project.

By participating in the research, the school would be contributing to a project that will deepen our understanding on how to support dyslexic learners effectively and increase their attainment and motivation towards foreign language learning and other subjects. It will also contribute to more independent learners that can use assistive technology effectively as part of their learning.

I hope to conduct this research between late January and April 2018. As part of the research, I would use questionnaires, observe lessons, photocopy some of the students' written work and audio record students during interviews.

Oxford University has strict ethical procedures on conducting ethical research, consistent with current British Educational Research Association guidelines. The University also recognises, however, that my study is a piece of practitioner research, and that schools already operate with the highest ethical standards. Therefore, only your formal consent as headteacher is necessary, and not that of individual parents or staff. However, throughout the research, students and other teachers will be able to refuse to participate in any research activities at any time.

All participants, including students, teacher and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisor Dr [redacted]@education.ox.ac.uk and me, and only used for academic purposes. It will be kept for as long as it has academic value.

If you are happy for me to proceed with this study, please confirm that using the attached reply form. If you have any concerns or need more information about what is involved, please contact me or my supervisor. Further, if you have any questions about this ethics process at any time, please contact the chair of the department's research ethics committee, though: research.office@education.ox.ac.uk

I look forward to hearing from you.

Yours sincerely,

[redacted]

"Mobile technology and dyslexic language learners: Exploring the use of I-pads to support the development of writing skills in dyslexic pupils learning a foreign language"

[redacted]

University of Oxford, Department of Education

[redacted]

We do not wish to participate in this project.

We would like to find out more about this project.

We would like to take part in this project.

[redacted] 13/12/17

A.2 Participant Information Sheet

DEPARTMENT OF EDUCATION
15 Norham Gardens
Oxford
OX2 6PY

Mobile technology and dyslexic language learners: Exploring the use of I-pads to support the development of writing skills in dyslexic pupils learning a foreign language

PARTICIPANT INFORMATION SHEET

Ethics Approval Reference: AP15

1. ***What is the purpose of this study?***
As part of my Master in Learning and Teaching, I will be undertaking a research study on how to support the learning of languages for dyslexic learners. The aim of this study is therefore to determine the extent to which mobile technologies such as I-pads can support your learning of Spanish with a focus on improving your writing skills in Spanish.

2. ***Why have I been invited to take part?***
I would like you to take part in this research study because I am interested in knowing your opinion on alternative methodologies that can support your foreign language learning. You have also been invited to take part in this study because of your age and experience as a year 8/9 Spanish learner. Please take time to read the information below. Ask questions if anything you read is not clear or would like more information.

3. ***Do I have to take part?***

No. You can ask questions about the study before deciding whether to participate. If you do agree to participate, you may withdraw yourself [and your data] from the study at any time, without giving a reason and without penalty, by advising the researchers of this decision. All data collected from your will be destroyed if you decide to withdraw before the end of the project.

4. ***What will happen to me if I take part in the study?***

If you are happy to take part in the study, you will be asked to complete an initial questionnaire and attend an interview. Upon arrival, we will talk you through the study procedures and give you chance to ask any

questions. This will take approximately 20 minutes. If you are still happy to take part, then you will then be asked to sign a consent form. During the interview, you will be asked your opinion on methodologies used in class and the use of iPads and mobile technology in the classroom. The interview will be audio recorded.

5. Are there any potential risks in taking part?

No, there are not risks for taking part in this study and any of your views and opinions will be treated with confidentiality.

6. Are there any benefits in taking part?

The information we collect from you will be beneficial for future research on alternative methodologies and strategies that could have a positive impact on language learning for dyslexic and non-dyslexic language learners.

7. What happens to the data provided?

Your responses will be anonymised. Any personal data will be stored confidentially using research codes known only to the main researcher. A master list identifying participants to the research codes data will be held on a password protected computer accessed only by the main researcher. Hard paper/ taped data will be stored in a locked cabinet within locked office accessed only by the main researcher. Electronic data will be stored on a password computer known by the researcher, but study supervisor will have access to the data collected in the study. If applicable, we may ask for your permission to use direct quotes.

All research data and records will be stored for a minimum retention period of 1 year after publication or public release of the work of the research. *[Note that the University require a minimum of 3 years after publication, but certain funders may have other requirements – see http://researchdata.ox.ac.uk/university-of-oxford-policy-on-the-management-of-research-data-and-records/]*

[If applicable] We would like your permission to use anonymised data in future studies, and to share data with other researchers (e.g. in online databases). All personal information that could identify you will be removed or changed before files are shared with other researchers or results are made public.

Responsible members of the University of Oxford and funders may be given access to data for monitoring and/or audit of the study to ensure we are complying with guidelines, or as otherwise required by law.

8. Will the research be published?

The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.

If you agree to participate in this study, the research will be written up as a thesis. On successful submission of the thesis, it will be deposited both in print and online in the University archives, to facilitate its use in future research. The thesis will be published open access.

9. *Who has reviewed this study?*

This study has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (Reference number: AP15)

10. *Who do I contact if I have a concern about the study or I wish to complain?*

If you have a concern about any aspect of this study, please speak to the main researcher or their supervisor on 01865 612036 who will do their best to answer your query. The researcher should acknowledge your concern within 10 working days and give you an indication of how they intend to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the relevant chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter in a reasonably expeditious manner:

OR

Chair, **Social Sciences & Humanities Inter-Divisional Research Ethics Committee**; Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD

11. *Further Information and Contact Details*

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Department of Education
15 Norham Gardens
Oxford
OX2 6PY

A.3 Participant Consent Form

DEPARTMENT OF EDUCATION
15 Norham Gardens
Oxford
OX2 6PY

PARTICIPANT CONSENT FORM

CUREC Approval Reference: AP15

Mobile technology and dyslexic language learners: Exploring the use of I-pads to support the development of writing skills in dyslexic pupils learning a foreign language

Purpose of Study: The aim of this study is to determine the extent to which mobile technologies such as I-pads can support the learning of Spanish and help to improve writing skills in Spanish.

		Please initial each box
1	I confirm that I have read and understand the information sheet dated _____ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or academic penalty.	☐
3	I understand that research data collected during the study may be looked at by designated individuals from the University of Oxford where it is relevant to my taking part in this study. I give permission for these individuals to access my data.	☐
4	I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.	☐
5	I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	☐
6	I understand how this research will be written up and published.	☐

7	I understand how to raise a concern or make a complaint.	☐
8	I consent to being audio recorded	☐
9.	I agree to take part in the study[1]	☐
Optional:	I agree for research data collected in this study to be given to researchers, including those working outside of the EU, to be used in other research studies. I understand that any data that leave the research group will be fully anonymised so that I cannot be identified.	☐
Optional:	I agree for my personal data to be kept in a secure database for the purpose of contacting me about future studies.	☐

Name of Participant	Date	Signature
Name of person taking consent	Date	Signature

Appendix B. C1 STUDENT LANGUAGE PERCEPTIONS AND BELIEFS QUESTIONNAIRE

B.1 Questionnaire Template

STUDENT QUESTIONNAIRE: LANGUAGE PERCEPTIONS AND BELIEFS

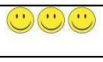
As part of my MSc in Learning and Teaching at Oxford University, I am doing a study to find out what you think about Spanish and how you feel about writing and reading in Spanish. Your answers will only be ready by me.

Name: .....

How to answer the questionnaire: To find out how you feel about learning Spanish, read the statements below and tick the box that fits you.

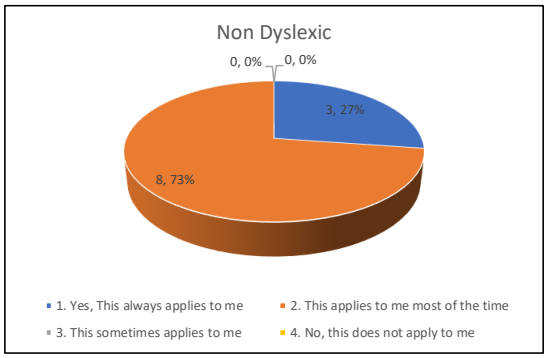
1)Yes, this always applies to me	2)Yes, I feel this applies to me most of the time	3) This sometimes applies to me	4) No, this does not apply to me
			

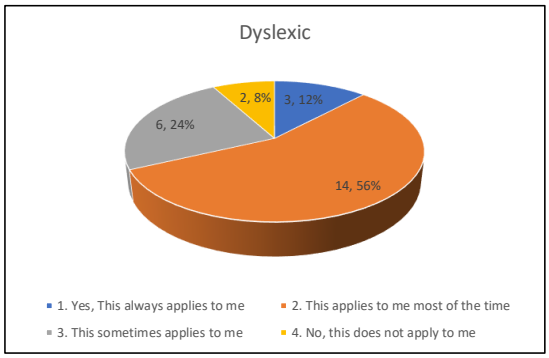
No	Question	1 	2 	3 	4 
1	I feel I can communicate in Spanish quite well				
2	I think I can write in Spanish quite well				
3	I feel confident when I speak in Spanish				
4	I feel confident when I read in Spanish				
5	I feel confident when I listen to conversations in Spanish				
6	My spelling and punctuation are good				
7	I feel anxious when the teacher asks me to write in Spanish				
8	I feel I am not good in Spanish				
9	I feel anxious when I have to read a text in Spanish				
10	I find it difficult to complete writing tasks in Spanish				

					
11	I think it is easier to write in English than in Spanish				
12	I think it is easier to write in Spanish than in English				
13	I think it is easier to write in Spanish than in French				
14	I use writing strategies to complete written tasks in Spanish				
15	I can learn vocabulary in Spanish quite well				
16	I find difficult to remember words in Spanish				
17	I feel I am supported in class by my teacher				
18	I always use the writing support given my teacher				
19	I always use the vocabulary list and the resources given by my teacher				
20	The teacher encourages a positive learning environment				

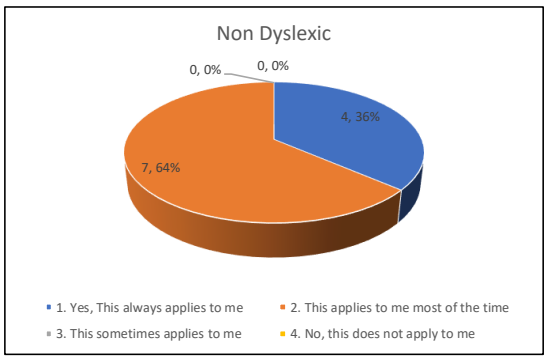
B.2 Questionnaire Results

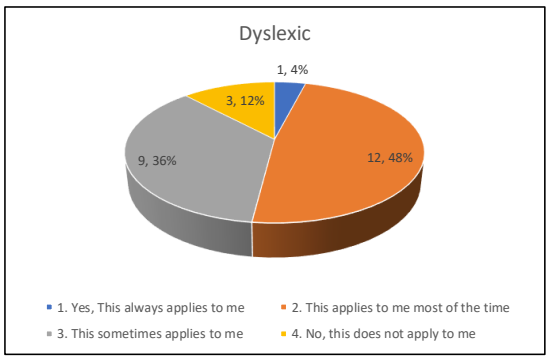
Question 1	I feel I can communicate in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	3	6	27	12	17
2. This applies to me most of the time	8	14	22	73	56	61
3. This sometimes applies to me	0	6	6	0	24	17
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100



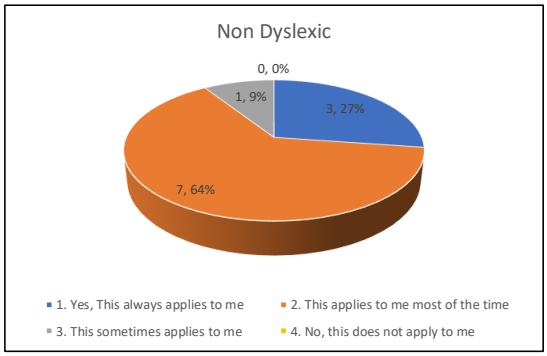


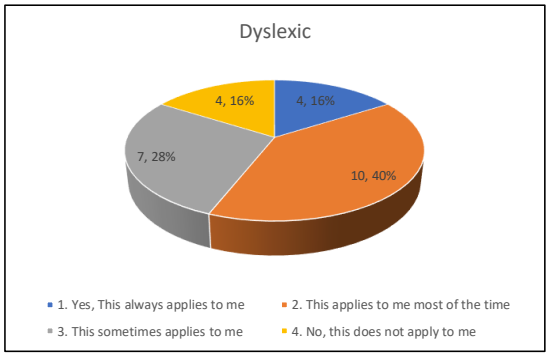
Question 2	I think I can write in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	4	1	5	36	4	14
2. This applies to me most of the time	7	12	19	64	48	53
3. This sometimes applies to me	0	9	9	0	36	25
4. No, this does not apply to me	0	3	3	0	12	8
TOTAL	11	25	36	100	100	100



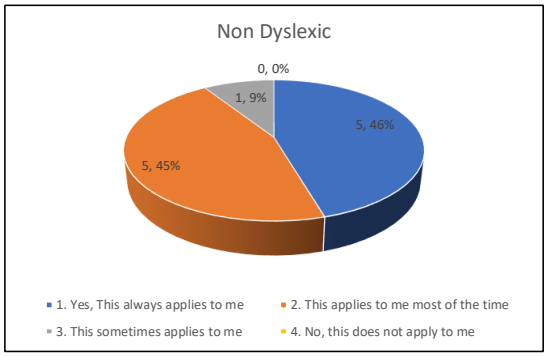


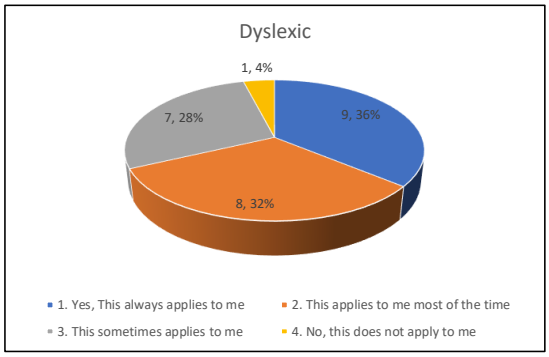
Question 3	I feel confident when I speak Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	4	7	27	16	19
2. This applies to me most of the time	7	10	17	64	40	47
3. This sometimes applies to me	1	7	8	9	28	22
4. No, this does not apply to me	0	4	4	0	16	11
TOTAL	11	25	36	100	100	100



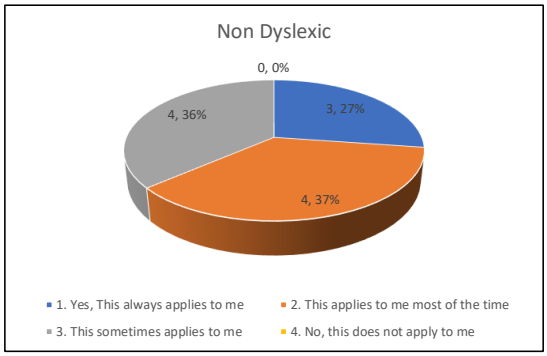


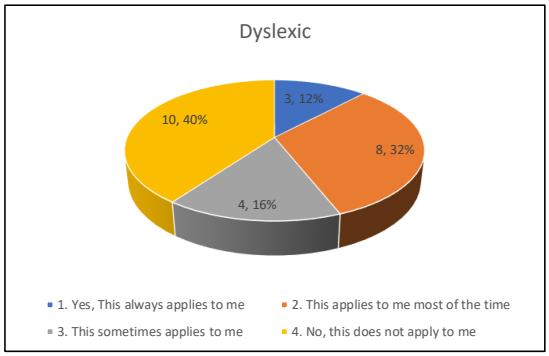
Question 4	I feel confident when I read Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	5	9	14	45	36	39
2. This applies to me most of the time	5	8	13	45	32	36
3. This sometimes applies to me	1	7	8	9	28	22
4. No, this does not apply to me	0	1	1	0	4	3
TOTAL	11	25	36	100	100	100



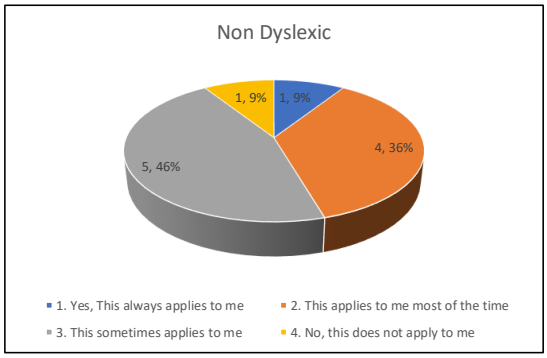


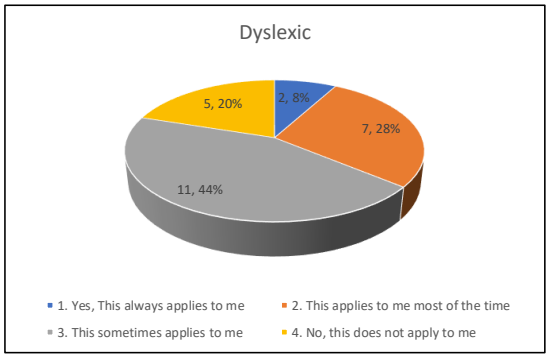
Question 5	I feel confident when I listen to conversations in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	3	6	27	12	17
2. This applies to me most of the time	4	8	12	36	32	33
3. This sometimes applies to me	4	4	8	36	16	22
4. No, this does not apply to me	0	10	10	0	40	28
TOTAL	11	25	36	100	100	100



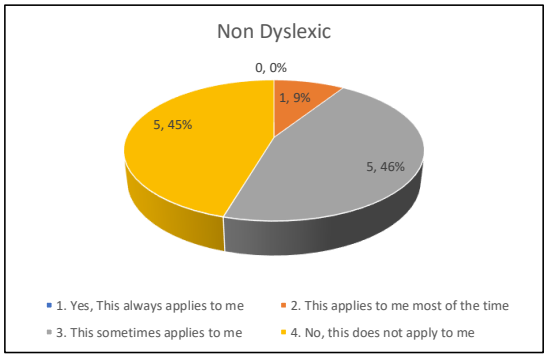


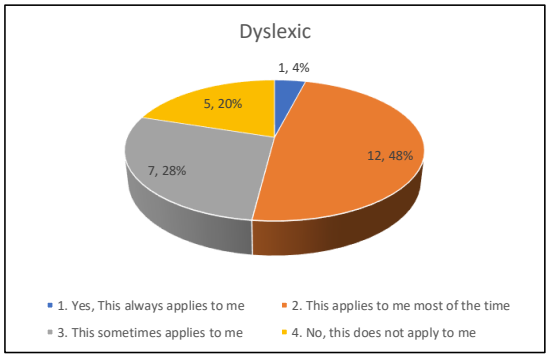
Question 6	My Spanish spelling and punctuation is good					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	2	3	9	8	8
2. This applies to me most of the time	4	7	11	36	28	31
3. This sometimes applies to me	5	11	16	45	44	44
4. No, this does not apply to me	1	5	6	9	20	17
TOTAL	11	25	36	100	100	100



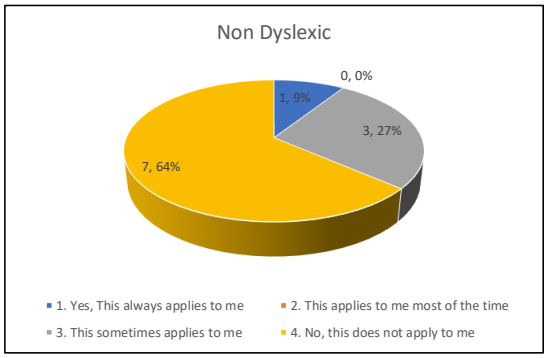


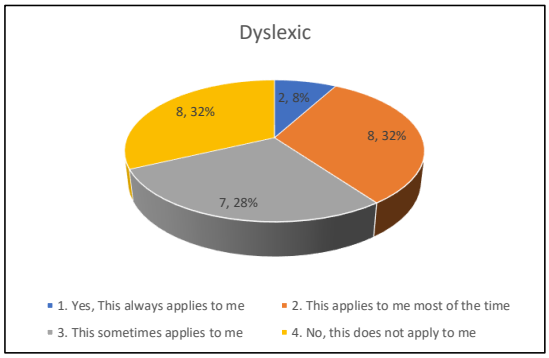
Question 7	I feel anxious when the teacher asks me to write in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	0	1	1	0	4	3
2. This applies to me most of the time	1	12	13	9	48	36
3. This sometimes applies to me	5	7	12	45	28	33
4. No, this does not apply to me	5	5	10	45	20	28
TOTAL	11	25	36	100	100	100



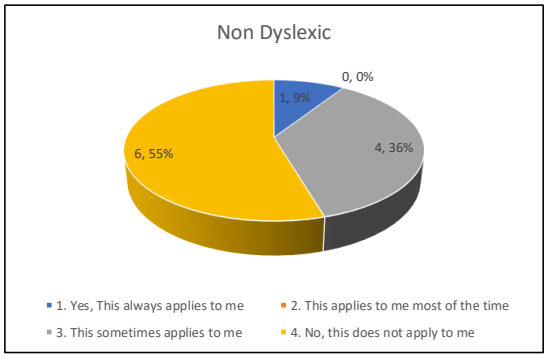


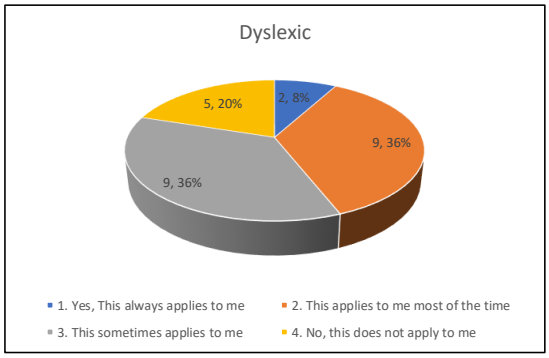
Question 8	I feel I am not good in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	2	3	9	8	8
2. This applies to me most of the time	0	8	8	0	32	22
3. This sometimes applies to me	3	7	10	27	28	28
4. No, this does not apply to me	7	8	15	64	32	42
TOTAL	11	25	36	100	100	100



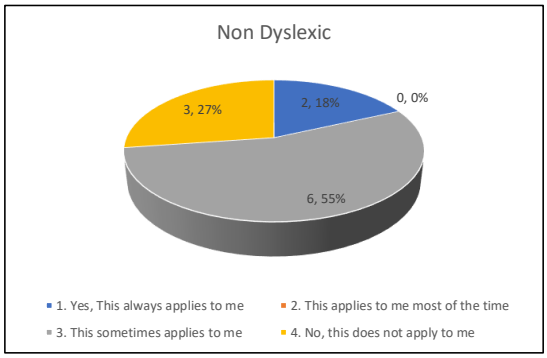


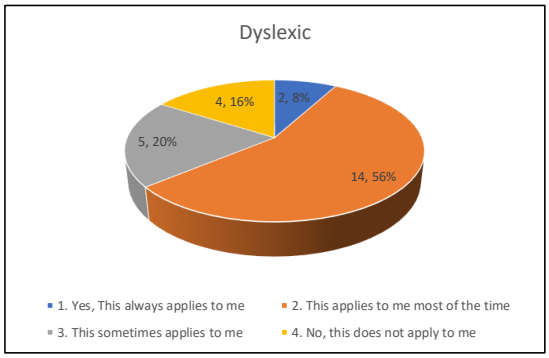
Question 9	I feel anxious when I have to read a text in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	2	3	9	8	8
2. This applies to me most of the time	0	9	9	0	36	25
3. This sometimes applies to me	4	9	13	36	36	36
4. No, this does not apply to me	6	5	11	55	20	31
TOTAL	11	25	36	100	100	100



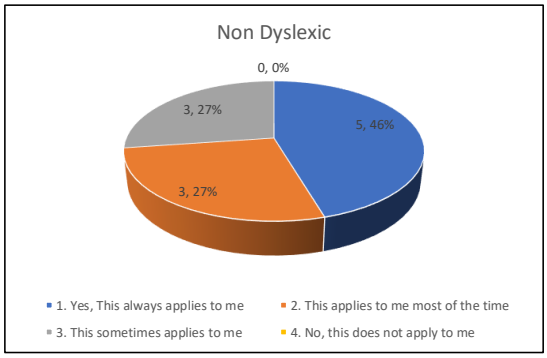


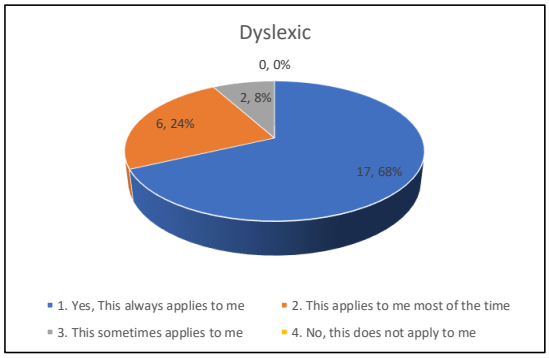
Question 10	I find it difficult to complete writing tasks in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	2	2	4	18	8	11
2. This applies to me most of the time	0	14	14	0	56	39
3. This sometimes applies to me	6	5	11	55	20	31
4. No, this does not apply to me	3	4	7	27	16	19
TOTAL	11	25	36	100	100	100



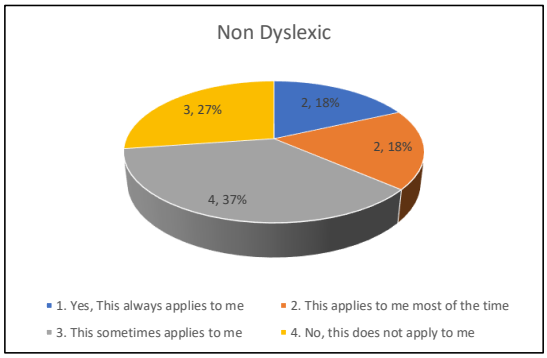


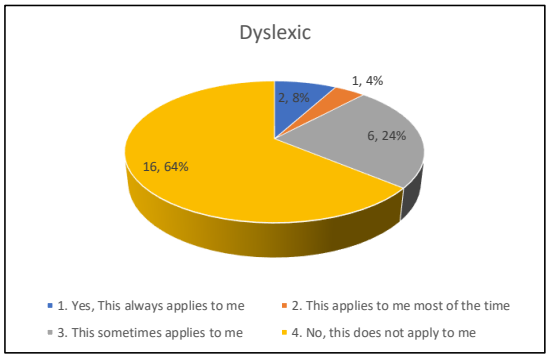
Question 11	I think it is easier to write in English than in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	5	17	22	45	68	61
2. This applies to me most of the time	3	6	9	27	24	25
3. This sometimes applies to me	3	2	5	27	8	14
4. No, this does not apply to me	0	0	0	0	0	0
TOTAL	11	25	36	100	100	100



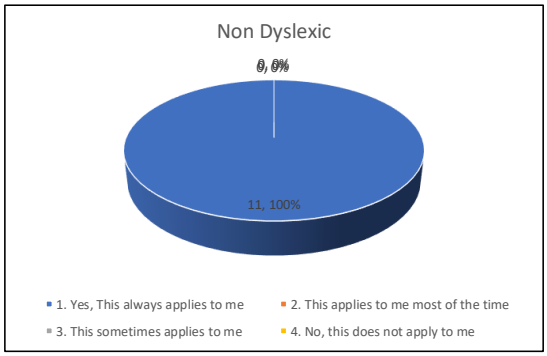


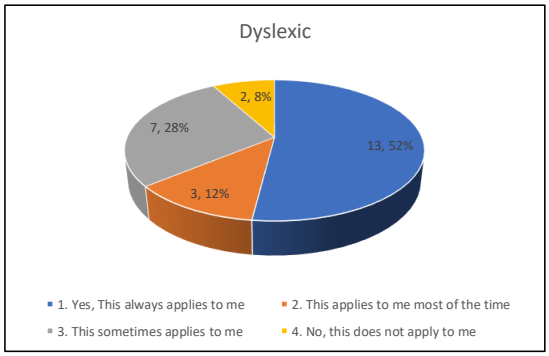
Question 12	I think it is easier to write in Spanish than in English					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	2	2	4	18	8	11
2. This applies to me most of the time	2	1	3	18	4	8
3. This sometimes applies to me	4	6	10	36	24	28
4. No, this does not apply to me	3	16	19	27	64	53
TOTAL	11	25	36	100	100	100



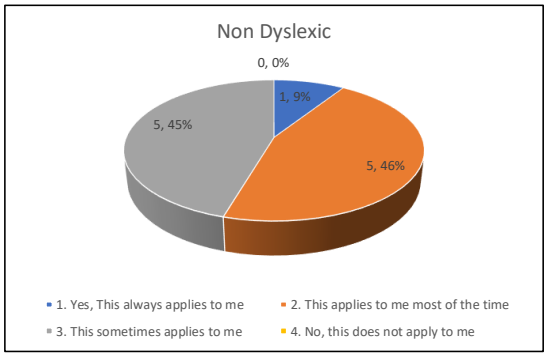


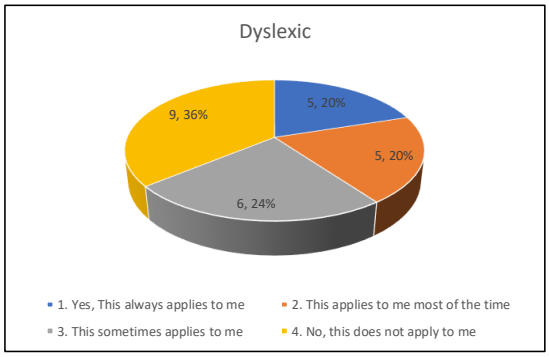
Question 13	I think it is easier to write in Spanish than in French					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	11	13	24	100	52	67
2. This applies to me most of the time	0	3	3	0	12	8
3. This sometimes applies to me	0	7	7	0	28	19
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100



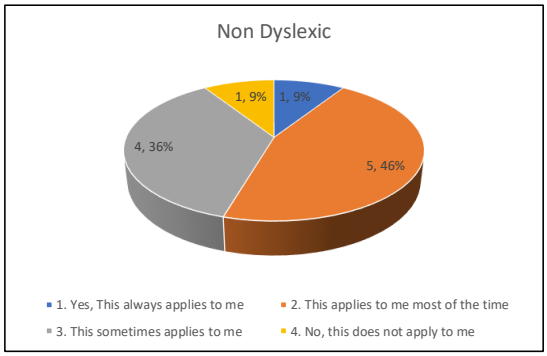


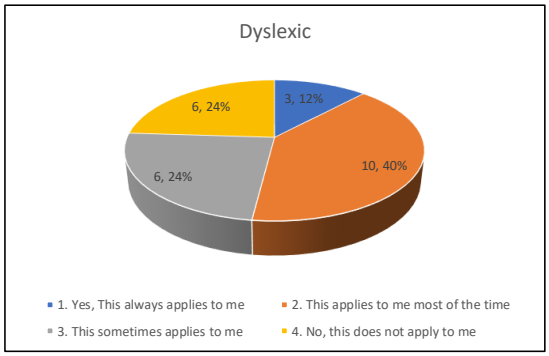
Question 14	I use writing strategies to complete writing tasks in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	5	6	9	20	17
2. This applies to me most of the time	5	5	10	45	20	28
3. This sometimes applies to me	5	6	11	45	24	31
4. No, this does not apply to me	0	9	9	0	36	25
TOTAL	11	25	36	100	100	100



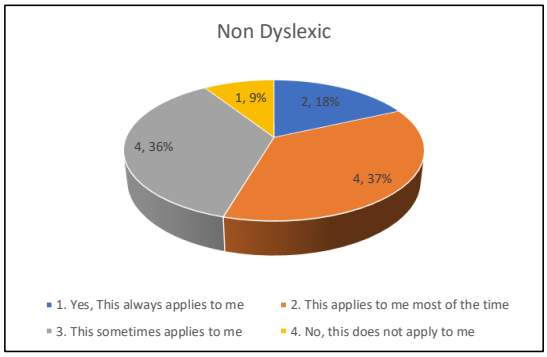


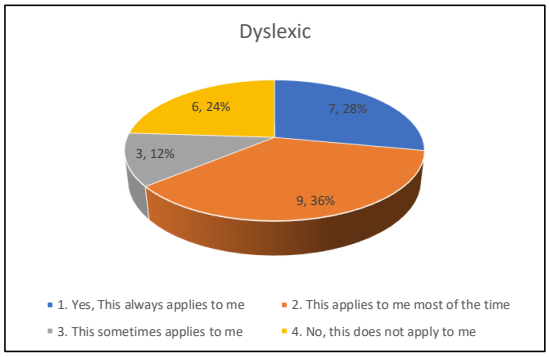
Question 15	I can learn vocabulary in Spanish quite well					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	1	3	4	9	12	11
2. This applies to me most of the time	5	10	15	45	40	42
3. This sometimes applies to me	4	6	10	36	24	28
4. No, this does not apply to me	1	6	7	9	24	19
TOTAL	11	25	36	100	100	100



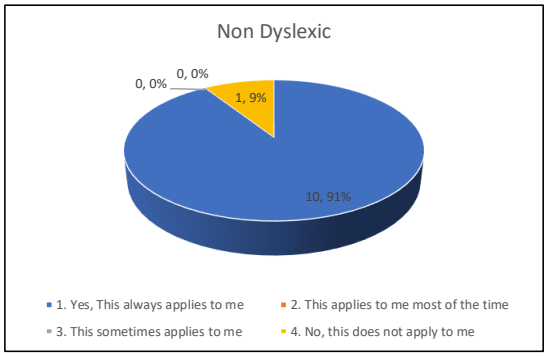


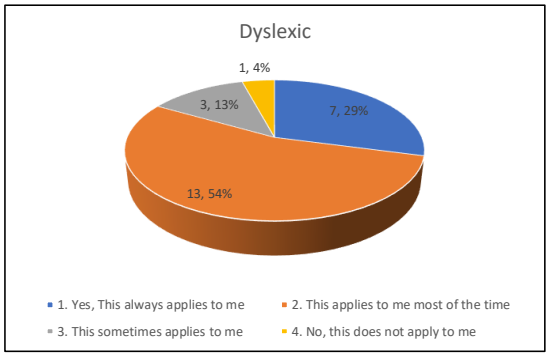
Question 16	I find it difficult to remember words in Spanish					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	2	7	9	18	28	25
2. This applies to me most of the time	4	9	13	36	36	36
3. This sometimes applies to me	4	3	7	36	12	19
4. No, this does not apply to me	1	6	7	9	24	19
TOTAL	11	25	36	100	100	100



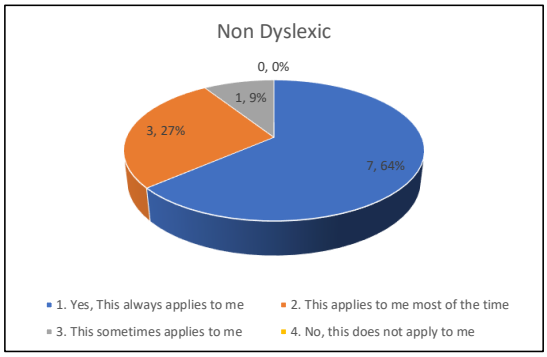


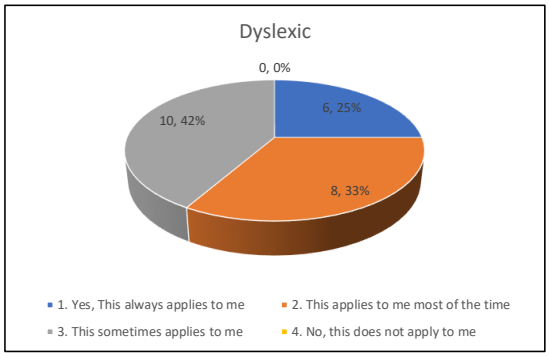
Question 17	I feel I am supported in class by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	10	7	17	91	28	47
2. This applies to me most of the time	0	13	13	0	52	36
3. This sometimes applies to me	0	3	3	0	12	8
4. No, this does not apply to me	1	1	2	9	4	6
TOTAL	11	24	35	100	96	97



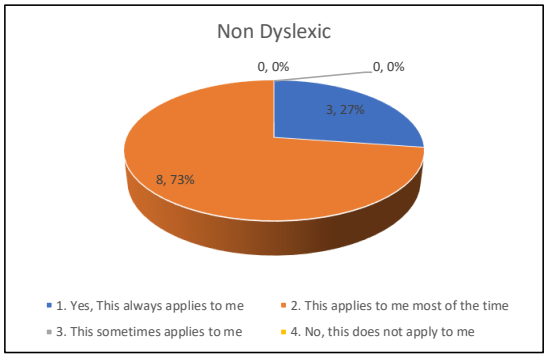


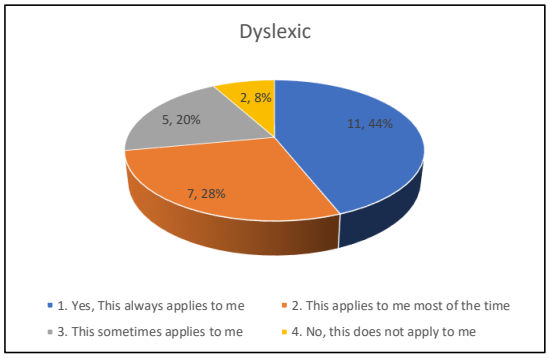
Question 18	I always use the writing support give by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	7	6	13	64	24	36
2. This applies to me most of the time	3	8	11	27	32	31
3. This sometimes applies to me	1	10	11	9	40	31
4. No, this does not apply to me	0	0	0	0	0	0
TOTAL	11	24	35	100	96	97



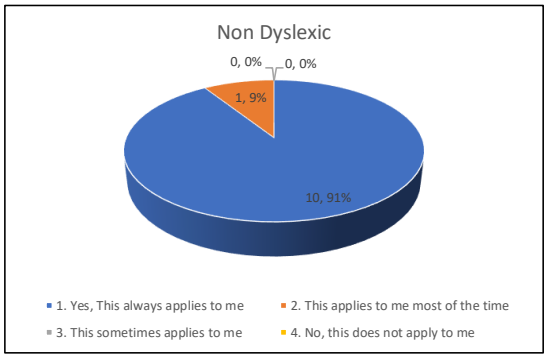


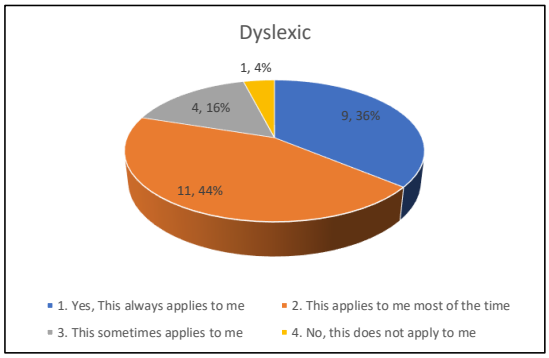
Question 19	I always use the vocabulary list band the resources given by my teacher					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	3	11	14	27	44	39
2. This applies to me most of the time	8	7	15	73	28	42
3. This sometimes applies to me	0	5	5	0	20	14
4. No, this does not apply to me	0	2	2	0	8	6
TOTAL	11	25	36	100	100	100





Question 20	The teacher encourages a positive learning environment					
	Value			Percentage		
	Non Dyslexic	Dyslexic	Total	Non Dyslexic	Dyslexic	Combined
1. Yes, This always applies to me	10	9	19	91	36	53
2. This applies to me most of the time	1	11	12	9	44	33
3. This sometimes applies to me	0	4	4	0	16	11
4. No, this does not apply to me	0	1	1	0	4	3
TOTAL	11	25	36	100	100	100





Appendix C. C1 TRANSCRIPT FROM INTERVIEW WITH SCHOOL'S DYSLEXIA SPECIALIST

Interview: Special Educational Needs Coordinator (SENCO)

Date: 14th April 2018

Q: How is dyslexia diagnosed?

A: The dyslexia tests usually test the verbal and non-verbal skills. If there is a discrepancy between them, then that's the moment when we must look at why and what kind of discrepancy.

Q: Does this mean a student could have very good verbal skills but have a poor reading score?

A: Yes, that's right. For a while, this was the measurement for intelligence but nowadays we don't view intelligence as a single test result.

Q: So, what happens when there is a discrepancy?

A: Usually it is called a "spiky profile" which involves assessing the child's strengths and the significant weaknesses. We used then the discrepancy model to assess and compare what the child can do and can't do. In the discrepancy model, there are 3 levels of deficiency: a phonological level, speed of processing and working memory.

Q: Could students show any or all of them?

A: Yes, the differences between them will tell us their underlying abilities. The most common ones which are associated with dyslexia are the speed of processing and working memory. You could have a student with very poor working memory who will struggle to remember words and relate to them in the writing.

Q: A student like J for example could fit in this category?

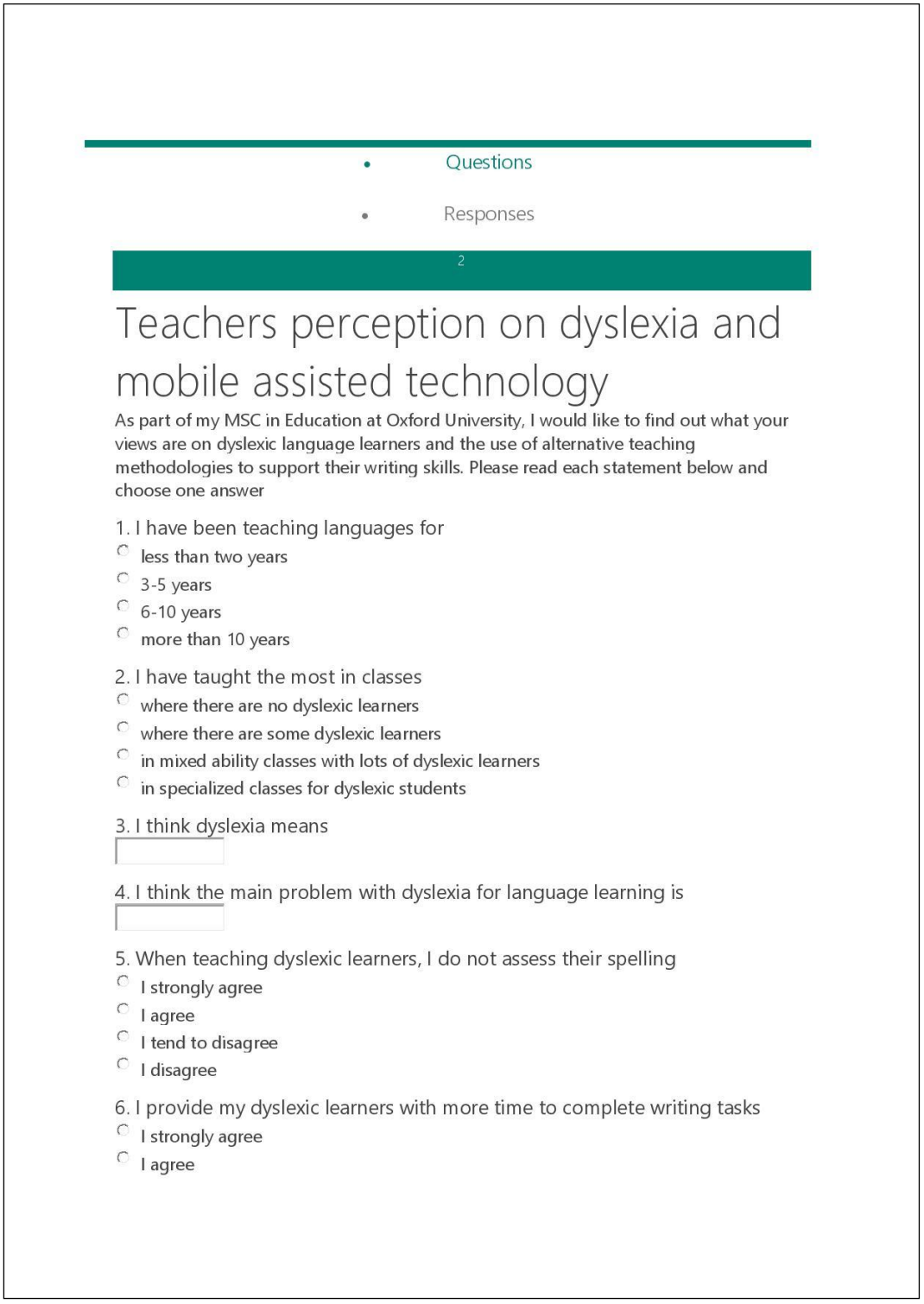
A: Yes but you could also have another student like M who does not have problems with processing information but has difficulties with the phonological aspect of the language and will have problems with spelling and sometimes speaking.

Q: What happens when the students are diagnosed?

A: We carry out the assessments and make recommendations for each case. Every child is different and we need to make sure every case is considered carefully so we can draw a plan of action.

Appendix D. TEACHERS PERCEPTION ON DYSLEXIA AND MOBILE TECHNOLOGY

D.1 Questionnaire (MS Office Forms)



- Questions
- Responses

2

Teachers perception on dyslexia and mobile assisted technology

As part of my MSC in Education at Oxford University, I would like to find out what your views are on dyslexic language learners and the use of alternative teaching methodologies to support their writing skills. Please read each statement below and choose one answer

1. I have been teaching languages for
- less than two years
- 3-5 years
- 6-10 years
- more than 10 years

2. I have taught the most in classes
- where there are no dyslexic learners
- where there are some dyslexic learners
- in mixed ability classes with lots of dyslexic learners
- in specialized classes for dyslexic students

3. I think dyslexia means

4. I think the main problem with dyslexia for language learning is

5. When teaching dyslexic learners, I do not assess their spelling
- I strongly agree
- I agree
- I tend to disagree
- I disagree

6. I provide my dyslexic learners with more time to complete writing tasks
- I strongly agree
- I agree

- I tend to disagree
- I disagree

7. I know how to apply the principles of multisensory approach (visual + auditory + tactile + kinaesthetic channels) to support dyslexic students

- I strongly agree
- I agree
- I tend to disagree
- I disagree

8. I often use the principles of multisensory learning in my classes (e.g. different colours and fonts, visual cues,highlighters, listening scripts, recording of written texts, mind maps and drawings, graphic organizers for writing, tactile activities, etc)

- I stronly agree
- I agree
- I tend to disagree
- I disagree

9. I often use mobile assisted technology to support the writing of dyslexic language learners

- I agree
- I tend to agree
- I tend to disagree
- I disagree

Add question

D.2 Results

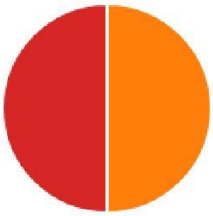
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Teachers perception on dyslexia and mobile assisted technology

2	03:17	Active
Responses	Average time to complete	Status

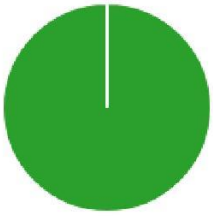
1. I have been teaching languages for

less than two years	0
3-5 years	1
6-10 years	0
more than 10 years	1



2. I have taught the most in classes

where there are no dyslexic le...	0
where there are some dyslexic...	0
in mixed ability classes with lo...	2
in specialized classes for dysle...	0



3. I think dyslexia means

2
Responses

Latest Responses

"Difficulties with reading, spelling and processing."

"it is a learning difficulty that affects reading, writing and spelling"

1/3

9/15/2018 Microsoft Forms

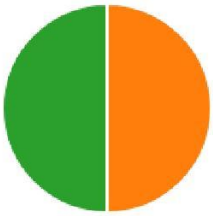
4. I think the main problem with dyslexia for language learning is

2
Responses

Latest Responses
"spelling words correctly and connecting spoken and written lang...
"writing in another language"

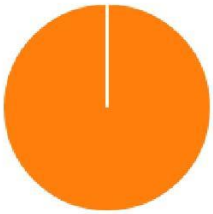
5. When teaching dyslexic learners, I do not assess their spelling

I strongly agree	0
I agree	1
I tend to disagree	1
I disagree	0



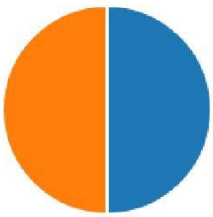
6. I provide my dyslexic learners with more time to complete writing tasks

I strongly agree	0
I agree	2
I tend to disagree	0
I disagree	0



7. I know how to apply the principles of multisensory approach (visual + auditory + tactile + kinaesthetic channels) to support dyslexic students

I strongly agree	1
I agree	1
I tend to disagree	0
I disagree	0

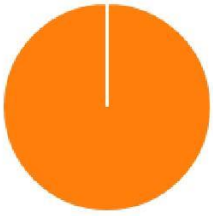


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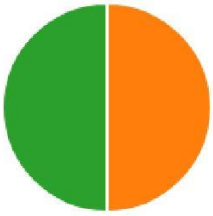
8. I often use the principles of multisensory learning in my classes (e.g. different colours and fonts, visual cues,highlighters, listening scripts, recording of written texts, mind maps and drawings, graphic organizers for writing, tactile activities, etc)

I stronly agree	0
I agree	2
I tend to disagree	0
I disagree	0



9. I often use mobile assisted technology to support the writing of dyslexic language learners

I agree	0
I tend to agree	1
I tend to disagree	1
I disagree	0



3/3

Appendix E. Cycle 1 Student Observations Summary

| | | |

Appendix F. C1 STUDENT SEMI-STRUCTURED INTERVIEW AND TRANSCRIPT RESULTS

F.1 Student Semi-Structured Interview Questions

1. How do you see yourself as a language learner? Do you think you are a successful language learner? Why?
2. How do you feel when you do well in Spanish?
3. What areas of your lessons do you find the most challenging?
4. What areas do you find the easiest? Why?
5. Do you think you try hard in Spanish? Why?
6. What do you enjoy the most in lessons?
7. Do you use the support given by your teacher?
8. What resources do you use at home to consolidate what you learn in class?
9. What resources do you prefer to use when revising for a test or exam in Spanish?

   (Linguascope, lists of vocabulary, your textbook, your exercise book, your homework booklet, etc)

F.2 Student Semi-Structured Interview Results (transcripts)

Pupil A Transcript

Question: How do you see yourself as a language learner?
I find it hard because …. it is difficult for me. I find the speaking easy, but the writing is difficult because of the spelling out of words

Question: What do you do when you have that challenge?
Hm, I usually look at my book to see if I have any words. I find difficult to remember words

Question: What do you look for?
Response: I look for the words and then correct I but I find it is difficult because it is kind of understanding what it is being said. I read it in my head and then think about it, so I can translate it.

Question: Is it the same in French?
Yes

Question: Which language is easier?
Response: I found Spanish easier than French because it is easier to pronounce.

Question: How do you feel when you do well in Spanish? For instance, in an exam or test?
Response: I feel like I have done something, and I understand what it is but I find it particularly difficult when I get to the writing task because I am not quite sure what they said or the listening part.

Question: How does it make you feel when you can't do it?
Response: A bit annoyed but I try

Question: You mentioned listening and writing, what about speaking?
Response: Speaking is definitively the easiest and reading is easy, but I really don't like translating it into English.

Question: So, what did you do when you had to complete listening tasks?
Response: I think in English and look at the words in Spanish. And then take a minute or two to think what the word is. I usually need to look at the word to try remembering it.

Question: Is it the same in French?
Response: Yes

Question: Do you always try completing tasks even if you find them difficult?
Response: I do try if I understand them but If I don't understand them I give up

Question: So, what happened yesterday? Did you complete it?
Response: I did not know we had to write on mini whiteboards, but I did give it ago and got some answers right. I think it helps me if I use the I-pad or activities like Kahoot and when I don't have them it is hard.

Question: Why is that?
Response: Because for instance Kahoot helps you think of the answers and remembering them.

Question: What resources do you use at home?
Response: I use my computer at home and I also use Kahoot and found some Spanish revision quizzes for revision

Question: Do you think you use the support I gave you?

Response: Yes, I do

Question: Do you think that is helpful?
Response: Yes

Question: What other resources apart from the ones you mentioned you use to revise?
Response: I use flashcards and sometimes I ask my dad's girlfriend because she lives in Spain

Question: What is the best resource?
Response: For me it is the flashcards because I write the question on the front and then look at the back.

Duration: 10 min

Pupil B Transcript

Question: How do you see yourself as a language learner and do you think you are a successful language learner? Why?
Response: I think I do OK, but languages are not easy because of my problems in English. It is difficult for me

Question: What problems do you have?
Response: I can't spell words

Question: What do you do when can't spell a word?
Response: I try remembering it in my head and then and write it

Question: Does it help?
Response: Not always because sometimes the spelling is wrong

Question: How do you feel when you do well in Spanish test or exam?
Response: I feel OK, happy I suppose.

Question: And when you don't do well?
Response: Frustrated

Question: Have you felt like this recently?
Response: Yes, when doing the listening exam, I could not do it.

Question: What happened?
Response: I find difficult when people speak fast, and we had to write down answers quickly.

Question: What do you find most difficult: listening and writing?
Response: Writing and listening I think because I have very bad spelling and I can't understand what other people say.

Question: What do you do when you can't spell a word?
Response: I look at the textbook or ask someone else

Question: Do you always complete the work given to you?
Response: No, sometimes I do

Question: What about the skills do you find the easiest? Why?
Response: Speaking because I can prepare and rehearse before the test

Question: What about French? Is it easier than Spanish?

Response: No, it is more difficult because the way you pronounce words is different to the way you write words.

Question: Do you think you try hard in Spanish? Why?
Response: Yes, but not always. Sometimes I don't understand what I need to do

Question: What do you do when this happens?
Response: I don't do the work and copy if I can from my friend.

Question: What do you enjoy the most in lessons?
Response: I like the quizzes and using the I-pad because it is fun

Question: Do you use the support given by your teacher?
Response: Yes, but sometimes I don't understand it, so I ask other people. I think it helps if I can work with someone else.

Question: What resources do you use at home to consolidate what you learn in class?
Response: Google and sometimes the booklet

Question: What resources do you prefer to use when revising for a test or exam in Spanish? (Linguascope, lists of vocabulary, your textbook, your exercise book, your homework booklet, etc)
Response: I like Linguascope and using the online quizzes because they are useful for memorization

Duration: 10 minutes

Pupil C Transcript

Question: Ok pupil C…… let's start talking about yourself as a learner, specifically as a language learner. How do you see yourself as a language learner?
Response: I find French easier than Spanish.

Question: Why is that?
Response: Well I've done French since year 4 in my old school and I have been doing Spanish since year 7.

Question: OK, so you have familiarity with the language. Can you give me an example of how you found French easier than Spanish?
Response: It is easier to remember words and vocabulary.

Question: Why is vocabulary important?
Response: It helps me to write and have better results in tests.

Question: So, when you talk about Spanish being difficult what areas did you find the most challenging - Listening, reading or speaking?
Response: Probably the reading and speaking, sorry reading and writing.

Question: Why the reading and writing?
Response: It is just trying to memorize the words.

Question: What do you do when you have that problem?
Response: Try reading, make flashcards of the words and what they mean.

Question: How often do you do that?
Response: Well it depends when we get set of words.

Question: Is this for reading or for writing only?

Response: Just for writing mainly but sometimes I use it for reading because you memorize what they mean and know what they are.

Question: As a language learner do you think you do better in one language than the other?
Response: I think I do better in French than in Spanish because I have done it for longer.

Question: How do you feel when you don't do well in Spanish?
Response: No disappointed because I know I try but sometimes I feel I could do better if I tried harder.

Question: Do you think you always try hard?
Response: Yes, but I don't always feel disappointed in myself because I know I have tried. I could always revised for a bit longer.

Question: Do you use the support or resources your teachers give you?
Response: Yes.

Question: Do you use for reading? Writing or everything?
Response: Everything for revision.

Question: How often do you use it?
Response: I try doing it twice a week.

Question: What resources do you use at home?
Response: I use Linguascope sometimes.

Question: Do you enjoy using Linguascope?
Response: Yes, because there are games and things you can do to revise vocabulary.

Question: What is that you enjoyed the most?
Response: I think is the activities where you can check your answers so you know where you are.

Question: When you are using resources what resources do you prefer to use? Linguascope or textbook?
Response: I tend to use both because Linguascope puts words into tasks and activities but the textbook is more general.

Question: Do you use I-pads for revision?
Response: Yes, I use my I-pad when I do Linguascope. I also like using it to make flashcards as it is easier or record my voice for speaking tasks.

Question: What is it about Linguascope that you like?
Response: The pronunciation because you can listen to the words as they are pronounced and then you can say back to it so it helps you to have the right pronunciation.

Question: In Spanish, you have said that you have found reading and writing the most challenging. What sort of tasks have you found the most challenging?
Response: Probably when we must write and translate. The spelling of the words and the accents.

Question: When you misspelled a word what do you do?
Response: I try to go over and check if the word has been one of the words that I have found difficult to spell so I make sure the word does not change meaning if I misspell it wrong.

Question: Do you use strategies to avoid problems with spelling?
Response: I use flashcards and try to memorize the words.

Question: What about the translation? Is it more difficult than the writing?
Response: They are kind of the same because it is translated into English the words go in different orders.

Question: What areas do you find the easiest in Spanish?
Response: The listening is quite easy if the pictures are clear and probably the speaking because if we prepare it in class then you check it and then is easier to revise and learn the words.

Question: So, in terms of skills which ones do you find the easiest?
Response: Probably the listening.

Question: Why?
Response: Because sometimes it goes fast, and you must write quickly but you don't have to write sentences.

Question: What do you think it is that makes you a good listener?
Response: I use key words to help me.

Question: What strategies do you use in writing to help you?
Response: I check my words and try to learn my vocabulary, so I know what words to use.

Question: How much time do you spend revising vocabulary? Is it the same in Spanish as in French?
Response: I spend more time revising Spanish.

Question: What activities do you enjoy the most in lessons?
Response: Work in groups because we help each other and when we do the big sheets we learn.

Question: What activities do you enjoy the least in lessons?
Response: When we work in silence although we don't do it very often because when we work in groups people can help each other. No scream or shouting.

Question: Can you give me an example of how working in groups help you?
Response: Yes, because we can hear another people's pronunciation.

Question: Do you think that working with someone else can help your writing as well?
Response: Yes because of the vocabulary and things we can use in the writing so if I don't know a word I can ask my partner.

Question: Thinking about what you would like to study at GCSE, what language would you like to take?
Response: Probably French because I have done it for longer and I find it easiest than Spanish.

Question: So, is pronunciation not a challenge?
Response: It is a little bit but most of my family go to France a lot. My dad skies and so my brothers so they go to France a lot. If I struggle with French homework they can help me. None of my family have done Spanish.

Question: When you don't do well in French do you feel the same as you do in Spanish?
Response: Yes, when I know that I have tried, and my results are not good I feel disappointed because I know I could do better.

Question: You do well in Spanish, but I can see how you would feel disappointed. You put a lot of effort. Do you think that is the key to be successful in language learning?
Response: Yes, because you need to be successful to be somewhere.

Question: Do you apply strategies you used for languages for other subjects?
Response: Yes.

Question: Do they help you?
Response: Yes, they do.

Question: What advice could would you give to other pupils who are dyslexic?
Response: Most people learn in same ways but some people for instance dyslexic people learn in different ways. I think it depends on what each of us find it is useful, for example I like using vocabulary charts and flashcards and using my I-pad for revision, but student's name does not like using computers because she prefers writing on a piece of paper.

Question: What do you think helps a dyslexic language learner?
Response: I think you must try different things and not give up. My mum always says that if I don't put effort in anything I would never get anywhere.

Question: When you were told you had dyslexia, how did it influence the way you study?
Response: I have always known that I had it before I was diagnosed and … we kind of knew because I struggled with spelling so when we went for the test and we knew I had we were kind of aware. We knew that I had to learn in dyslexic ways.

Duration: 12:14

Pupil D Transcript

Introduction I would like to follow up some of the answers you gave me in the questionnaire that you completed two weeks ago. I would like to know what you feel and how you feel about learning a foreign language.

Question: To start, how do you see yourself as a language learner? Do you think you do well in Spanish?
Response: I find Spanish so much easier.

Question: Why?
Response: Because you pronounce what it is written whereas in French you don't.

Question: What other areas do you find easier?
Response: Speaking and reading. I like reading because I can relate the words together and understand.

Question: What are the challenges do you find while learning Spanish?
Response: Writing is hard because I struggle to come up with words, for instance in tests and exams. I also have a problem with vocabulary, sometimes I confuse the words in Spanish and write words in French.

Question: It is hard to write things down and because it is not written you can't see it - how do you feel when you do well in Spanish?
Response: I feel happy because I know I am doing well and I like Spanish.

Question: And when you don't do well how do you feel?
Response: Sad and annoyed.

Question: How often do you feel like this?
Response: Sometimes when we are doing exams like the one last week. I feel frustrated because I can't do for instance the listening or the writing.

Question: What do you do when you feel like that?
Response: I try but if I can't do it I don't do it.

Question: How would you describe your effort in class? Is it good or not?
Response: It is good but if I am working with someone else I put more effort

Question: How do you find spelling words in Spanish?
Response: I try spelling words, but it is difficult because of my spelling in English.

Question: You said that you find speaking easier in lessons. Can you give me an example of how?
Response: I find I can remember stuff and I use an app on my phone so if I don't know how to say a word I try using it.

Question: What do you enjoy the most in lessons?
Response: Doing the orals because it is fun and I like the sounds.

Question: Do you use the resources given to you?
Response: Yes.

Question: I can see you always follow the writing support and models given to you. In what ways do you think they help you?
Response: I think they are useful to give me an idea of what I need to say.

Question: What resources do you use at home for revision?
Response: I use an online translator but not Google translator for writing sometimes. I also use this app you pay a couple of pounds a month. It helps you translate things. I also like using I-pads to create flashcards.

Duration: 8 minutes.

Pupil E Transcript

Question: How do you see yourself as a language learner - do you think you are a successful language learner and why?
Response: I think I do OK, but I find difficult to learn a language.

Question: Why?
Response: The spelling and the writing. I am not good in English so in languages it is similar problem.

Question: How do you feel when you do well in a Spanish test?
Response: I think I could do better but feel OK.

Question: What areas of your lessons do you find the most challenging?
Response: I think the writing and listening.

Question: Why?
Response: For the writing it is difficult to remember words and putting them into sentences. For the listening is hard to try remembering what the other people said because they speak fast.

Question: What do you do when you have this problem?
Response: I ask the teacher.

Question: But if you are doing a test.
Response: I don't do the question or try doing another one.

Question: What areas do you find the easiest? Why?
Response: I like speaking because it is easier than writing.

Question: In what ways?
Response: I can practice and say the words and don't need to write.

Question: Do you think you try hard in Spanish? Why?
Response: I do sometimes.

Question: Why?
Response: Because I can complete all the work.

Question: What do you enjoy the most in lessons?
Response: Using the I-pad.

Question: Why?
Response: Because it is fun, and I learn better with it.

Question: Do you use it at home to revise?
Response: Yes sometimes.

Question: How do you use it?
Response: Going to Kahoot to see other people's quizzes or play games online to learn vocabulary.

Question: Do you use the support given by your teacher?
Response: Yes, but sometimes I don't understand, and I get stuck

Question: What resources do you use at home to consolidate what you learn in class?
Response: Just the I-pad and homework booklet.

Question: What resources do you prefer to use when revising for a test or exam in Spanish? (Linguascope, lists of vocabulary, your textbook, your exercise book, your homework booklet, etc) .
Response: When I have my exercise book I look at my notes but usually Linguascope.

Duration: 8 minutes

Pupil F Transcript

Question: How do you see yourself as a language learner - do you think you are a successful language learner and why?
Response: I find it difficult.

Question: Why?
Response: I don't really like languages and find the writing and listening hard.

Question: What do you find difficult in specific of writing and listening?
Response: Because I struggle with words and remembering them. It is difficult to spell words and I can't remember them.

Question: So, what do you do when you have this problem?
Response: I ask the teacher or don't do the activity.

Question: How often does this happen?
Response: Sometimes.

Question: How do you feel when you do well in Spanish?
Response: Sad and frustrated.

Question: Do you feel the same when you don't do well in French?
Response: Yes, a bit but I have been doing it longer so it is easier for me.

Question: What about the writing?
Response: I find it easier in French than in Spanish.

Question: What areas do you find the easiest? Why?
Response: Speaking because it is easier, and I can say the words.

Question: Do you think you try hard in Spanish? Why?
Response: I do sometimes.

Question: Why sometimes?
Response: If I am sitting next to someone who is good and can help me I can work harder.

Question: What do you enjoy the most in lessons?
Work in pairs.

Question: Why?
Response: Because it is good if I need support or help.

Question: Do you use the support given by your teacher?
Response: Sometimes but sometimes I don't understand it.

Question: So, what do you do when you don't understand it?
Response: I ask the teacher or someone else.

Question: Do you use your book?
Response: No, if I have it maybe.

Question: What other resources do you use at home to consolidate what you learn in class?
Response: Online quizzes, and online translator.

Question: What do you like about it?
Response: It is fast and quick, so I can complete the work.

Question: What resources do you prefer to use when revising for a test or exam in Spanish? (Linguascope, lists of vocabulary, your textbook, your exercise book, your homework booklet, etc.) .
Response: I use Linguascope because I like the games and listening to the words. It is easier than reading them on the paper.

Duration: 10 minutes

Pupil G Transcript

Question: Let's talk about your language learning experience. How do you see yourself as a language learner, do you think you are a successful language learner and why?
Response: I think what I find difficult and tricky is the same type of things other people also find tricky in languages such as pronunciation, trying to remember vocabulary, or when you are asked to describe someone, and you need to think of the options to describe the person.

Question: Did you mean adjectives?
Yes, that's the word.

Question: What areas do you find the easiest in lessons?

Response: The listening because when I do my listening I can really listen to how people pronounce, like these things make me good in Spanish. The reason I want to do well in Spanish is because Spanish is an important language like it is a good skill to have to speak Spanish in other countries.

Question: Do you think you use all the strategies that the teacher gives you?
Response: Yes, I do. Sometimes when I have homework there are activities that really help me because it just gets me to use to write in Spanish.

Question: What do you enjoy the most in Spanish lessons?
Response: I really enjoy online quizzes because they are fun. Sometimes writing quizzes because it is not just fun but also helps me revise.

Question: What resources do you use at home? Do you use other resources apart from the ones we use in class such as textbook, vocabulary booklet, etc?
Response: I like sometimes using a Spanish dictionary but also, I use my activity and workbook because there are lots of notes because I can try using them in sentences and sink into my head.

Question: Do you think completing activities online or using Linguascope can help you?
Response: I think using Linguascope also helps me with my vocabulary because it is online, and you can listen to it. Because in Spanish the accent and pronunciation are different to English.

Question: Which one is easier for you: Spanish or French?
Response: I think Spanish is easier because a word is pronounced is differently to the way it is written. In Spanish, the word is pronounced closely to what is written so it is easier.

Question: Do you think you do better in Spanish writing than in French?
Response: Hm……, yes, I think it is because I can say in Spanish in my head and what it is written is what I it is in my head whereas in French is not the same. It is not the same way of pronouncing.

Question: So, what do you do when you have this problem?
Response: I like to break the word down, if it was written in English when I see the word in my book or somewhere else I would know that the word is pronounced liked that.

Question: Do you apply this strategy to Spanish?
Response: In Spanish I would just read it. It is not the same.

Question: And what happens if is wrong?
Response: I usually either ask the teacher for pronunciation or go to Linguascope.

c How do you feel when you don't do well in Spanish?
Response: I feel that if the results are not good do not mean that I am not learning. It is way of learning and it means that you can learn from this.

Question: What strategies do you use to help your Spanish learning?
Response: I like comparing my native language with Spanish and learning words that are similar.

Duration: 10:35 minutes

Pupil H Transcript

Introduction: Thank you for coming. As I mentioned to you the other day I would like to know a little bit more about how your impressions and opinions in Spanish.

Question: How do you see yourself as language learner?
Response: I think I am good because I do well in exams and tests and I like the language. I think I am good at doing and I am quite confident when it comes to language.

Question: What does it make you a successful language learner?
Response: I like to go over stuff a lot when I do my homework for instance and I like to go over my homework a lot.

Question: How do you feel when you do well in Spanish?
Response: I feel happy because I know I have revised and done well because of that. I think that whenever I find a question that I can't do, I look for what I can do, and I think I'll ask questions a lot.

Question: What areas of your lessons do you find the most challenging?
Response: Probably writing and learning vocabulary. I think vocabulary is important and if I don't know the words I can't write. I struggle to remember words and learn their spellings and can get confused with French words.

Question: What strategies do you use when you can't remember words?
Response: I look at my book and make a list and go over and over.

Question: What areas of language learning do you find the easiest? Why?
Response: Speaking because we can prepare and rehearse before the test.

Question: Do you think you try hard in Spanish? Why?
Response: I think I do because I am always completing the work.

Question: What do you enjoy the most in lessons?
Response: When we must do roleplays and conversations and do translation activities.

Response: Why translation?
Response: I like to make connections with what I already know and enjoy putting phrases together.

Question: Do you use the support given by your teacher?
Response: Yes, I think I always use the vocabulary lists, and all the resources.

Question: What resources do you use at home to consolidate what you learn in class?
Response: I use Linguascope to learn vocabulary and find it useful. I also use my I-pad and make flashcards to revise vocabulary and sometimes I use an pp on my phone that translates sentences.

Duration: 7 minutes

Pupil I Transcript

Question: How do you see yourself as a language learner, do you think you are a successful language learner and why?
Response: I think I have somewhere to go with, I could learn more and improve my skills

Question: What could you improve?
Response: I think instead of I know the words I am just going to translate it I am going to think about it carefully. Does it mean something else? have I got it? and maybe I could use the cognates I know.

Question: Do you see yourself as a successful language learner?
Response: Yes

Question: Why is that?
Response: When I do my homework I really like to go over and over, is there any word that I could improve because I like to see that all my sentences make sense and how much I know and in lessons I want to be able to achieve what we are learning.

Question: So, you can see that you can make those connections?
Response: Yes, so I am not the one who is not understanding and upset everyone else in lessons

Question: When you go over what kind of things are you looking for?
Response: Spelling

Question: What is spelling what you are looking for?
Response: Well it depends for example in French, you don't spell every word or say every word that is written. In Spanish I find it a bit easier to spell

Question: What else do you find easier?
Response: Personally, I enjoy translating. I think that is my strength. I think I could get better on translating.

Question: When you don't do well in Spanish, when you find something difficult, how do you feel?
Response: When I don't do well for instance I see a question and I don't understand I'll ask myself is there anything that I might be able to understand but then I think that I ask.

Question: What areas in lessons you find the most challenging?
Response: I think I find the hardest when you are doing a challenge and we all must work in groups. I think it is the most difficult because some people are very good at it and better than I am. I might not be able to understand it, or when I ask I feel a bit ashamed to ask what does that mean? And I don't really want to ask because they might think I have not been listening, but I know I have. I just I don't like the feeling.

Question: What about skills: listening, reading, writing or speaking?
Response: I think probably listening and writing. For listening I know that people in Spain speak faster and I need to work around that and learn to pick it up a bit more.

Question: What about writing?
Response: I think it is hard to remember vocabulary and using it writing.

Question: What about what you find the easiest?
Response: The easiest would be the translation. I find them fun because it is a mystery for me because I always want to know what it is said.

Question: What do you enjoy the most in lessons?
Response: I think the most I enjoy is when we are in Linguascope because I can hear everyone's ideas and wonder how did they get the answers.

Duration: 10 minutes.

Pupil J Transcript

Question: How do you see yourself as a language learner, do you think you are a successful language learner and why?
Response: I think I do well sometimes in class but tests and difficult for me because I don't always understand what I need to do.

Question: What do you do when you don't understand what you need to do?
Response: I ask the teacher or ask someone else.

Question: Do you try completing all the work despite finding it difficult?
Response: Yes, I do, sometimes I try but I find I need more time.

Question: How do you feel when you do well in Spanish test?
Response: I feel it is OK but I am not good for languages, so it is something that I don't think about.

Question: What areas of your lessons do you find the most challenging?
Response: Writing and listening.

Question: Why?
Response: Because with writing is difficult to remember the words or what they mean. I like translating the words in my head, but it is not easy and sometimes I write things in French.

Question: And in listening? Why is it difficult?
Response: People speak too fast and I can't write everything down.

Question: So, what do you do when you have this issue?
Response: I try to guess and see if I get it right. For writing, I look at the question and see if I can use some words that I know.

Question: What areas do you find the easiest? Why?
Response: Probably speaking because if we prepare the answers I can remember them and practice before the test.

Question: Do you think you always try hard in Spanish? Why?
Response: Yes, I do. Because I try to complete all work in class despite finding them difficult

Question: What do you enjoy the most in lessons?
Response: Using the I-pad and One Note because it is easier for me to see my notes.

Question: So not your book?
Response: I like seeing what I got, and it helps me to visualize words.

Question: Do you use the support given by your teacher?
Response: Yes, I do. Sometimes I find it not very useful, but I try to use it. I find it more helpful using the I-pad and taking notes myself with it.

Question: What resources do you use at home to consolidate what you learn in class?
Response: I use my Classnotes from Spanish, the online activities sometimes we do in class and Linguascope.

Question: What resources do you prefer to use when revising for a test or exam in Spanish? (Linguascope, lists of vocabulary, your textbook, your exercise book, your homework booklet, etc.).
Response: I use my notes and Linguascope because I can see the notes and listen if there are words that I find difficult to remember.

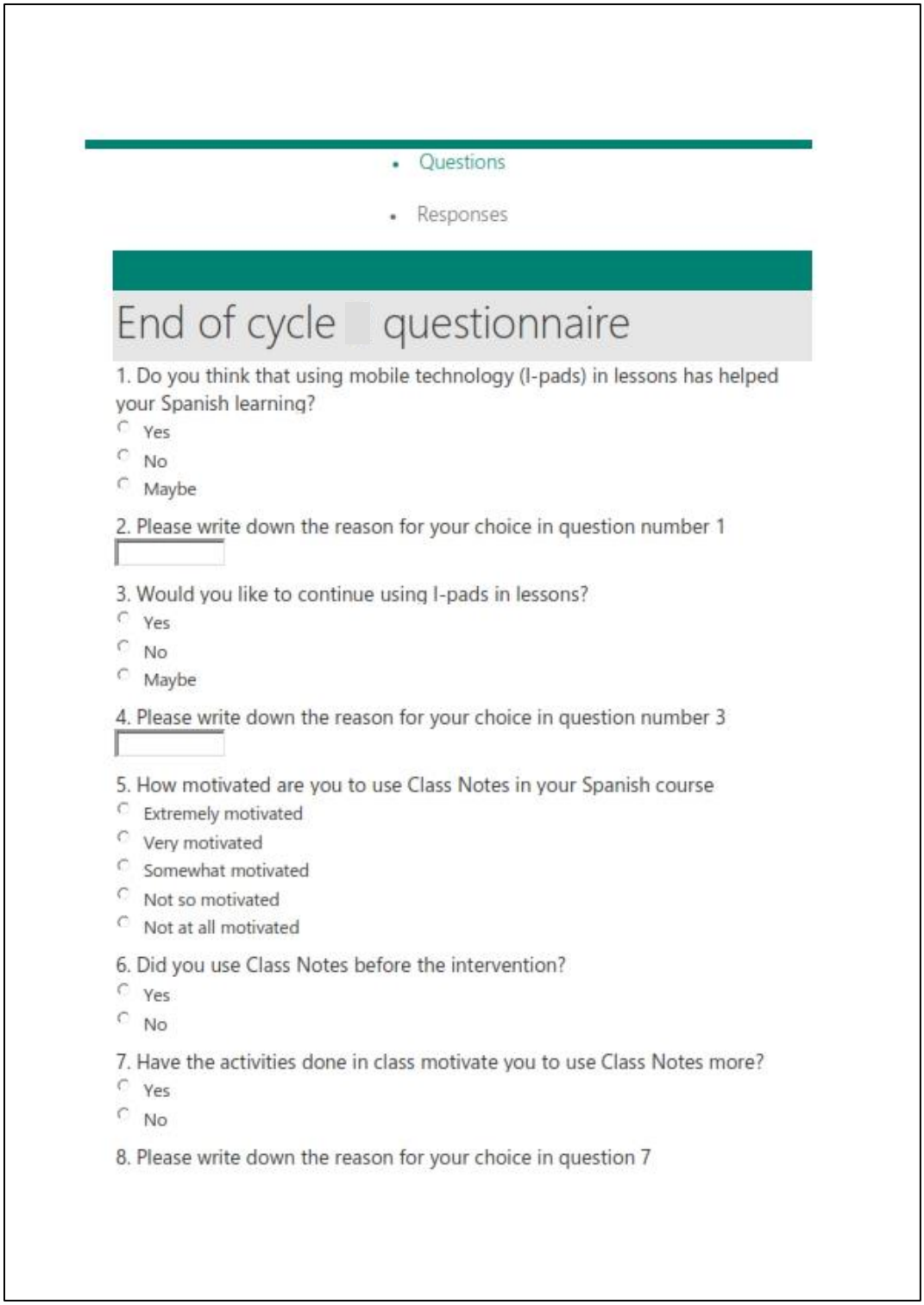
Duration: 8 minutes

F.3 Coded Results of Structured Interviews

Question No.	Response	Positive or Negative	Response Code	Respondent Id
1a Identity as a Language learner	Identity linked to finding writing difficult	Negative	N	A-B-C-F-G-H-I
	Finding difficulty trying to understand words	Negative	N	A-B-J
	Does not like languages	Negative	N	F
	Finds Spanish easier than French	Negative	N	D-G-I
	Recognition of difficulty in English and learned helpnesses	Negative	N	B-D-E
	Experience with French makes it easier than Spanish	Negative	N	C-F
	Find difficulty with vocabulary learning	Negative	N	G
	Confident learners	Positive	P	H
	Sees link between work, success and effort	Positive	P	I-J
	Recognition of dyslexic difficulties and different styles	Positive	P	E
1b Feeling about failure	Gives up when task is too difficult	Negative	N	B-D-F
	English difficulty with spelling	Negative	N	B
	Frustrated	Negative	N	B-F-D
	Disapppointed but feels could do better if try harder	Negative	N	C
	Failure does not mean I am not learning	Positive	P	G, C
2 Difficulties				
2.a	Writing is difficulty	Positive	P	All
2.b	Use of strategies (thinking of words, read it, use book) to deal with difficulty	Positive	P	C-I-H-G
2.c	Listening -HARD TO WRITE WORDS DOWN AND YOU CAN'T SEE WHAT IS SAID	Positive	P	D-I
	Listening and writing are difficult	Negative	N	B-E-F-J
2.d	Reading and writing -MEMORISING WORDS	Negative	N	C
	Translating phrases	Negative	N	C-
	Gives up when task is too difficult	Negative	N	D
	Spelling words	Negative	N	F
3 Easy activities/ skills				
3.a	Speaking is easier than writing and listening	Negative	N	F
3.b	Speaking because we can prepare and rehearse it (before a test) or in class	Positive	P	B-C-E-J
3.c	Listening is enjoyable and easier	Positive	P	C-G-I
3.d	Speaking- I use an app on phone and listen to the words	Positive	P	D
	Translation	Positive	P	I
4. Enjoyment				
4.a	Likes Kahoot and using technology	Positive	P	E
4.b	Work in groups because you can learn from each other	Positive	P	C-D
4.c	Answering online quizzes but not writing	Positive	P	G
4.d	Translating phrases	Positive	P	H-I
4.e.	Using I-pad	Positive	P	E
Effort in lessons				
5.Applies effort	Sometimes I put a lot of effort but sometimes I don't understand what I need to do	Negative	P	B
5.a	I try harder and always	Positive	P	D
5.b	In a test if I can't do it I don't do it	Negative	N	D-E
5.c	Sometimes when I complete the work	Positive	P	E-J
5.d	Sometimes but if I am working with someone who can help me	Positive	P	F
6. Support from teacher				
6.1 Use of support	Sometimes but sometimes I don't understand	Negative	N	B-D-E-F
	Always use support	Positive	P	B-N-G
	Always use support and finds it useful	Positive	p	G
7. Use of resources		Positive	P	B-C
7.1	Linguascope because you can hear sounds - pronunciation	Positive	P	B
7.2	Books and resources	Positive	P	C-E-G
7.3	Onine quizzes	Positive	P	F
8.Preferred resources	Prefers flashcards and not technology	Positive	P	A
	Linguascope because you can hear sounds - pronunciation	Positive	P	B-D-E-G-I
	Using I-pad at home	Negative	N	C
	Use phone app	Negative	N	D
	Use of computer at home	Positive	P	A
9. Use of resources	Using I-Pad for revision	Positive	P	C
	Does not have any strategy	Negative	N	B-D-E
	Say in English in the head and use key words	Positive	P	B-C
	Picking words and listening- she learns by listening	Positive	P	D
	Writing key words and phrases helps her	positive	P	C
	Not specific- try until gets it right	positive	P	C-H

Appendix G. C1 End of Cycle Student Questionnaire

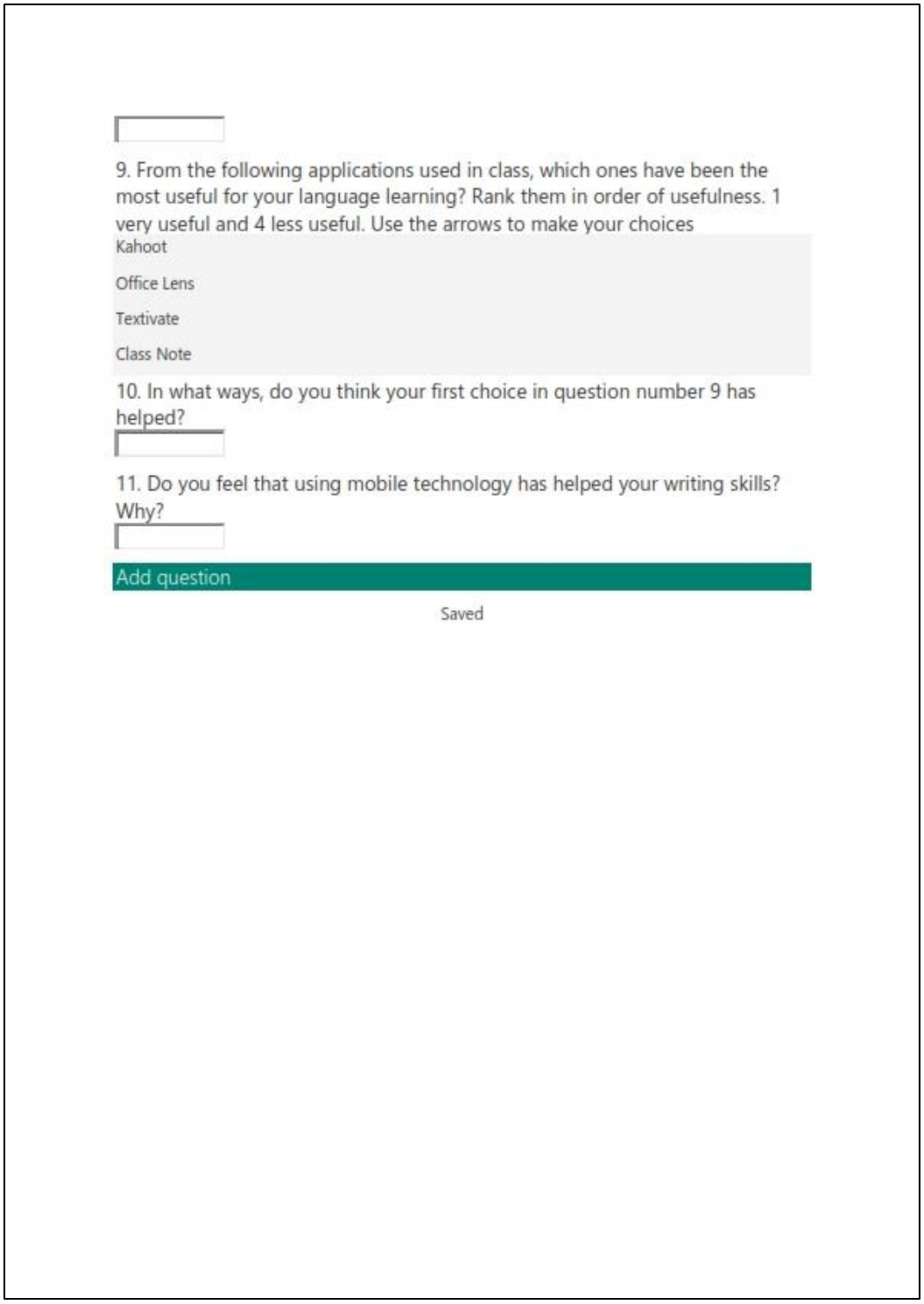
G.1 C1 End of Cycle Student Questionnaire



- Questions
- Responses

End of cycle questionnaire

1. Do you think that using mobile technology (I-pads) in lessons has helped your Spanish learning?
   - Yes
   - No
   - Maybe
2. Please write down the reason for your choice in question number 1
3. Would you like to continue using I-pads in lessons?
   - Yes
   - No
   - Maybe
4. Please write down the reason for your choice in question number 3
5. How motivated are you to use Class Notes in your Spanish course
   - Extremely motivated
   - Very motivated
   - Somewhat motivated
   - Not so motivated
   - Not at all motivated
6. Did you use Class Notes before the intervention?
   - Yes
   - No
7. Have the activities done in class motivate you to use Class Notes more?
   - Yes
   - No
8. Please write down the reason for your choice in question 7


9. From the following applications used in class, which ones have been the most useful for your language learning? Rank them in order of usefulness. 1 very useful and 4 less useful. Use the arrows to make your choices
Kahoot
Office Lens
Textivate
Class Note
10. In what ways, do you think your first choice in question number 9 has helped?
11. Do you feel that using mobile technology has helped your writing skills? Why?
Add question
Saved

G.2 C1 End of Cycle Student Results

9/16/2016 Microsoft Forms

End of cycle questionnaire

26	04:07	Active
Responses	Average time to complete	Status

1. Do you think that using mobile technology (I-pads) in lessons has helped your Spanish learning?

Yes	19
No	1
Maybe	6



2. Please write down the reason for your choice in question number 1

25
Responses

Latest Responses

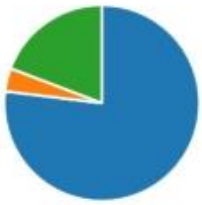
"its makes it clearer and makes me consitertrate more"

"because i feel that i learn more "

"It is fun and when it is fun i can remember things better"

3. Would you like to continue using I-pads in lessons?

Yes	20
No	1
Maybe	5



1/3

9/16/2018 Microsoft Forms

4. Please write down the reason for your choice in question number 3

24
Responses

Latest Responses
" "
"because i learn more "
"because i can remember things better"

5. How motivated are you to use Class Notes in your Spanish course

Extremely motivated	4
Very motivated	10
Somewhat motivated	7
Not so motivated	3
Not at all motivated	2



6. Did you use Class Notes before the intervention?

Yes	18
No	8



7. Have the activities done in class motivate you to use Class Notes more?

Yes	17
No	9



2/3

9/16/2016 Microsoft Forms

8. Please write down the reason for your choice in question 7

22
Responses

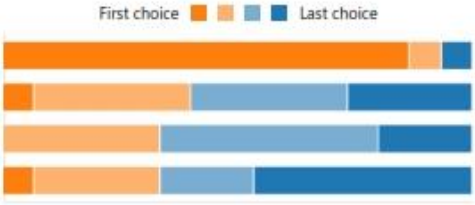
Latest Responses

"find it more proactive "

"because i can remember things better"

9. From the following applications used in class, which ones have been the most useful for your language learning? Rank them in order of usefulness. 1 very useful and 4 less useful. Use the arrows to make your choices

Rank	Options
1	Kahoot
2	Office Lens
3	Textivate
4	Class Note



10. In what ways, do you think your first choice in question number 9 has helped?

20
Responses

Latest Responses

"because it is really fun and i get confident more "

"its fun "

11. Do you feel that using mobile technology has helped your writing skills? Why?

22
Responses

Latest Responses

"no but i prefer to type"

"yes because it can remember it better"

3/3

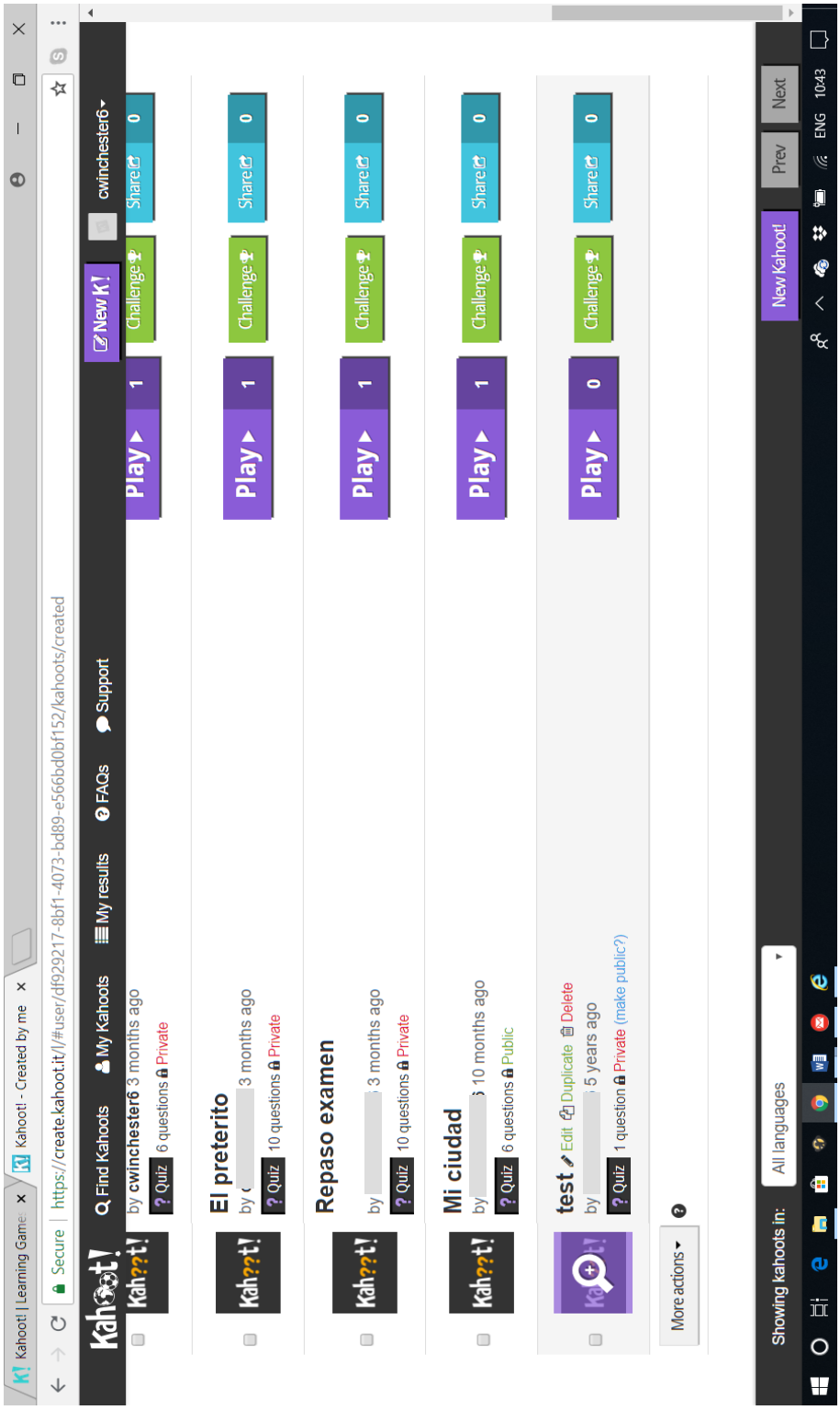
Appendix H. C1 Evaluation Framework for Language App Development

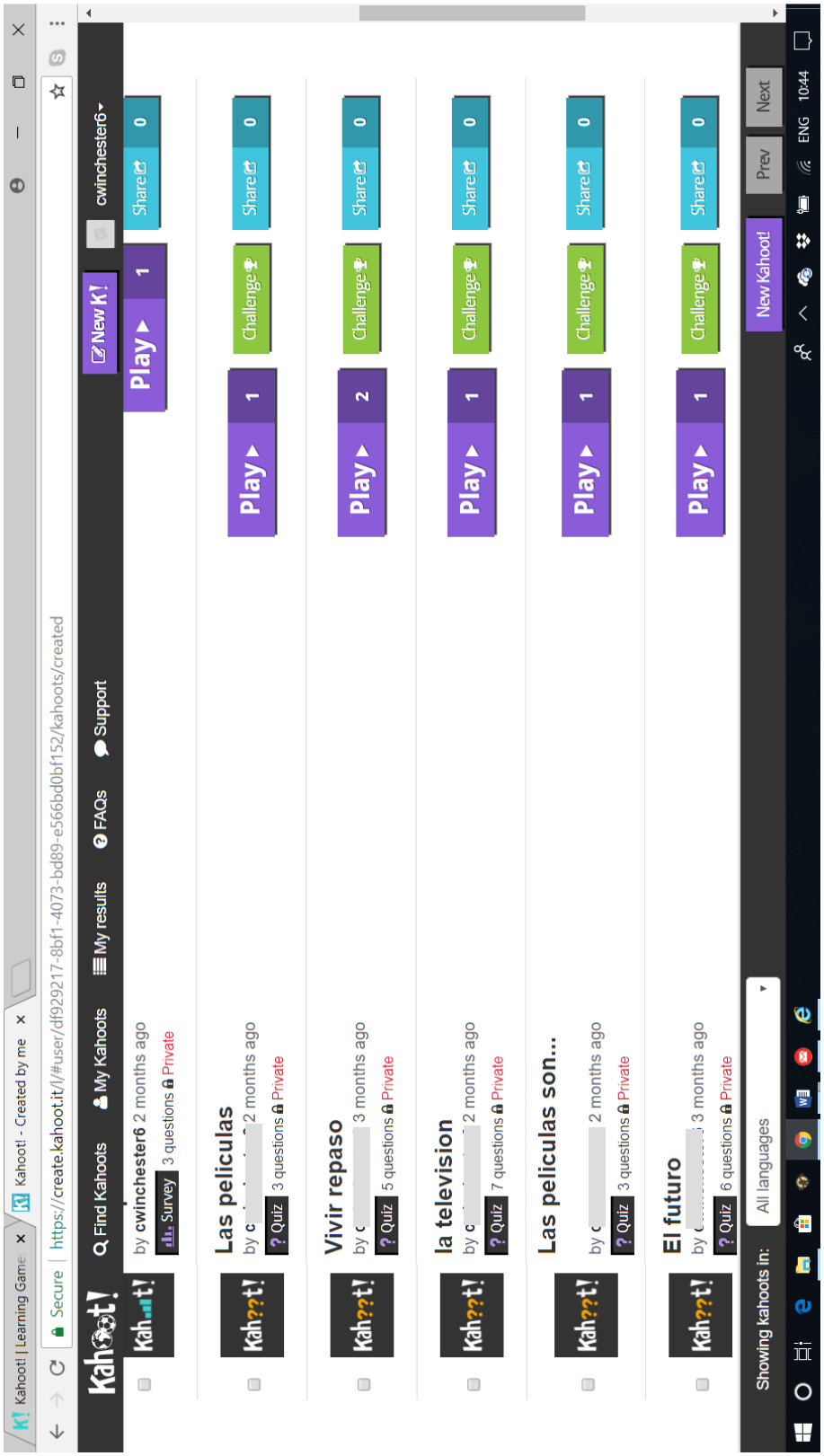
LANGUAGE COMPONENTS
Reading: Does the app provide texts in the target language? (Can it be adapted to dyslexic learners needs?)
Listening: Does the app provide audio in the target language?
Writing: Does the app offer opportunities to write in the target language?
Speaking: Does the app offer opportunities to speak in the target language?
Vocabulary: Does the app offer specific activities for vocabulary acquisition?
Grammar: Does the app offer specific activities for grammar practice?
Pronunciation and intonation: Do the app offer specific activities for pronunciation and intonation?
Use of visual content: Are images suitable for language needs? Can they be modified or not?
USER EXPERIENCE
Interactivity: Is engagement with the app content active or passive?
Registration: Does the app require the user to register?
Sharing: Does the app allow sharing content?
Price: Is it free to download?
PEDAGOGY
Progress: Does the app allow the user to track progress?
Scaffolding: Do activities in the app progress in difficulty in a way that supports the learner? (Does it allow to scaffold the activities?
Feedback: Does the app provide feedback?
Use of media: Does the app use sounds, images and videos? (does it allow to manipulate sound, video or images?)
Differentiation: Does the app offer different levels on ability?
Engagement: Does the app have interesting and engaging activities
DESIGN
Interface: Is the design of the app easy to use?
Navigation: Is the app easy to navigate? Does it have clear instructions?
Stability: Does the app freeze or crash?
Gamification: Does the app have game features to increase engagement?

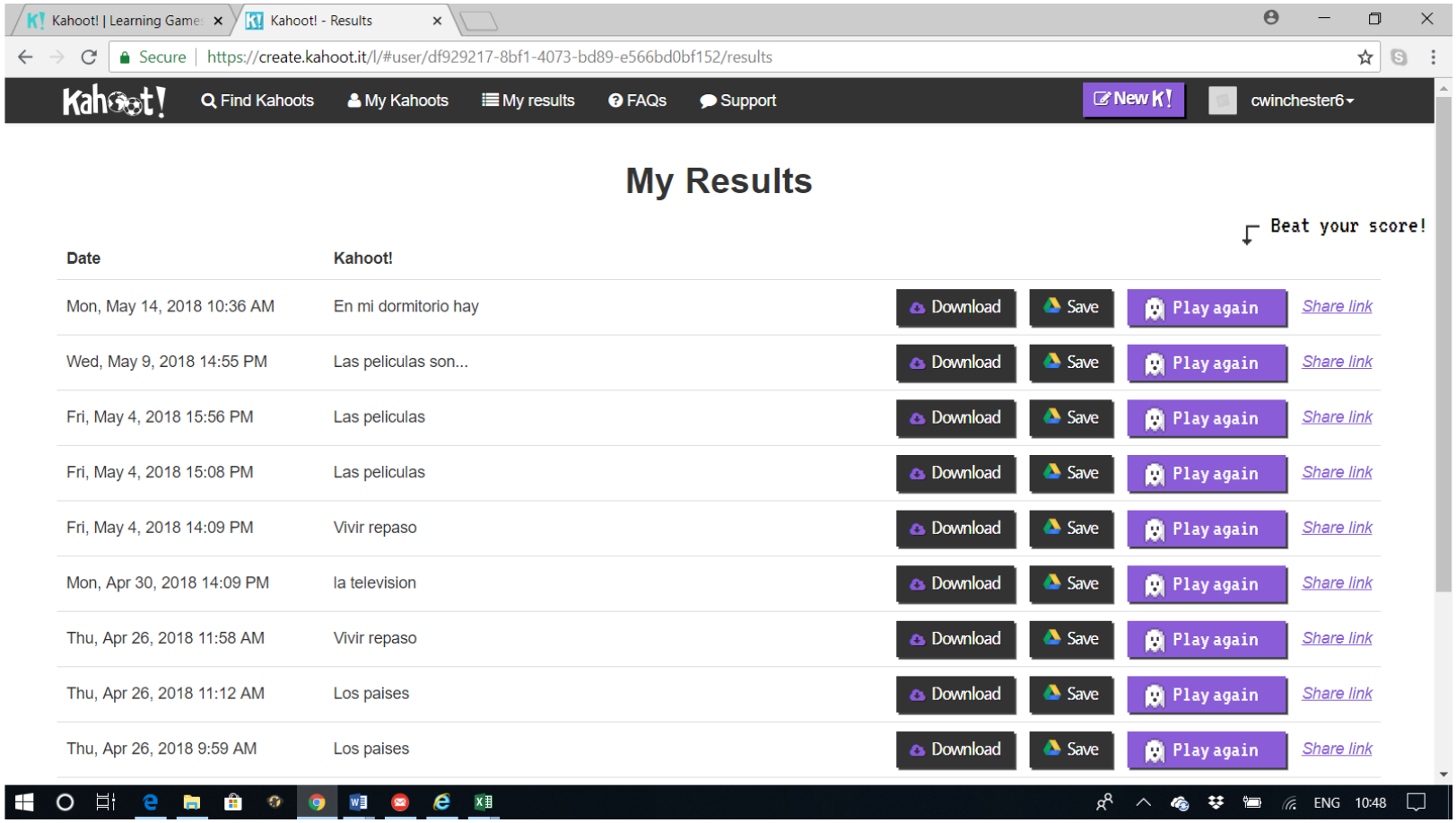
Framework for Language Learning App Evaluation (adapted from Rosell-Aguilar 2017)

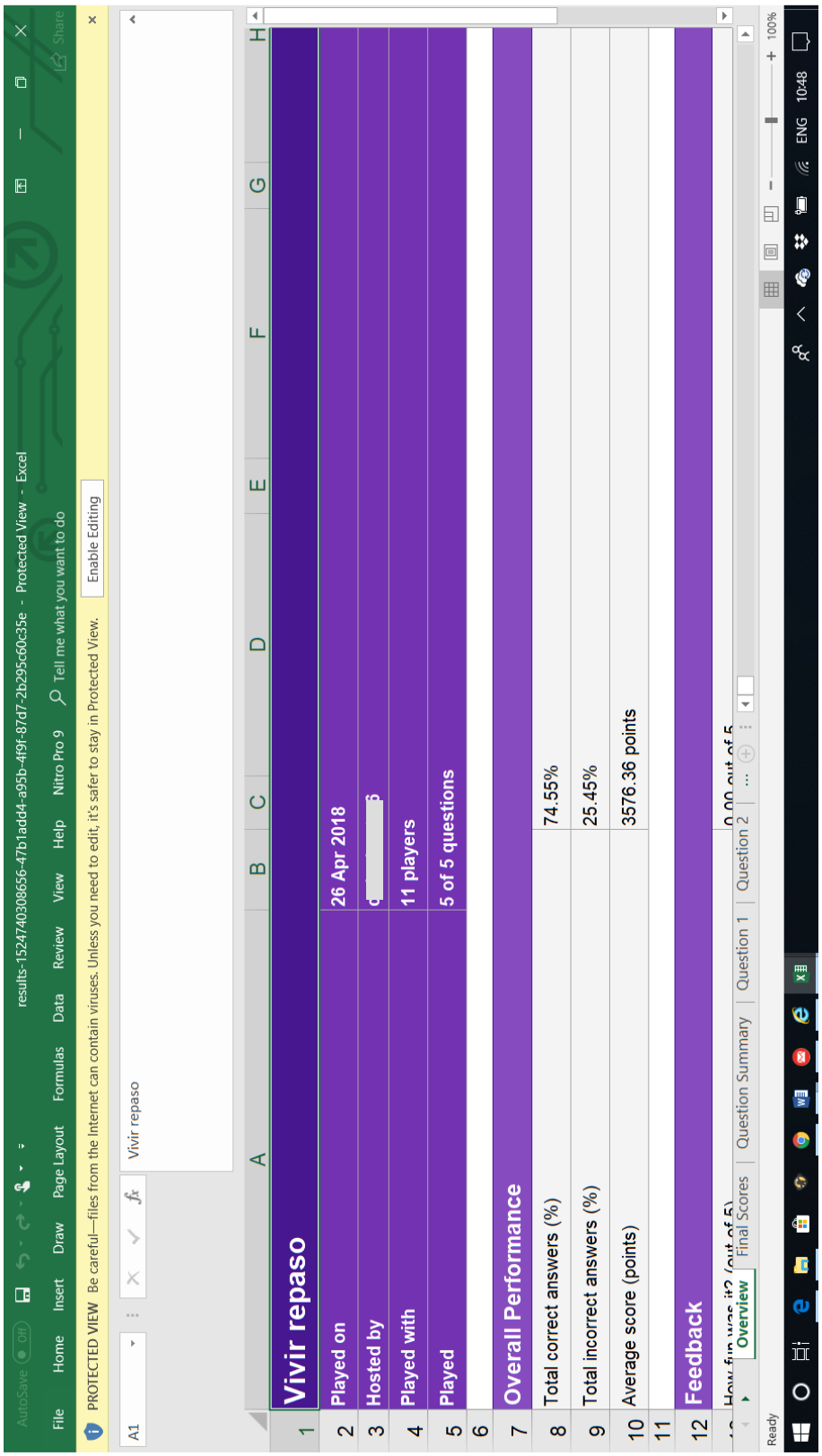
Appendix I. Example Intervention Tasks and Activities

I.1 Example Vocabulary and grammar quizzes using Kahoot Y7-78

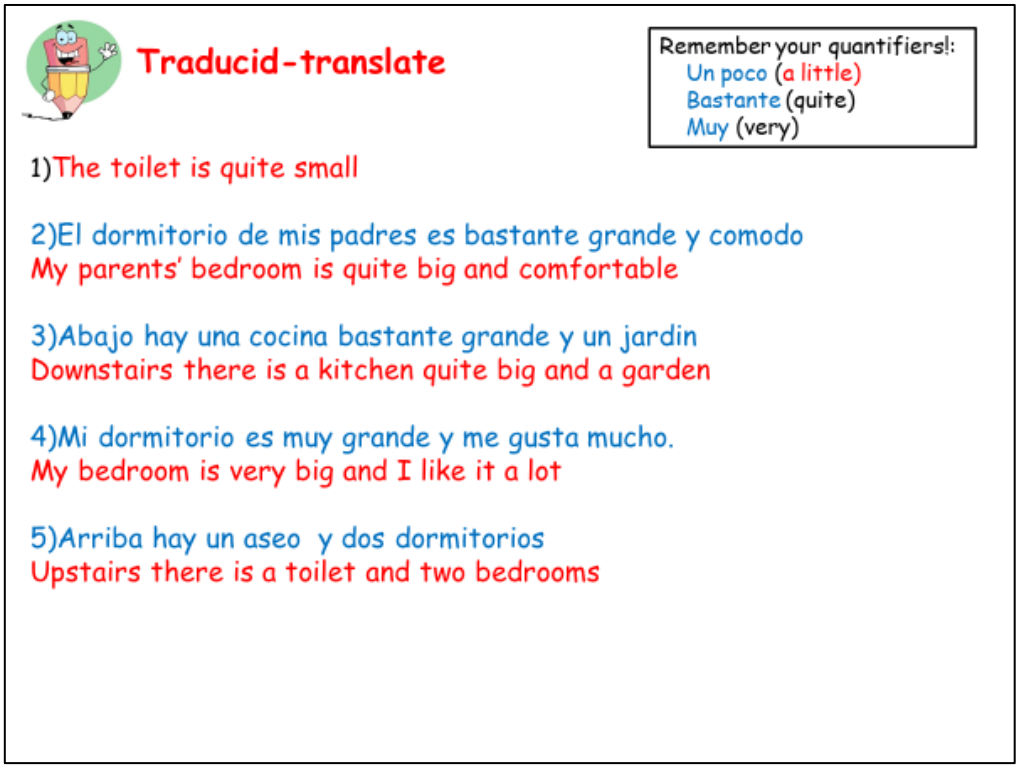



Kahoot! | Learning Game
Kahoot! - Created by me
Secure | https://create.kahoot.it/l/#user/df929217-8bf1-4073-bd89-e566bd0bf152/kahoots/created
Kahoot!
Find Kahoots
My Kahoots
My results
FAQs
Support
New K!
cwinchester6
by cwinchester6 2 months ago
Survey 3 questions Private
Play 1
Challenge
Share 0
Las peliculas
by c 2 months ago
Quiz 3 questions Private
Play 1
Challenge
Share 0
Vivir repaso
by c 3 months ago
Quiz 5 questions Private
Play 2
Challenge
Share 0
la television
by c 2 months ago
Quiz 7 questions Private
Play 1
Challenge
Share 0
Las peliculas son...
by c 2 months ago
Quiz 3 questions Private
Play 1
Challenge
Share 0
El futuro
by c 3 months ago
Quiz 6 questions Private
Play 1
Challenge
Share 0
Showing kahoots in:
All languages
New Kahoot!
Prev
Next
ENG 10:44


Kahoot! | Learning Game
Kahoot! - Results
Secure
https://create.kahoot.it/l/#user/df929217-8bf1-4073-bd89-e566bd0bf152/results
Kahoot!
Find Kahoots
My Kahoots
My results
FAQs
Support
New K!
cwinchester6
My Results
Beat your score!
Date
Kahoot!
Mon, May 14, 2018 10:36 AM
En mi dormitorio hay
Wed, May 9, 2018 14:55 PM
Las peliculas son...
Fri, May 4, 2018 15:56 PM
Las peliculas
Fri, May 4, 2018 15:08 PM
Las peliculas
Fri, May 4, 2018 14:09 PM
Vivir repaso
Mon, Apr 30, 2018 14:09 PM
la television
Thu, Apr 26, 2018 11:58 AM
Vivir repaso
Thu, Apr 26, 2018 11:12 AM
Los paises
Thu, Apr 26, 2018 9:59 AM
Los paises
Download
Save
Play again
Share link
ENG
10:48


results-1524740308656-47b1add4-a95b-4f9f-87d7-2b295c60c35e - Protected View - Excel
PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View.
Enable Editing
Vivir repaso
Played on 26 Apr 2018
Hosted by
Played with 11 players
Played 5 of 5 questions
Overall Performance
Total correct answers (%) 74.55%
Total incorrect answers (%) 25.45%
Average score (points) 3576.36 points
Feedback
Overview
Final Scores
Question Summary
Question 1
Question 2
Ready

I.2 Example Translation and Writing Tasks – Year 7



Traducid-translate

Remember your quantifiers!:
Un poco (a little)
Bastante (quite)
Muy (very)

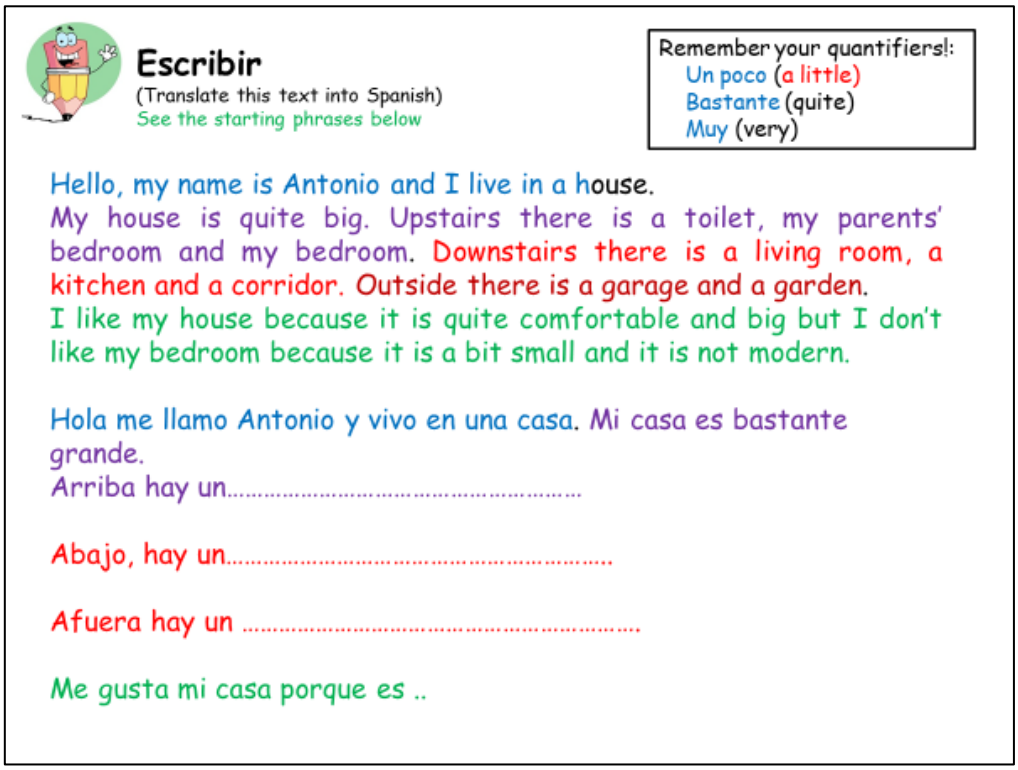
1)The toilet is quite small

2)El dormitorio de mis padres es bastante grande y comodo
My parents' bedroom is quite big and comfortable

3)Abajo hay una cocina bastante grande y un jardin
Downstairs there is a kitchen quite big and a garden

4)Mi dormitorio es muy grande y me gusta mucho.
My bedroom is very big and I like it a lot

5)Arriba hay un aseo y dos dormitorios
Upstairs there is a toilet and two bedrooms



Escribir
(Translate this text into Spanish)
See the starting phrases below

Remember your quantifiers!:
Un poco (a little)
Bastante (quite)
Muy (very)

Hello, my name is Antonio and I live in a house.
My house is quite big. Upstairs there is a toilet, my parents' bedroom and my bedroom. Downstairs there is a living room, a kitchen and a corridor. Outside there is a garage and a garden.
I like my house because it is quite comfortable and big but I don't like my bedroom because it is a bit small and it is not modern.

Hola me llamo Antonio y vivo en una casa. Mi casa es bastante grande.
Arriba hay un……

Abajo, hay un……

Afuera hay un ……

Me gusta mi casa porque es ..

Writing Task: Describe your house using the model above and using the vocabulary

I.3 Example Reading Task – Advanced Reading Year 7

Digital text shared with students on Textivate

La Casa Ideal / La Casa de mis Sueños

La casa de mis sueños es mucho más grande que donde vivo ahora y con espacio suficiente para una familia de 3 ó 4 hijos. La casa de mis sueños tiene un chalé individual de tres plantas y jardín. El garaje está en el sótano y en la planta baja hay un salón muy grande, un comedor, la cocina y un cuarto de baño pequeño. Los dormitorios están en la primera planta, donde también hay un cuarto de baño con bañera y jacuzzi. En el jardín hay una piscina para nadar en el verano. Al lado de la piscina habría un sofá y mesas para comer durante el verano. También tiene un salón de juegos porque juego video juegos con mi familia.

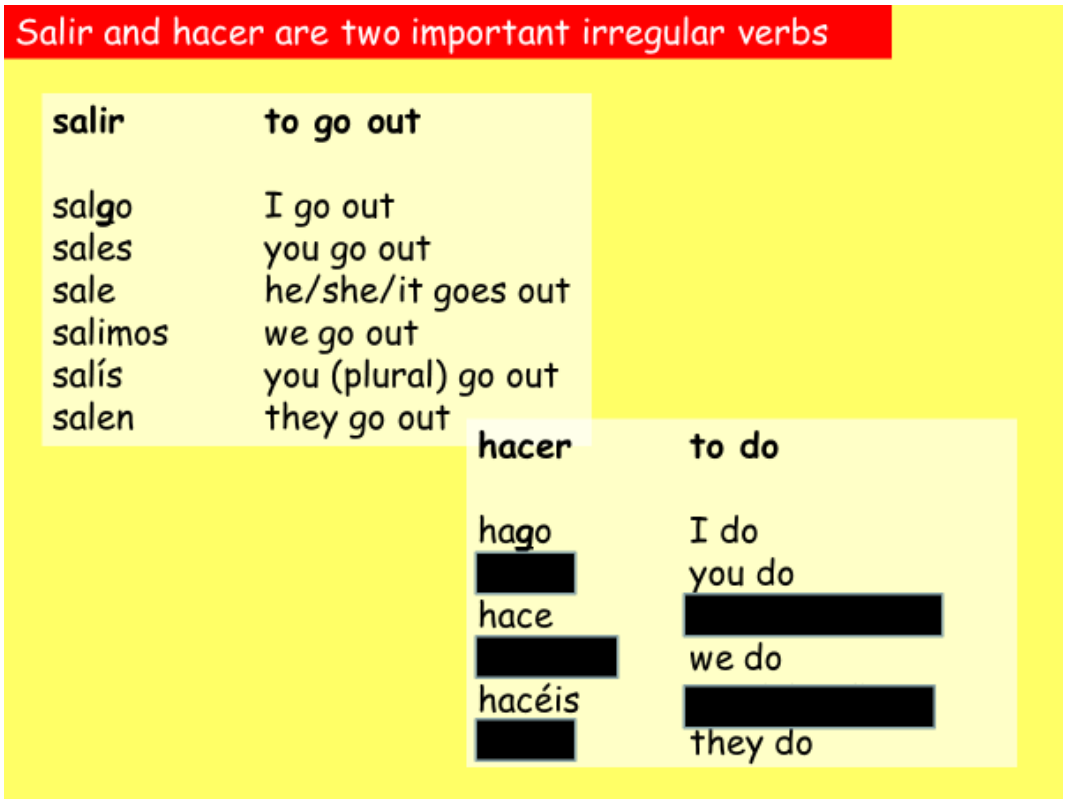


I.4 Example Writing framework for extension writing task

- Sueño con comprar….un chalé, una villa, un caserón, una mansión, un apartamento, una finca **I dream to buy……**
- Está situada/ localizada en**….It is located in**
- Es palaciega, enorme, amplia, espaciosa, lujosa, grandísima, brillante, súper-moderna, bien-equipada **it is a palace, wide, spacious,**
- Hay …… plantas…**there are floors**
- En la planta baja hay….**on the second floor, there is**
- Fuera- **outside**
- Dentro..**inside**
- El salón de juegos está en/ al lado de/ enfrente de ….. **the game room is next to/ in front of**
- (no) Tiene espacio para muchos animales/ coches/ canchas de golf/ tenis **it has space for many animals, cars, golf courses, tennis courts**
- Una piscina climatizada- a **heated swimming pool**
- Mi dormitorio es…… y tiene ……**my bedroom is_____ and has**

I.5 Example Grammar Focused Tasks

Online PowerPoint accessed via OneNote – Year 8



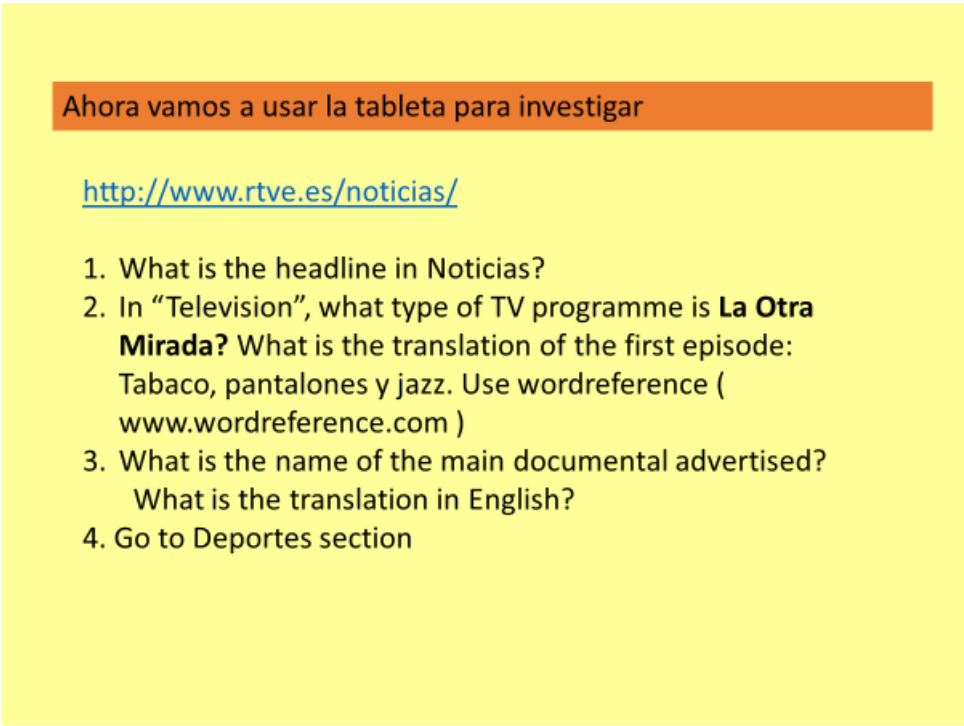


I.6 Example Presentation Resources

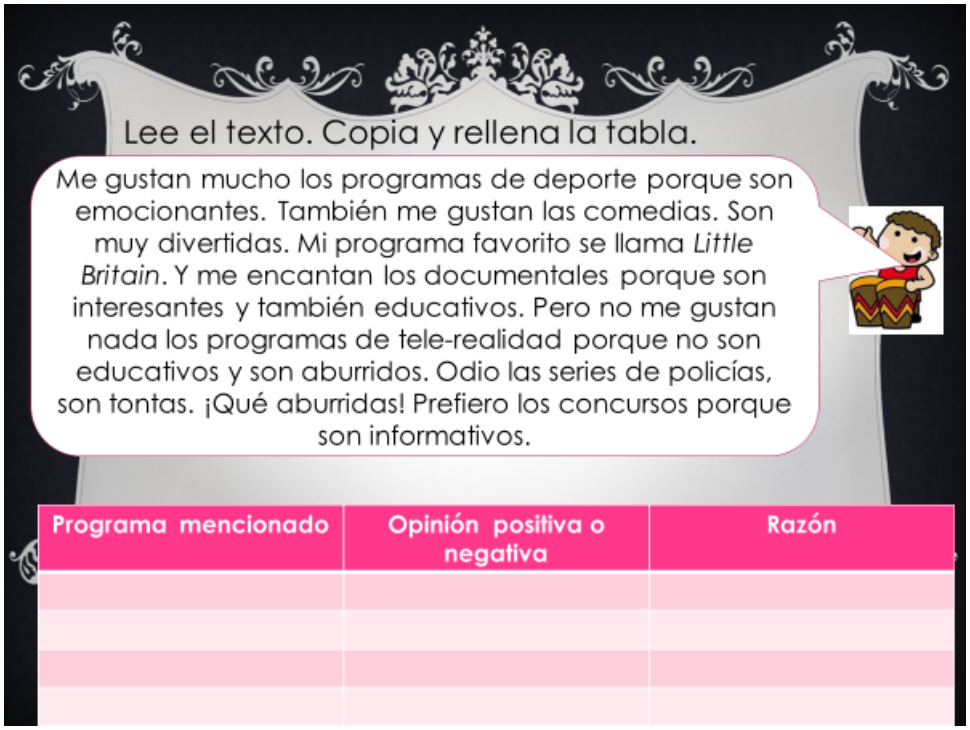
Speaking Task- Sentence Starter for Speaking and Writing – Year 8



Reading Task – Interactive Task Using Device Year 8



Reading Task – Using Textivate Year 8

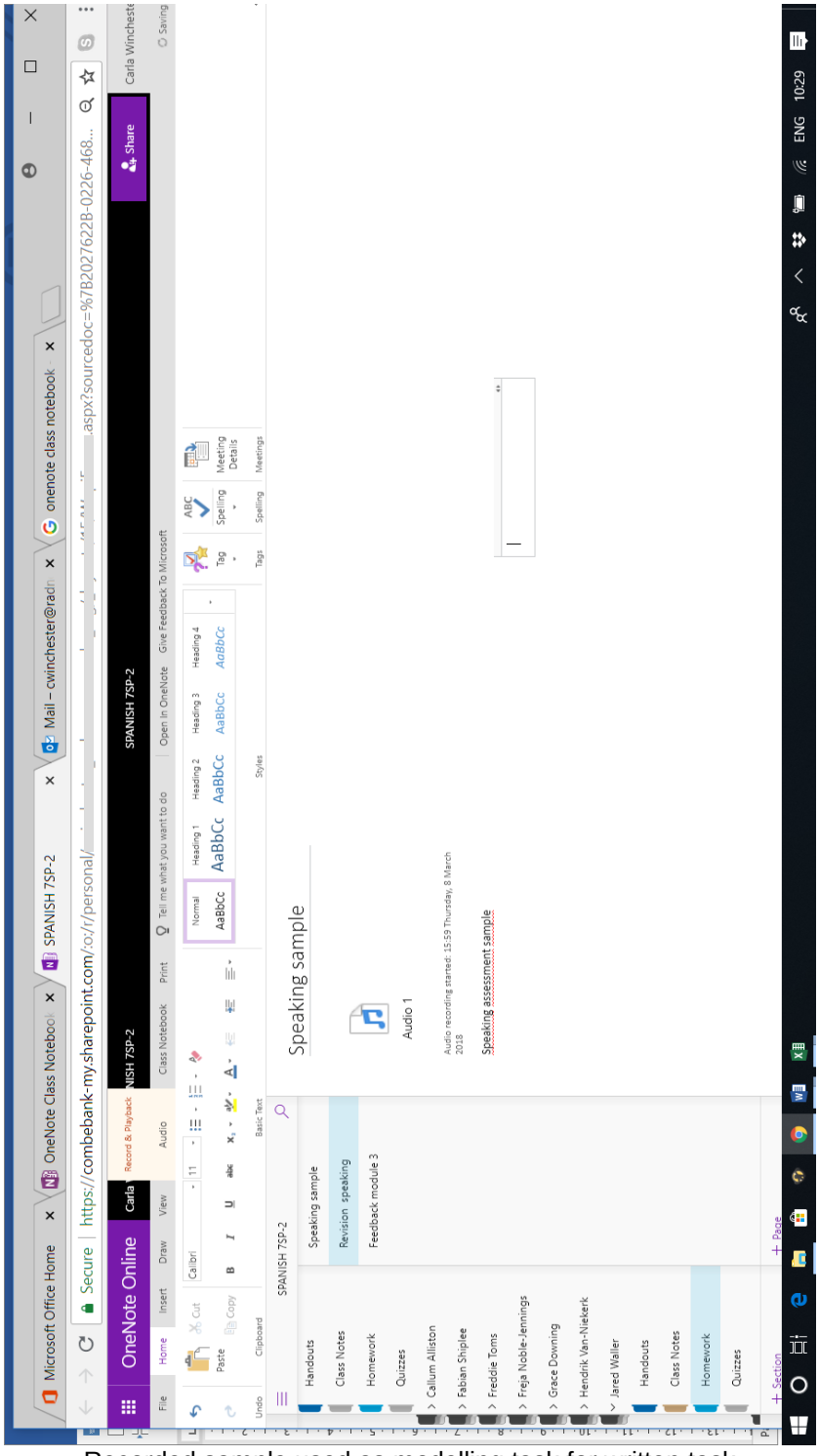


Example Speaking and Writing Frame – Year 8

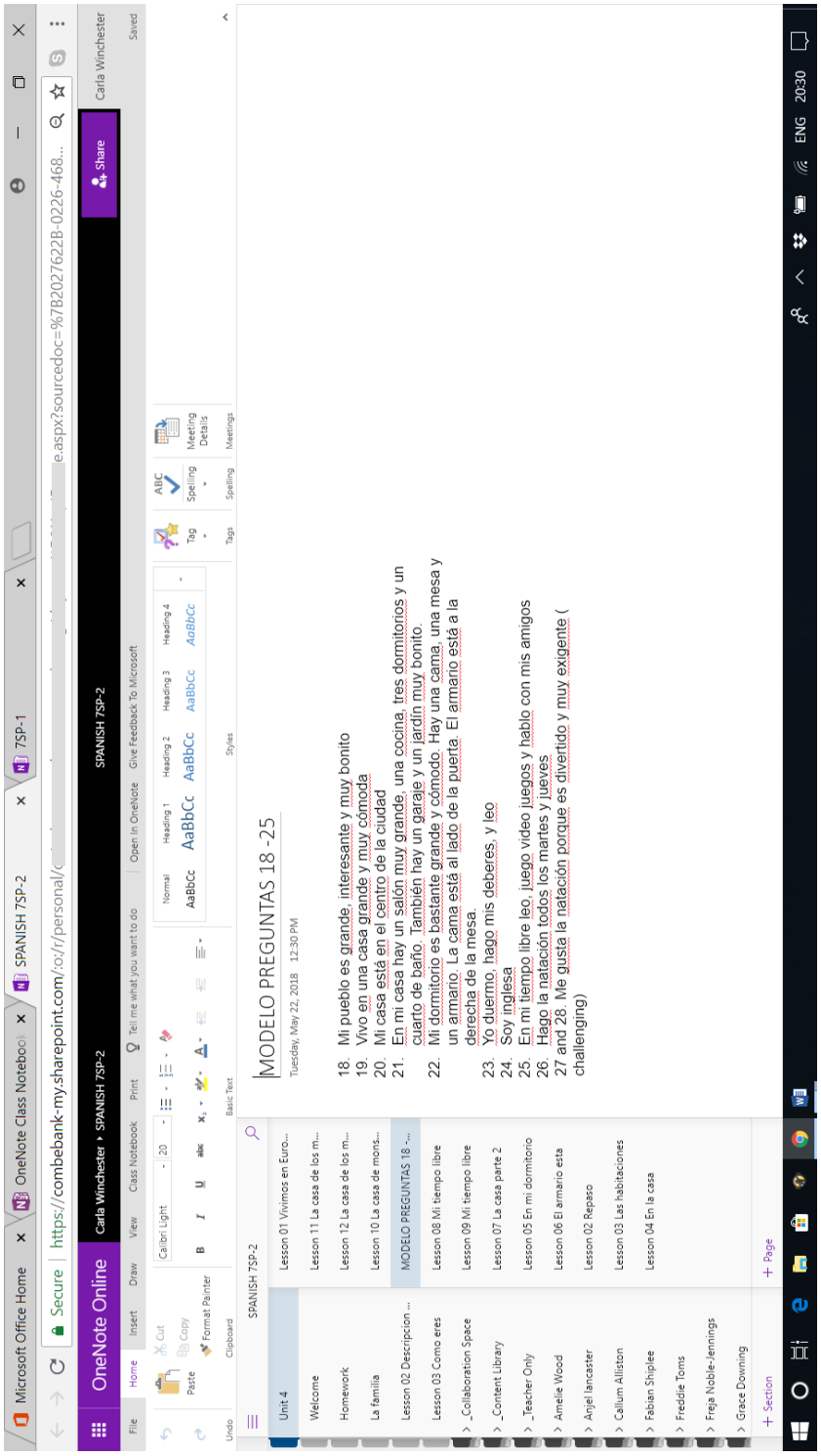


I.7 Interactive Language Tasks using OneNote / Textivate / PowerPoint

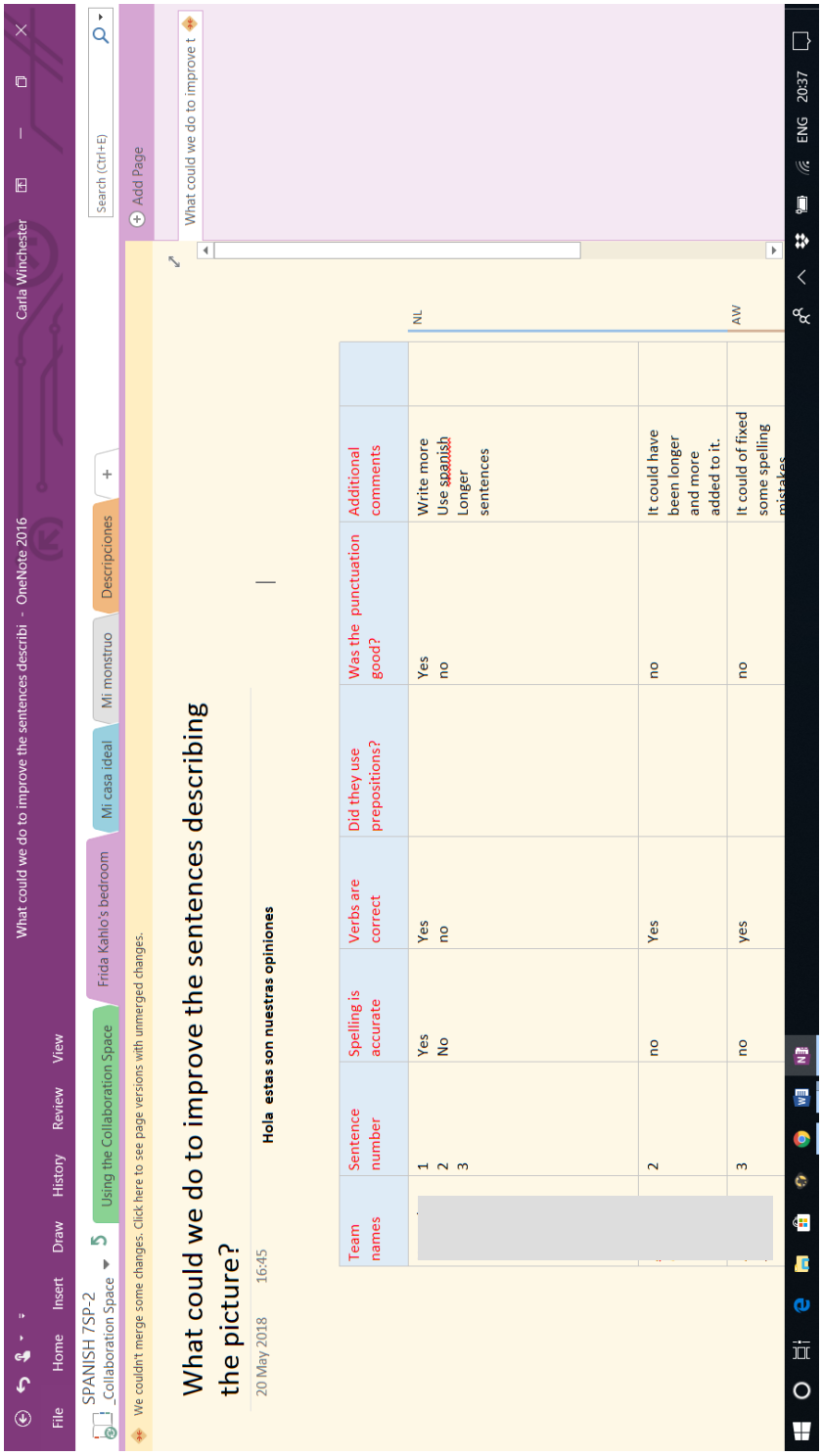
Interactive Task Example Using OneNote



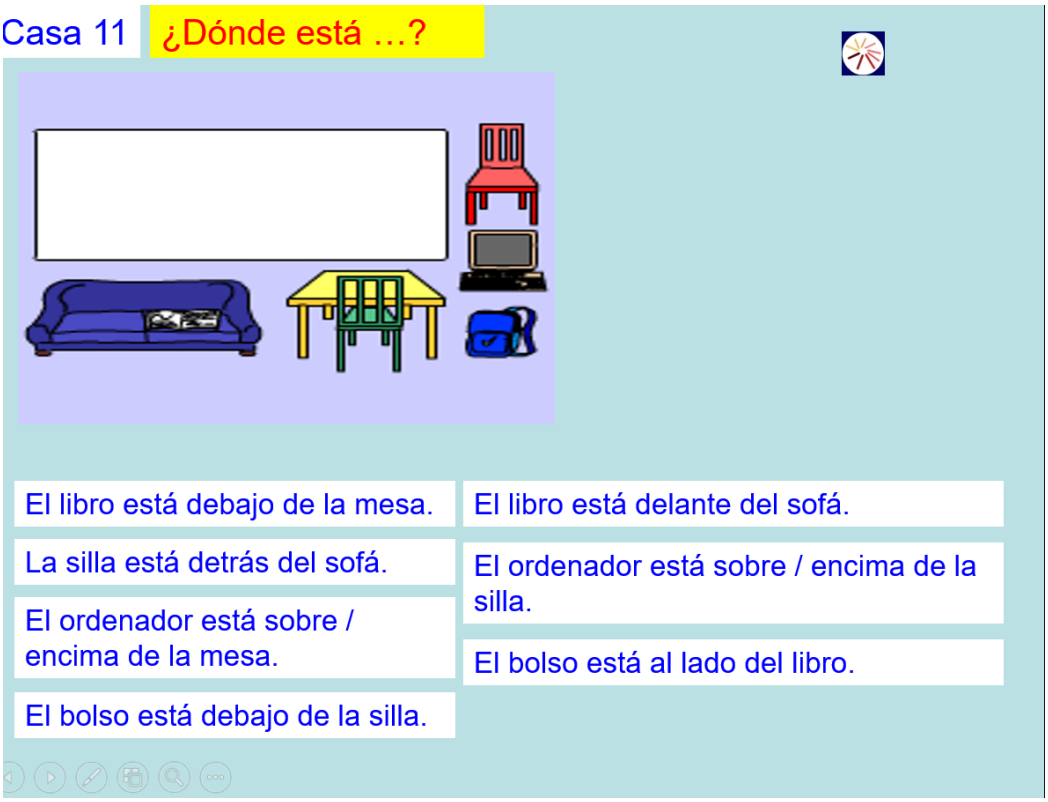
Recorded sample used as modelling task for written task



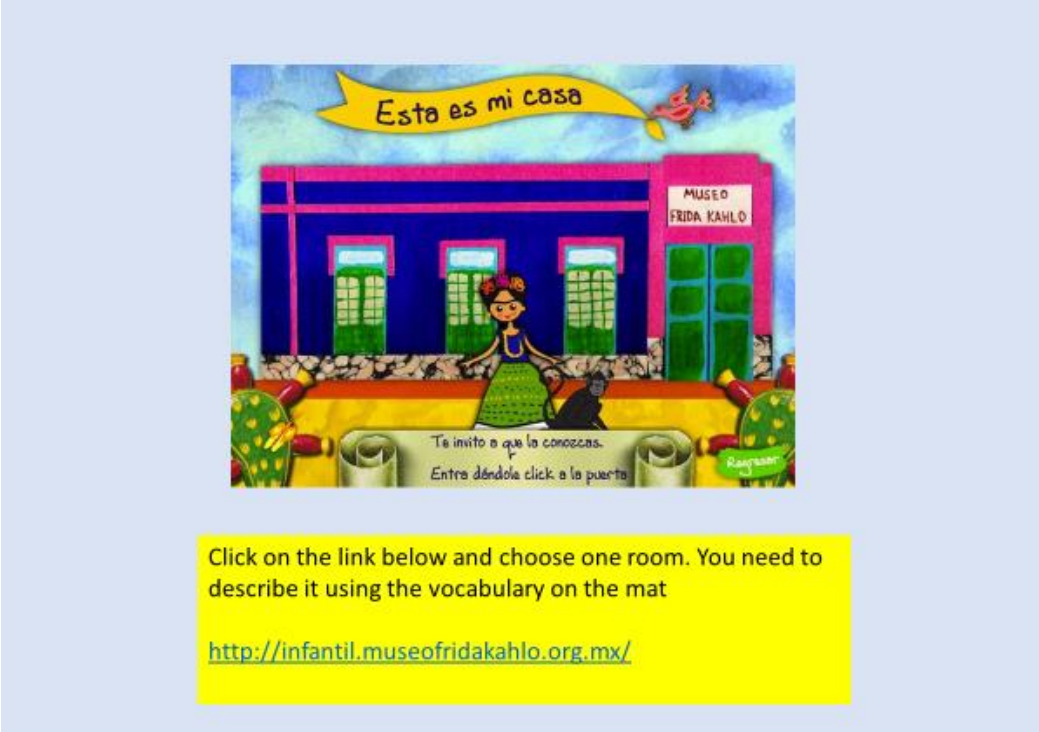
Sample modelled speaking task for students Y7



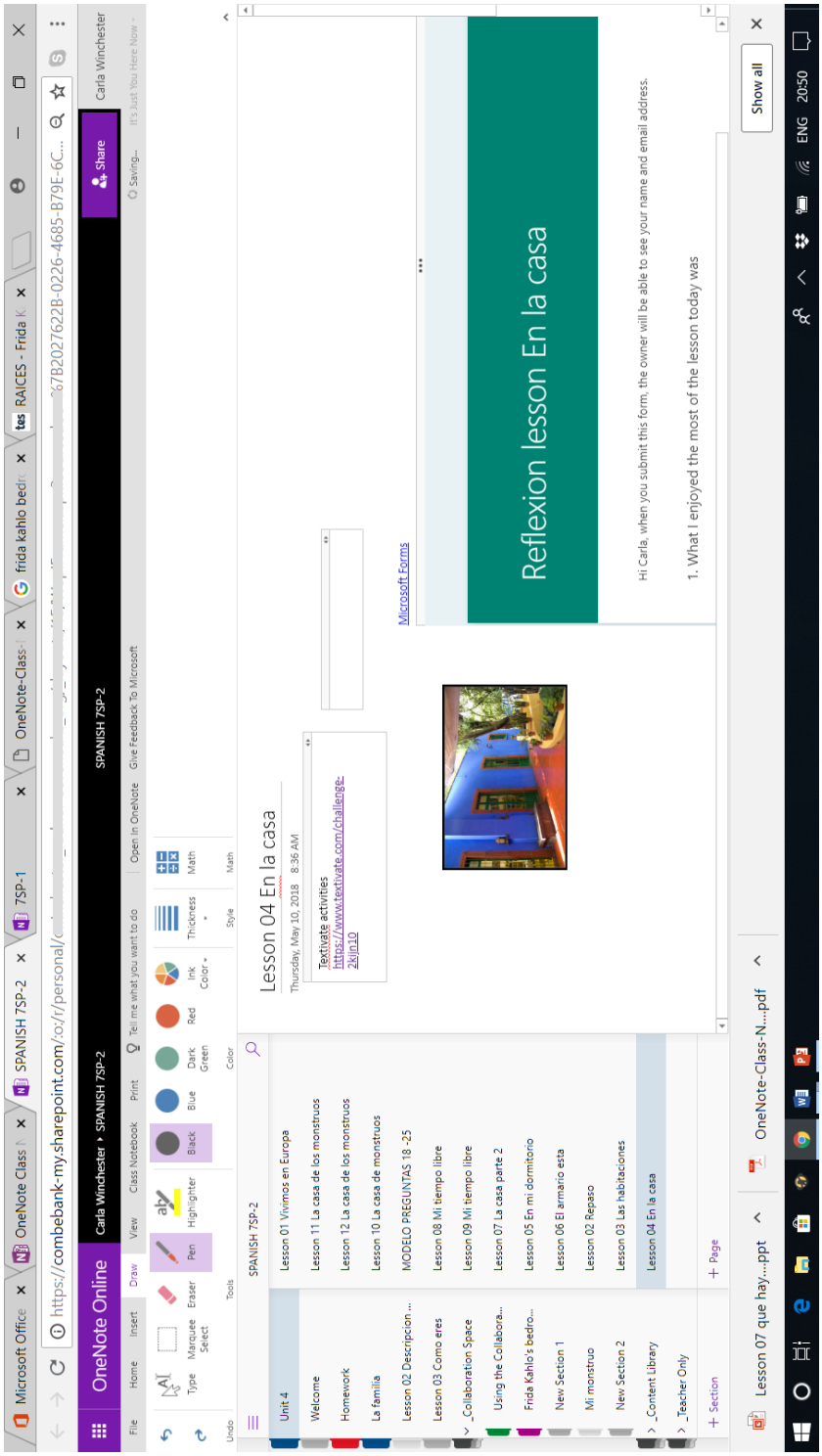
Collaborative task: Peer assessment- Frida Kahlo task Y7



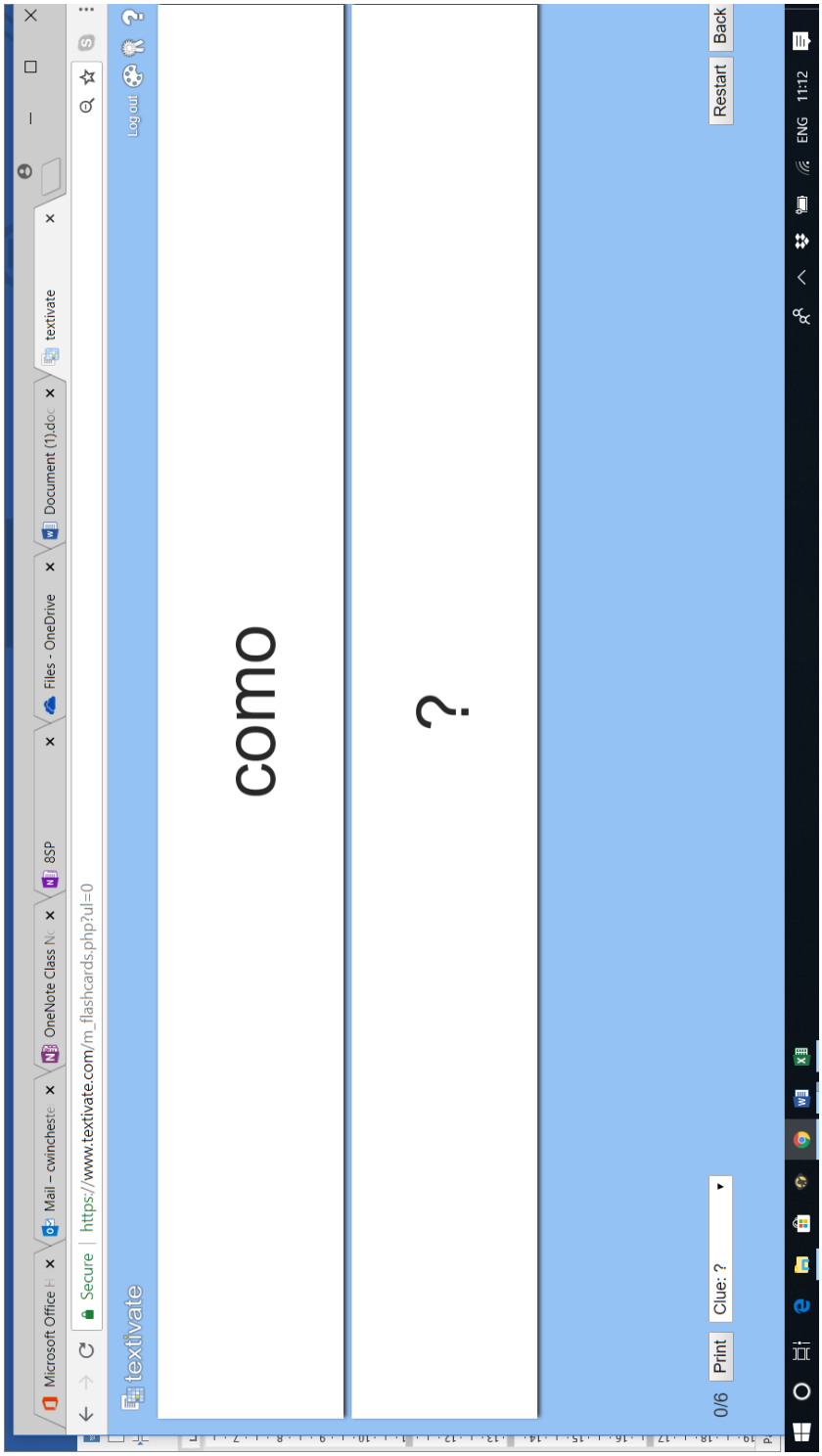
Interactive task- students drag descriptions using I-pad Y7



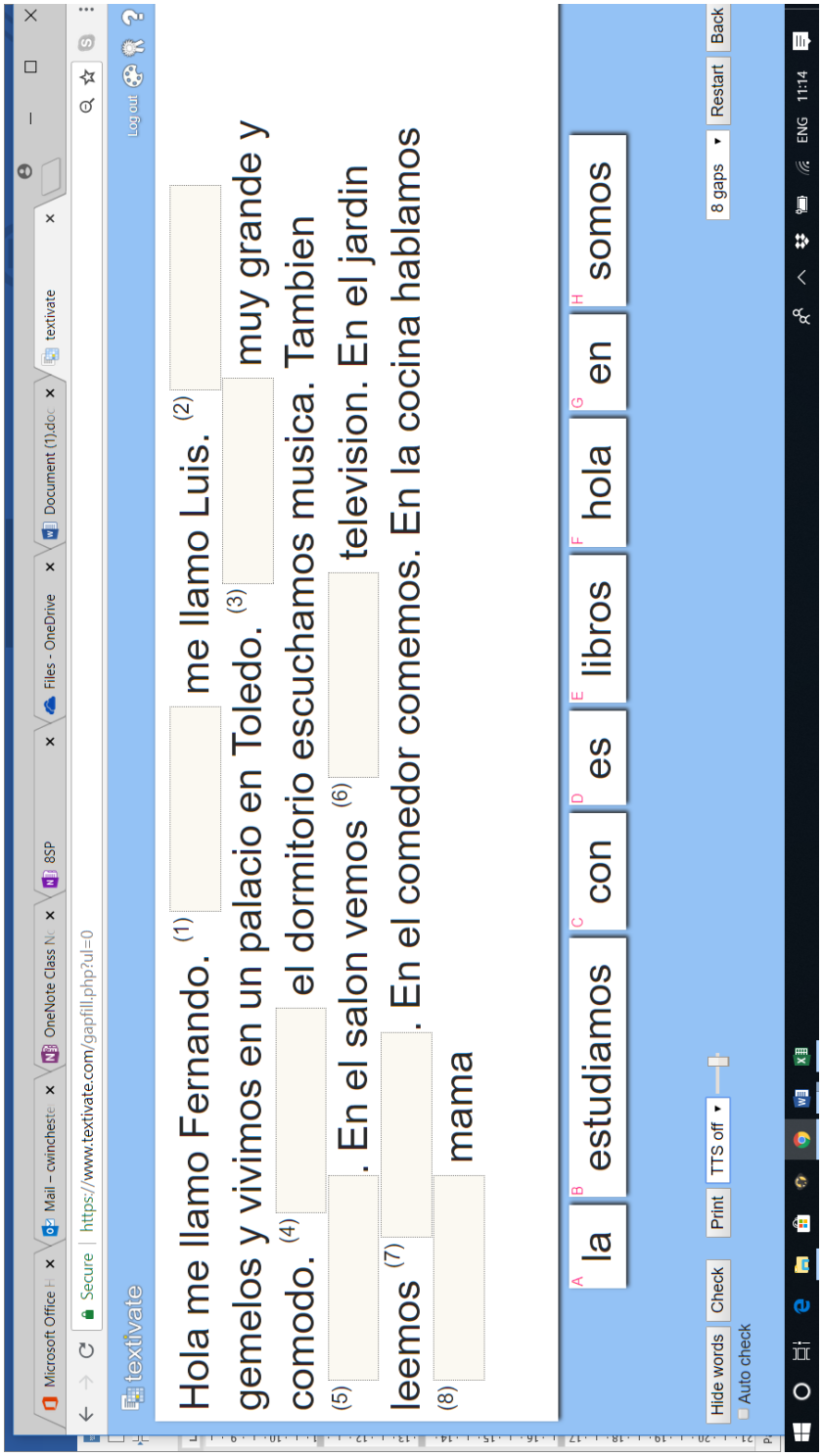
Describing a picture online: speaking and writing Year 7



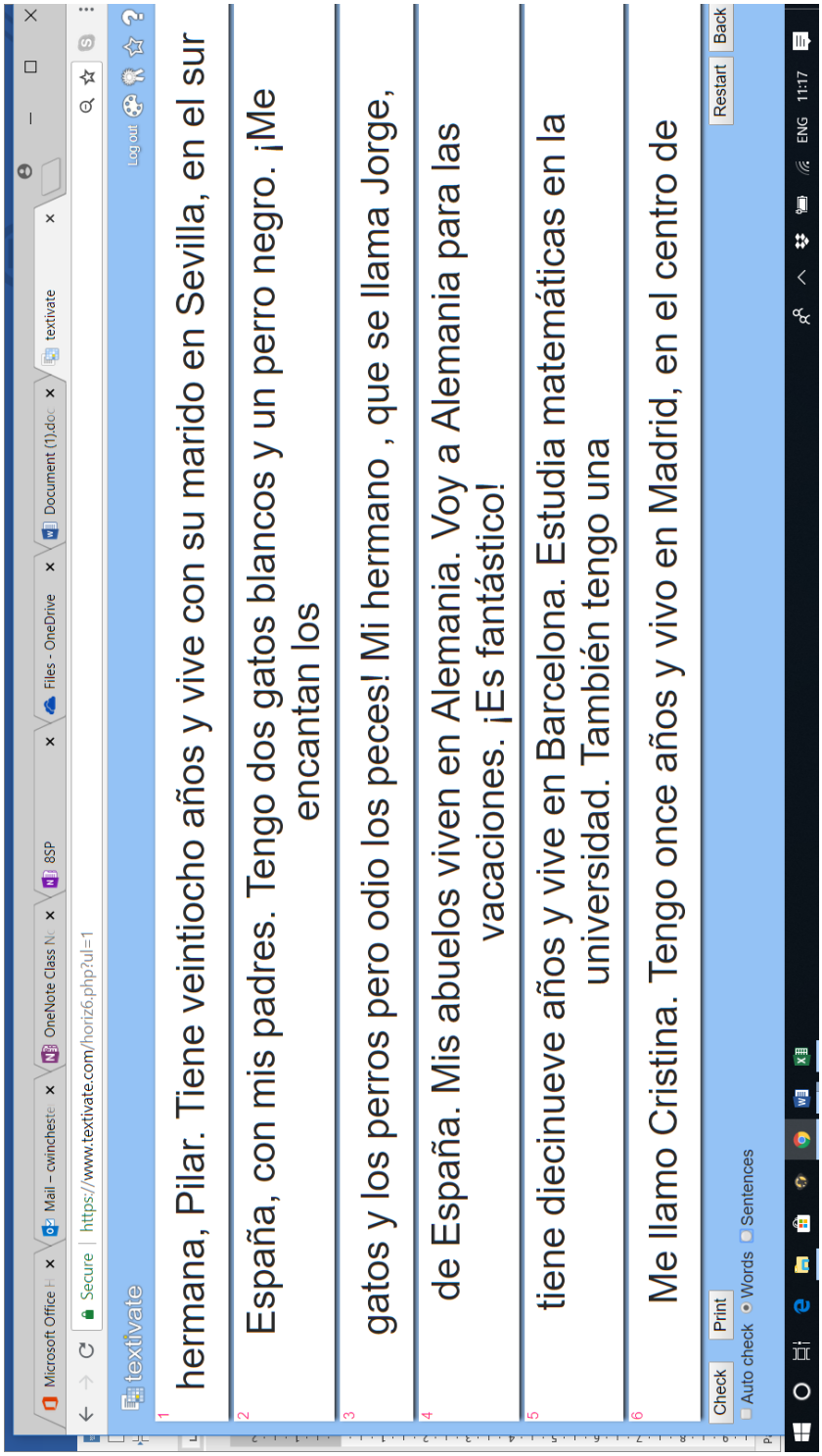
Describing a picture online: speaking and writing Y7



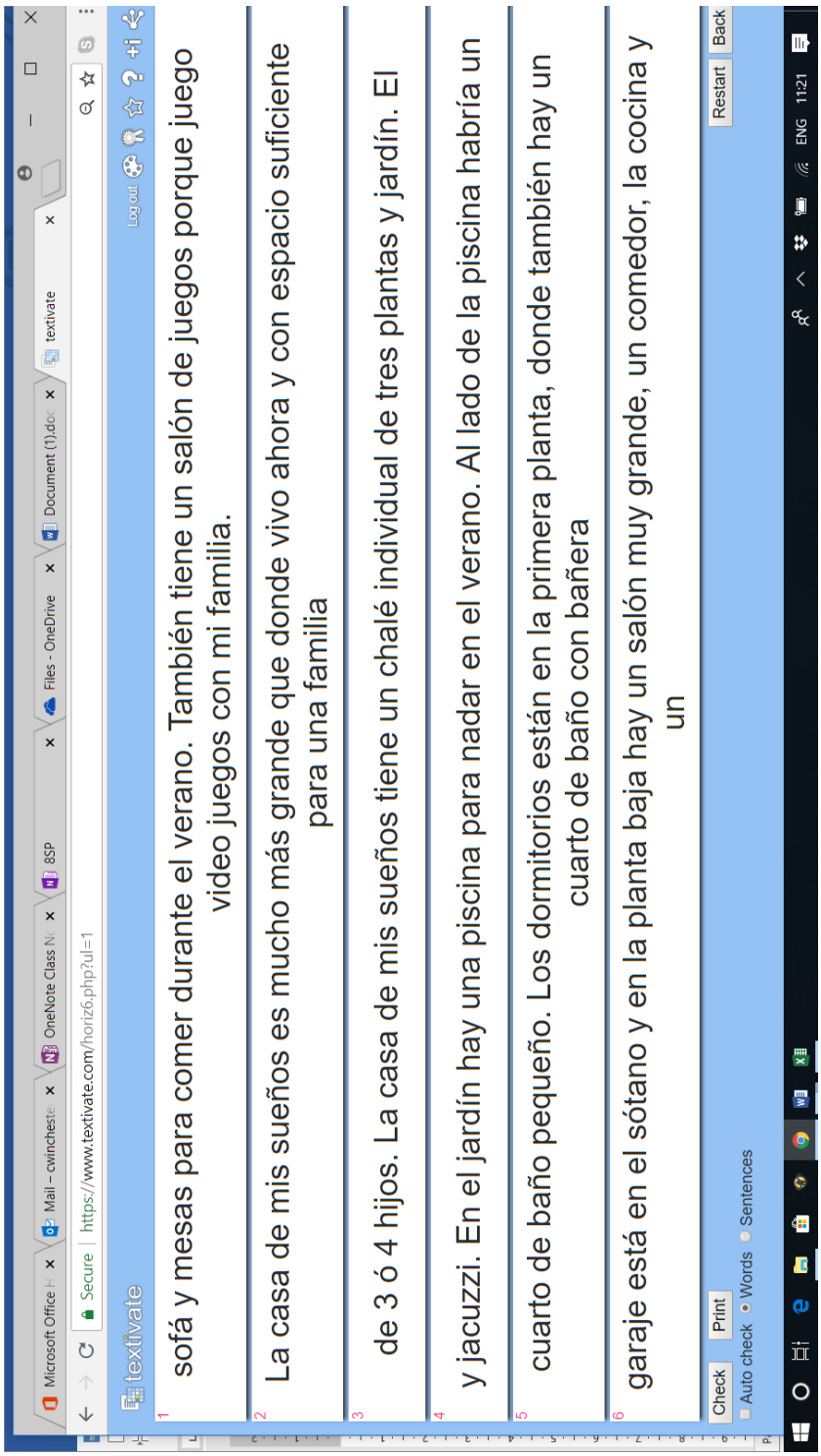
Interactive task Textivate Example – Year 7



Interactive task Textivate Example – Year 7



Interactive task Textivate Example – Year 7



Interactive task Textivate Example – Year 7

I.8 Translation Task Example – Spanish to English

YEAR 7

A. Vivo en una casa grande en el centro de la ciudad

B. Soy de Irlanda, pero vivo en Inglaterra

C. Mi casa es muy grande.

D. En mi casa hay un salón, cuatro dormitorios y un salón grande.

E. Vivo en un piso moderno y grande

YEAR 8

A. Me encantan las películas de acción porque son divertidas

B. No me gustan las películas de terror porque son tontas

C. Odio las comedias porque son estúpidas

D. Odio las películas de guerra porque son muy aburridas

E. Prefiero los programas de telerrealidad porque son interesantes

I.9 Vocabulary used in Tests using Kahoots

Year 7 Vocabulary

Irlanda	piso	salon	mesa	bonita(0)
Inglaterra	casa	dormitorio	alfombra	grande
Espan	pueblo	garaje	ordenador	vieja(0)
Escocia	ciudad	jardin	television	antigua(0)
Alemania	costa	cuarto de bano	estanteria	moderno(a)
Grecia	montana	aseo	mesa	pequeno(a)
Italia	playa	cocina	lampara	lujoso(a)
Francia	afueras	despacho	puerta	barato(a)
Rusia	centro	comedor	ventana	caro(a)
Mexico	hermana	balcon	armario	espacioso

Year 8 Vocabulary

pelicula	de accion	telenovelas	me gusta	puedo
cine	de terror	de deporte	detesto	puedes
ir a	romantica	documentales	odio	fui
comer	de guerra	noticias	prefiero	comi
palomitas	de accion	telediario	me gustaria	vi
comprar	de aventura	el meteo	me encantan	me gusto
entradas	comedia	telerealidad	me chiflan	voy a ver
puede	pelicula	comedias	te apetece	vamos a ir
dar	ciencia ficcion	drama	te gustaria	salir
ver	dibujos animados	policiacas	quieres	comer

I.10 C2 Sample Student Work Extract

Written descriptions for interactive activity Frida Kahlo's bedroom using I-pads on collaborative space on OneNote Notebook

En el dormiterio hay un armario me recuerda a narnia.

Hay una cama supongo que ella duerme alli. A la izquierda cerca de

un espejo delante her parece contento.

Student H

En el dormitorio hay una cama y un armario. Hay un mono. Moviendos .

Hay unos posters encima una cama.

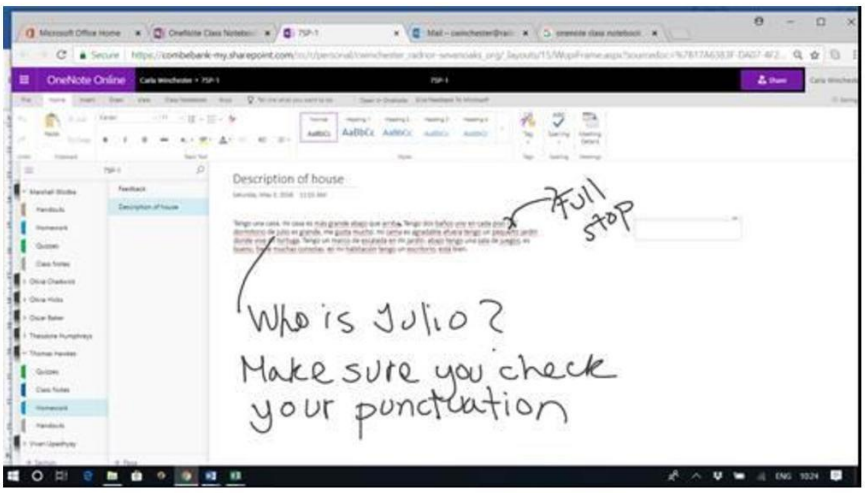
Student B

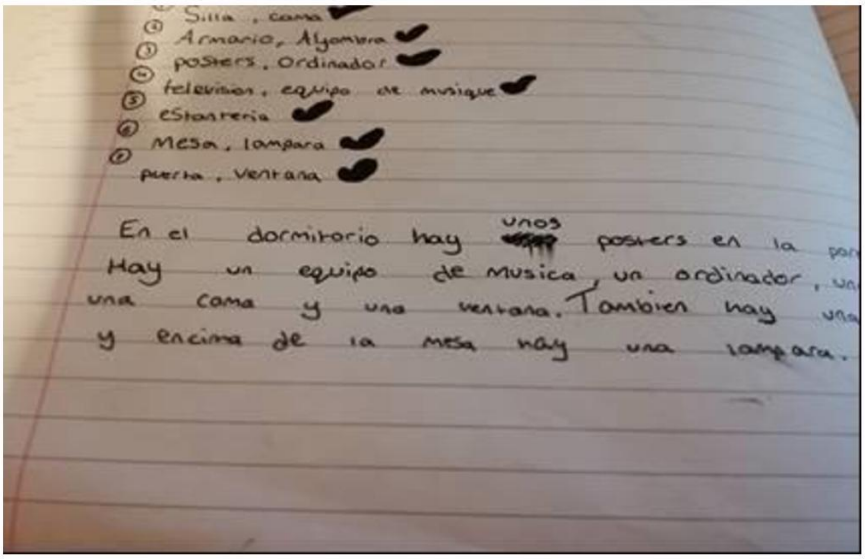
En la imagen al fondo armario moviendose creo que it isnanea supongo un

hombre in tento kill her.

Student E

Student H's written description using writing framework on OneNote Notebook Y7 and follow up written task on exercise book





I.11 Example Vocabulary and Grammar Tasks

Vocabulary Lists

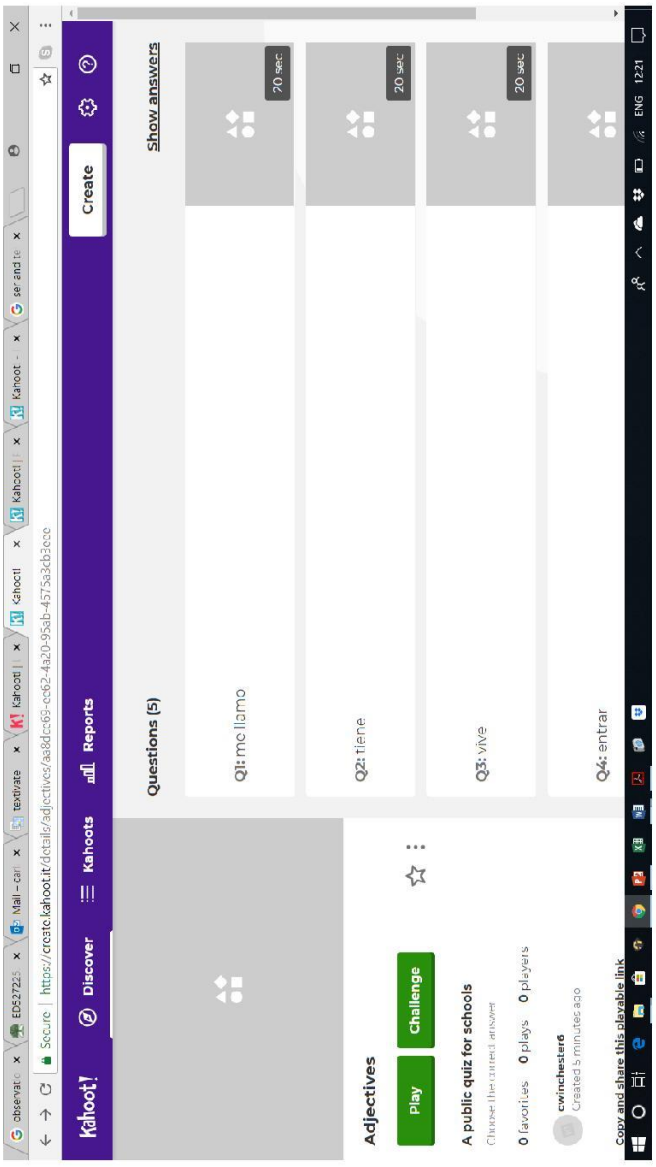
Vocabulary Y7

me llamo	le gusta	anciano
tengo	ojos azules	chica
soy	pequeno	la tienda
vivo	moscas	repara
vives	boca	casas
es	grande	pajaros
ella	cariñoso	animales
me gusta	pelo largo	ideal
ir al cine	monstruo	colores
jugar	temeroso	alegre

Vocabulary Y8

despues	aceptar	acepta
antes	entrar	recibe
ahora	comprar	compra
y	tener	tiene
tambien	estar	esta
aunque	ser	es
primero	vivir	son
cuando	tener	tienen

Vocabulary task sample Kahoot Y7



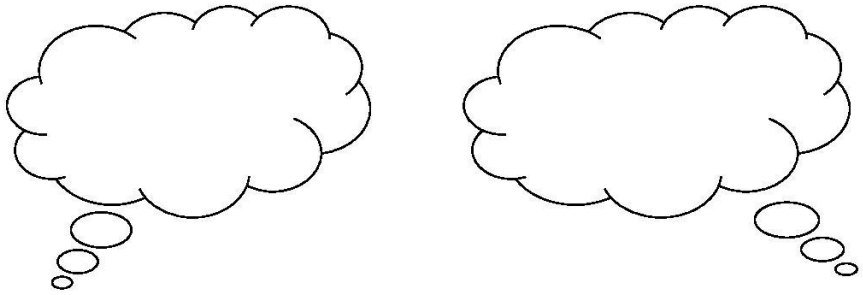
Grammar Tasks Sample Y7-Y8

Find all the adjectives in the bubbles and write them in the following table.
Give the masculine singular, feminine singular, masc plural, fem plural and the English.
Use a dictionary to find the English.

Masculine Singular	Feminine Singular	Masc – Plural	Fem – Plural	English
viejo		viej**os**	viej**as**	
grande		grandes	grandes	
malo				
antipatico				

Typical Grammar Task 1 – Year 7

4- Write two descriptions for two cartoon characters, using adjectives (you can draw them if you are an early finisher!)



Typical Grammar Task 2– Year 7



I.12 Example Translation and Writing Tasks

Gapped translation tasks Y7

Me presento (A)

Completa las frases en español con las palabras apropiadas.

1 ¡Hola! ¿ _____ _____ ? (how are you)

2 Me llamo Maya y _____ en Mallorca. (I live)

3 Soy _____ pero _____ simpática. (serious, very)

4 _____ tres personas ____ mi familia. (there are, in)

5 ___ _____ hermanos _____ tengo tres _____ . (I don't have, but, pets)

6 Tengo dos _____ y __ gato. (dogs, a)

7 Mi pasión _____ el fútbol. (is)

8 ___ héroe es Lionel Messi. ¡Es fenomenal! (my)

Me presento (B)

Completa la traducción en español y en inglés.

1 ¡Hola! ¿ _____ _____ ?	**1** _____ ! How are you?
2 Me llamo Maya y _____ en Mallorca.	**2** _____ I live _____ .
3 Soy _____ pero _____ simpática.	**3** _____ serious _____ very _____ .
4 _____ tres personas ____ mi familia.	**4** There are _____ in _____ .
5 ___ _____ hermanos _____ tengo tres _____ .	**5** I don't have _____ but _____ pets.
6 Tengo dos _____ y ___ gato	**6** _____ dogs __ a _____ .
7 Mi pasión _____ el fútbol.	**7** _____ is _____ .
8 __ héroe es Lionel Messi. ¡Es fenomenal!	**8** My _____ . _____ !

Completa el texto en español con las palabras apropiadas

¡Hola! ¿ _____ _____ ? Me llamo Maya y _____ en Mallorca. Soy _____ pero _____ simpática. _____ tres personas ____ mi familia. ___ _____ hermanos _____ tengo tres _____ . Tengo dos _____ y __ gato. Mi pasión _____ el fútbol. ____ héroe es Lionel Messi. ¡Es fenomenal!

Hello! How are you? I am called Maya and I live in Majorca. I am serious but very nice. There are three people in my family. I don't have brothers and sisters but I have three pets. I have two dogs and a cat. My passion is football. My hero is Lionel Messi. He's amazing!

Me presento (D)

Traduce las frases al español.

1 Hello! How are you?

2 I am called Maya and I live in Majorca.

3 I am serious but very nice.

4 There are three people in my family.

5 I don't have brothers and sisters but I have three pets.

6 I have two dogs and a cat.

7 My passion is football.

8 My hero is Lionel Messi. He's amazing!

Pre-writing task Y7

Mi montruo

Checklist task shared digitally on OneNotebook

Nombre	Apariencia fisica	Personalidad	Pasatiempos	Comida favorita	Comida que no le gusta
Student B	Long, green hair, pink eyes, tall.	Kind, curious, inteligent.	Makeup on her owner.	Pork and apples.	Cheese, butter, potatos
Student C	Short, yellow, spiky hair, purple eyes, very small.	Cheeky, curious, naughty.	Machince.	Ham, ketchup.	Rice, brocila, carrots.
Student D	Short, black and white hair, red eyes, tall.	Boring,			

INSTRUCTIONS FOR COMPLETING THE TABLE
The section *nombre* is for your name not the monster.
Think of something else you would like to say (where he lives, does he have a family, etc.)
Use your textbook vocabulary pages as preparation and word reference if you need to find a Spanish word. **DON'T USE GOOGLE TRANSLATOR**

I.13 Example Reading Tasks

Reading tasks Y7

¿Quién es?

1- Read the bubbles and guess the cartoon characters.

Por ejemplo:

Es un león viejo y grande. Es malo, antipático, feroz y celoso. ¿Quién es?



Es un burro de color gris. Es muy tonto, divertido, y simpático.

Respuesta: Es ……

Son perros delgados, blancos y negros. Son muy inteligentes y buenos. 99 son muy jóvenes y dos son viejos.

Respuesta: Son …….

Es un gato pelirrojo. Es feroz, tonto, gordo y travieso.

Respuesta: _ _ ……..

Es un cerdo joven, pequeño y inteligente. Es simpático, un poco tímido y triste.

Respuesta: …… ……

Es una pantera rosa, alta y delgada. Es inteligente, rápido y divertido.

Respuesta: ……

Es un tigre delgado. Es simpático, rápido, divertido, tonto y feliz.

2 – Find in the bubbles

"they are"?……. "a cat"……

" a little (bit)"…… "a pig"……

"a panther" …… "a lion"……

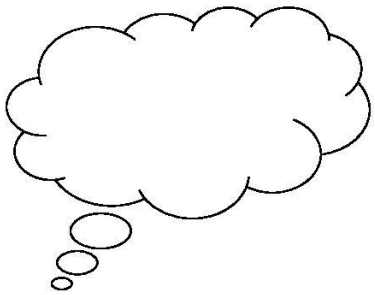
"a tiger"……. "a donkey"……
"a dog"……..

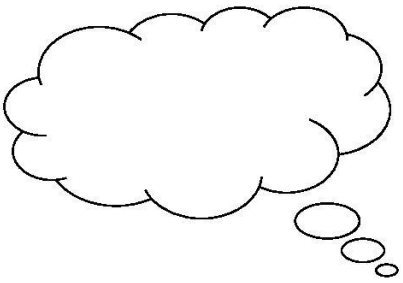
3 Find all the adjectives in the bubbles and write them in the following table.
Give the masculine singular, feminine singular, masc plural, fem plural and the English.
Use a dictionary to find the English.

Masculine Singular	Feminine Singular	Masc – Plural	Fem – Plural	English
viejo		viej**os**	viej**as**	
grande		grandes	grandes	
malo				
antipatico				

Post-writing tasks

4- Write two descriptions for two cartoon characters, using adjectives (you can draw them if you are an early finisher!)





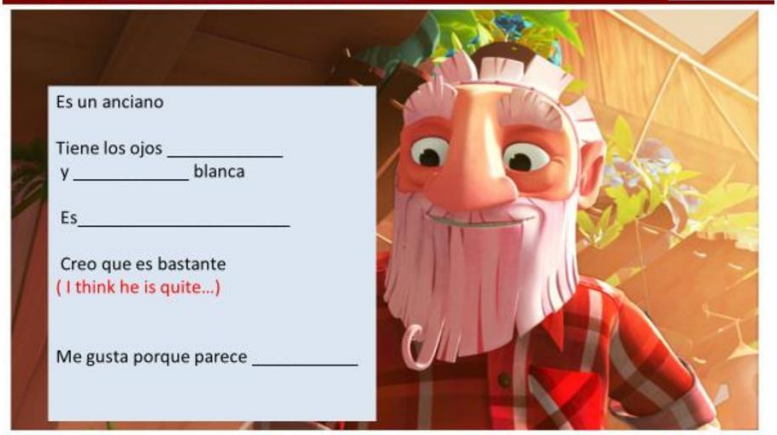
Pre-reading and tasks available on Power Point Y7

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos

a. divertido (a)	__innocent
b. pequeño(a)	__small
c. grande	__big
d. generoso(a)	__fun
e. amarillo(a)	__blue
f. azul	__nice
g.rosa	__angry
h.tímido	__generous
i.temeroso(a)	__pink
j.enfadado(a	__shy
k.simpática	__yellow
l. inocente	__frightened

To describe characters in a story

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos



To describe characters and design a house for special pets

Reading task adapted for Y8 used shared on Textivate

Una chica va a una tienda porque quiere una casita para su monstruo azul. El monstruo azul es tímido y le gusta jugar. La chica no tiene dinero y paga con paquetes de caramelos. El anciano acepta la oferta de la chica y la chica recibe una casita para su monstruo azul.

Después de un tiempo, la chica regresa con otro monstruo amarillo. El anciano acepta la oferta de la chica y la chica recibe una casita para su monstruo amarillo.

Mucho tiempo después la chica regresa, esta vez con un monstruo más grande. El monstruo entra a la casa del anciano, pero destruye las plantas y la puerta. Mientras el anciano limpia su casa el monstruo amarillo come una planta. El anciano está enfadado con la chica y ella sale de su tienda.

Un día el anciano visita a la chica y ella tiene una planta para él. El anciano tiene una caja muy grande que es mágica.

I.14 Example Reading and Writing Framework Year 7

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos

a. divertido (a)	__innocent
b. pequeño(a)	__small
c. grande	__big
d. generoso(a)	__fun
e. amarillo(a)	__blue
f. azul	__nice
g.rosa	__angry
h.tímido	__generous
i.temeroso(a)	__pink
j.enfadado(a	__shy
k.simpática	__yellow
l. inocente	__frightened

To describe characters in a story

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos



Es un pájaro o un monstruo?

Es azul o amarillo?

¿tiene los ojos grandes o pequeños?

¿Cómo es de personalidad?

To describe characters in a story

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos



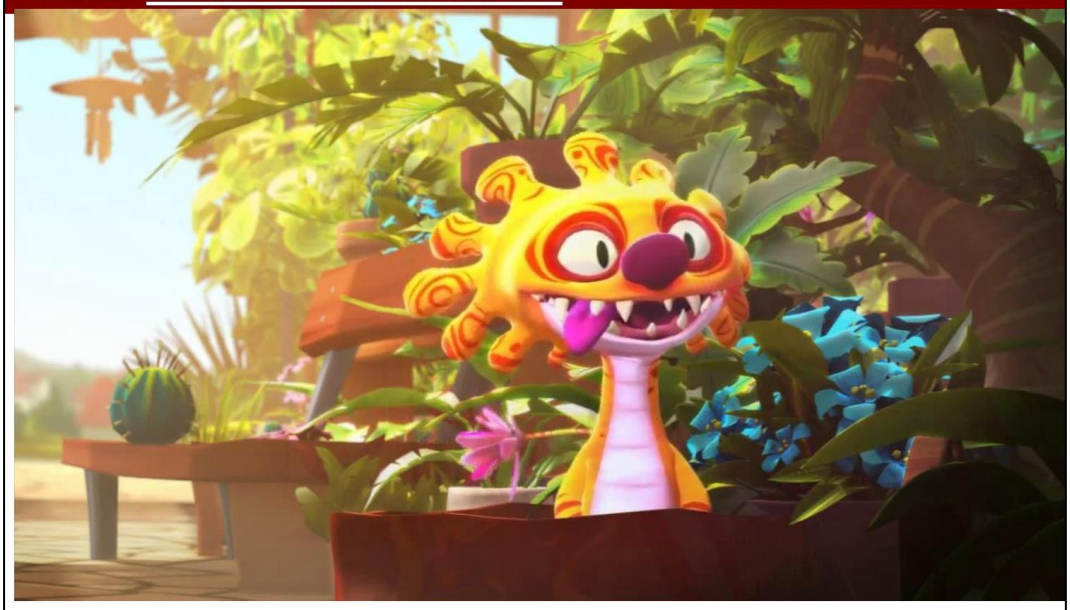
To describe characters

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos



To describe characters and design a house for special pets

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos



To describe characters of a short story

Fecha: Jueves el catorce de junio 2018
Titulo: La casa de los monstruos

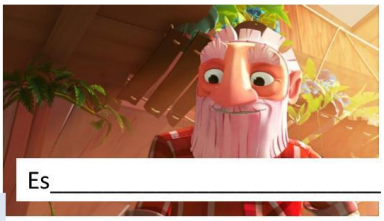


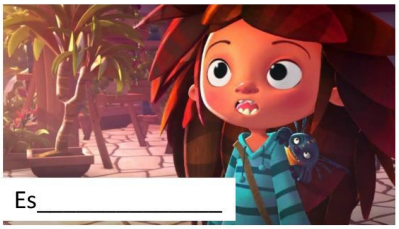
To describe characters of a short story

Vamos a describir a los personajes del corto. ¿Cómo es? ¿Es.....?
generoso (a) tímido pequeño amarillo azul gordo grande

1 
Es_____

2 
Es_____

3 
Es_____

4 
Es_____

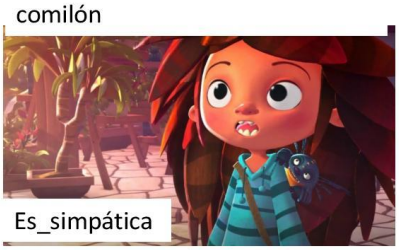
5 
Es_____

Vamos a describir a los personajes del corto. ¿Cómo es? ¿Es.....?
generoso (a) tímido pequeño amarillo azul gordo grande comilón

1 
Es grande y también gordo

2 
Es amarillo, pequeño y muy comilón

3 
Es muy generoso

4 
Es_simpática

5 
Es tímido y azul

Pon las imagenes en orden








Read the description and draw the monster

El monstruo es de color naranja. Tiene una cabeza grande con el pelo rizado, ojos azules grandes. Es muy pequeño y parece un lagarto. Tiene cuatro patas y es muy rápido. Le gusta comer vegetales y moscas. Tiene una boca grande y una lengua muy larga. Es muy cariñoso, divertido y le gusta jugar con pelotas de futbol porque quiere ser futbolista.

I.15 Example Reading and Writing Framework Year 7 / 8 Lower Ability

Fecha: Viernes veintidos de junio 2018
Titulo: La casa de los monstros

To be and to have

To describe characters and review verbs ser and tener

Fill in the gaps with the correct words to describe the monster

El monstruo es de color 1._____.2 _____ una cabeza grande con el pelo rizado, ojos azules grandes.3 _____ muy pequeño y parece un lagarto.4 _____ cuatro patas y 5. _____ muy rápido.

Le gusta 6._____ vegetales y moscas. 7._____ una boca grande y una lengua muy larga. 8_____ muy cariñoso, divertido y le gusta 9. _____ con pelotas de futbol porque quiere 10._____ futbolista

es (x4)
tiene (x3)
jugar
comer
naranja
ser

Fill in the gaps with the correct words to describe the monster

es (x4)
tiene (x3)
jugar
comer
naranja
ser

El monstruo es de color 1._____.2 _____ una cabeza grande con el pelo rizado, ojos azules grandes.3 _____ muy pequeño y parece un lagarto.4 _____ cuatro patas y 5. _____ muy rápido.

Le gusta 6._____ vegetales y moscas. 7._____ una boca grande y una lengua muy larga. 8_____ muy cariñoso, divertido y le gusta 9. _____ con pelotas de futbol porque quiere 10._____ futbolista

Fecha:
Titulo: La casa de los monstruos

Now it is to create your own monster. If you want you can use your previous description done as homework. You must include the following:

- His/ her physical appearance (height, eyes, hair, weight)
- His/ her personality (3 adjectives to describe him/ her)
- Hobbies (sports, free active activities, etc)
- Favourite food (what he, she likes eating)

Use the writing frame in the next slide to write your paragraph

To describe characters and design a house for special pets

Fecha:
Titulo: La casa de los monstruos

Before you start writing, talk to your partner and complete discuss posible ideas for your monster. Think of qualities this character could have

Now open your Class Notes in your One Note Class Note book 7SP-2 and fill in with the table with the information you could include. You can do this in English or Spanish

To describe characters and design a house for special pets

Fecha:
Titulo: La casa de los monstruos

Now it is to create your own monster. If you want you can use your previous description done as homework. You must include the following:

- His/ her physical appearance (height, eyes, hair, weight)
- His/ her personality (3 adjectives to describe him/ her)
- Hobbies (sports, free active activities, etc)
- Favourite food (what he, she likes eating)

Use the **writing frame in the next slide** to write your paragraph

To describe characters and design a house for special pets

El monstruo es de color _____

Tiene_____ (head, eyes, hair, etc)

_____ ojos azules grandes.

Es _____ (size)

Le gusta comer _____ (food he does like eating)

No le gusta comer _____(food he does not like eating)

Le gusta _____(what he likes doing)

Fecha:

Titulo: La casa de los monstruos

Now open your Class Notes in your One Note Class Note book 7SP-2 and fill in with the table with the information you could include. You can do this in English or Spanish

Think of some qualities you will give to this carácter.

You can use your previous homework as preparation

To describe characters and design a house for special pets

Write your description in a Word document (remember to go to Review and select language to be Spanish)

After writing your description copy and paste it on your Class Notes section and put a copy on the Collaboration Space in the section Mi monstruo/ Mi descripción

Draw a picture of your Monster in your book if finished

Fecha: Jueves el catorce de junio 2018

Titulo: La casa de los monstruos



To describe characters and design a house for special pets

I.16 Example Writing Samples

Samples writing tasks using I-pads following practice on Textivate
Year 7

Text shared on Textivate

Hola, me llamo Carlos. Tengo doce años y soy inglés. En mi familia hay cuatro personas: mi madre, mi padre, mis dos hermanas y yo. Mi padre tiene cuarenta y cinco años y mi madre tiene cuarenta. Mis hermanas tienen cuatro y ocho años. Mi padre se llama Pedro y mi madre se llama Rosa. Mis hermanas se llaman Paula y Emilia. Tengo un perro que se llama Sunny. Sunny es muy gracioso e inteligente. Es un Border Collie blanco y negro muy grande y peludo. Le gusta comer pelotas de plástico. Yo soy muy alto, delgado y tengo los ojos marrones. Pienso que soy muy inteligente, simpático y un poquito perezoso. Mi hermana Emilia, por otro lado, es un poco antipática. Es muy baja y delgada también.

Sample writing tasks using tablets

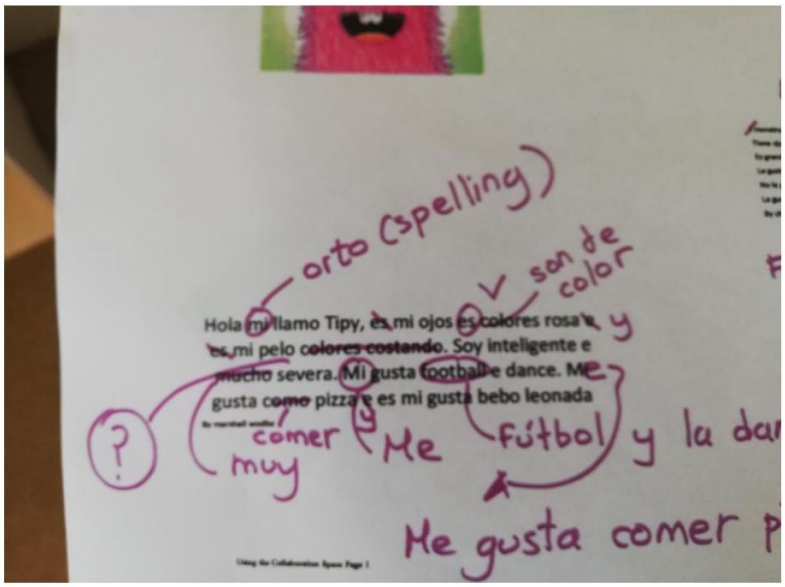
OLA ME LLAMO _____. TENGO TRECE Y SOY INGLATERRA. EN MI FAMILIA HATY CINCO PEOPLE: MI MAMA, MI MADREM MIS DOS HERMANAS Y MI GATOS. MI PADRE TENIE CUARENTA Y CINCO. MIS HERMANAS TIENEN CINCO Y TRECE. MI PADRE SE LLAMA DOG Y MI MADRE SE LLAMA EMILY. MIS HERMANAS SE LLAMAN PALOMA. ME GUSTA EL QUESO Y SOY SIMPATTICO

Pupil D

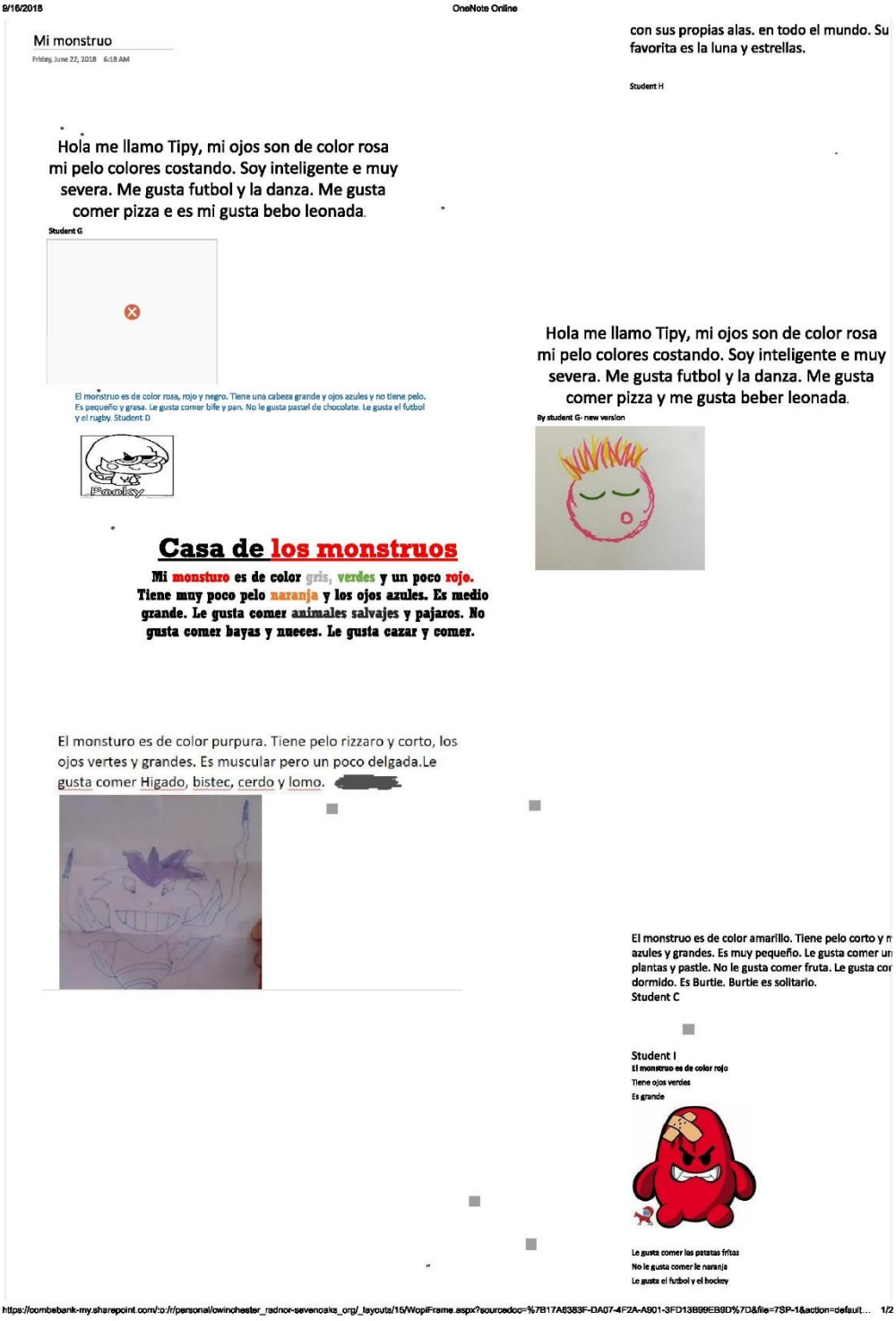
Hola ME llamo_____ tengto catroce anos y soy ingles. Me gusta comer queso y soy perro. Se llama booby. Tienes un ciaro meses y es bonito. Me guista comer pizza. Mi madre se lama Charlotte y les gusta comer quesso. Es muy simpática.

Pupil E

Sample written work correction group work prior to sharing on collaborative space OneNotebook



I.17 Sample Students Digital Work



9/16/2018 OneNote Online

Mi monstruo

Friday, June 22, 2018 6:18 AM

Hola me llamo Tipy, mi ojos son de color rosa mi pelo colores costando. Soy inteligente e muy severa. Me gusta futbol y la danza. Me gusta comer pizza e es mi gusta bebo leonada.

Student G

El monstruo es de color rosa, rojo y negro. Tiene una cabeza grande y ojos azules y no tiene pelo. Es pequeño y grasa. Le gusta comer bife y pan. No le gusta pastel de chocolate. Le gusta el futbol y el rugby. Student D

Casa de los monstruos

Mi monsturo es de color gris, verdes y un poco rojo. Tiene muy poco pelo naranja y los ojos azules. Es medio grande. Le gusta comer animales salvajes y pajaros. No gusta comer bayas y nueces. Le gusta cazar y comer.

El monsturo es de color purpura. Tiene pelo rizzaro y corto, los ojos vertes y grandes. Es muscular pero un poco delgada.Le gusta comer Higado, bistec, cerdo y lomo. [redacted]

con sus propias alas. en todo el mundo. Su favorita es la luna y estrellas.

Student H

Hola me llamo Tipy, mi ojos son de color rosa mi pelo colores costando. Soy inteligente e muy severa. Me gusta futbol y la danza. Me gusta comer pizza y me gusta beber leonada.

By student G- new version

El monstruo es de color amarillo. Tiene pelo corto y n azules y grandes. Es muy pequeño. Le gusta comer un plantas y pastle. No le gusta comer fruta. Le gusta cor dormido. Es Burtie. Burtie es solitario.
Student C

Student I

El monstruo es de color rojo

Tiene ojos verdes

Es grande

Le gusta comer las patatas fritas

No le gusta comer le naranja

Le gusta el futbol y el hockey

https://combebank-my.sharepoint.com/:o:/r/personal/owinchester_radnor-sevenoaks_org/_layouts/15/WopiFrame.aspx?sourcedoc=%7B17A8383F-DA07-4F2A-A901-3FD13B99EB9D%7D&file=7SP-1&action=default... 1/2

Appendix J. CYCLE 2 STUDENT OBSERVATIONS - SUMMARY

Pupil	Attention and focus while using I-pad	Listening to teacher's instructions	Motivation to complete tasks with device and application	Using the device to further stretch learning	Other comments (Effort to complete tasks)
A	3/3/3/3	2/3/3/3	3/3/3/3	2/2/2/2	Off task first part of lessons. Usually took longer to set on task but focus improved. Struggled with tasks that require remembering passwords or follow procedures. Low digital literacy skills. Anxious about being the last one to finish tasks. Consistent disruptive behaviour
B	3/3/3/3	3/3/3/3	3/3/3/	3/3/3/3	More focused on tasks using I-pad. Lack of perseverance shown during translation tasks and tend to work on easier vocabulary and writing tasks.
C	3/3/3/3	3/3/3	2/3/3/	4/4/4/4	Used device effectively. Confidence showed across lessons and evidence of using the device independently to stretch learning. Lots of effort applied in tasks. Use of device to stretch learning.
D	3/3/3/3	2/3/4/2	3/3/3/	3/3/3/3	Listening and focus during first part of lessons but focus varied depending on tasks. Pupil did not enjoy writing on tablet and preferred pen and paper. Much better attention when using pen and paper. Gets tired with tablet.
E	2/2/2/2	12/2/2/2	3/2/1/1	2/1/1/1	Off task first part of lessons. Usually took longer to set on tasks. Still struggled with tasks that require remembering passwords or follow procedures. Low digital literacy skills and signs of anxiety were visible during writing tasks even when using devices
F	3/3/3/3	1//2/2/2	3/2/2/2/	2/2/2/2/2	Off task first part of lessons. Usually took longer to set on tasks. Low digital literacy skills and signs of anxiety were visible during writing tasks even when using devices. Lots of effort applied in tasks but did not lead to better outcomes in class. Frustration while using devices and not being able to fix problems
G	2/2/2/2	3//2/2/2	2/2/2/2	2/3/3/4	Listening and focus during first part of lessons but focus varied depending on tasks. Not very confident digital literacy skills but gained confidence along the way. Effort varied depending on who he was working.
H	4/4/4/4	3/3/3/3	3/3/3/3	4/3/3/3	On task- keen to use I-pad. Confident IT user with lots of motivation to stretch learning even though she found reading tasks on textivate difficult and struggled with organisation of notes on Notebook. Writing improved considerably across. Preference for pen and paper rather than device. Not much effort if did not understand.
I	5/5/5/5	4/4/4/4	3/3/3/3	2/2/3/2	On task- keen to use I-pad. Very confident IT user with lots of motivation to stretch learning even though he found reading tasks on textivate difficult and struggle with translation tasks. Writing improved considerably. Lots of effort applied in tasks.

Appendix K. Cycle 3 Student Observations Summary

A	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	APP USE
	1 2 2 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	Attention has improved over lessons. Last few lessons were much focused and a lot of effort. Improvement in perseverance to complete tasks. Showed enjoyment using Kahoot and One Note. Used planning and checklists effectively.	2
	OBSERV 7	OBSERV 8						3
	2 2 2 2	2 2 2 2						3
B	OBSERV 1	2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	3 3 3 3	2 3 3 3	2 2 2 2	3 3 3 3	3 3 3 3	3 3 3 3	Much better confident user with I-pad and improvement of focus. Work with pair work to complete exercises on I-pad and writing tasks.	2
	OBSERV 7	OBSERV 8						2
	2 2 2 2	3 3 3 3					Confident user of Kahoot and use of vocabulary	3
C	OBSERV 1	2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	4 4 4 4	4 4 4 4	3 3 3 3	2 2 3 4	4 4 4 4	4 4 4 4	Focus and effort showed during lessons. Confidence across lessons.	3
	OBSERV 7	OBSERV 8					Increase use of vocabulary in translation tasks and freer writing tasks.	5
							Very engaged and effort was consistently applied.	5
D	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	2 2 2 2	2 2 2 2	2 2 2 2	2 3 2 2	2 2 3 3	1 2 3 3	Problems with accents on I-pad, not ability to recognise words and use checks for accuracy. Preferred Kahoot at the beginning of tasks.	3
	OBSERV 7	OBSERV 8						2
	2 2 2 3						Struggled to complete tasks on device and had to use books in three lessons. Felt confident with One Note as the lessons progressed.	3
E	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	3 3 3 3	3 3 3 3	3 3 3 3	2 2 2 2	2 2 3 3	2 2 2 2	Problems with accents on I-pad, not ability to recognise words and use checklist. Although attention and focus improved, found difficult using checklists and using planning sheet on shared area. Showed frustration.	3
	OBSERV 7	OBSERV 8						2
								3
F	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	2 2 2 2	2 2 2 2	3 3 3 3	2 2 2 2	2 3 3 3	2 3 3 2	Work in pairs contributed to focus and work lessons. Lack of perseverance to complete writing tasks on device at the beginning of lessons but improved as pair work activities increased.	3
	OBSERV 7	OBSERV 8						2
	2 3 3 2							3
G	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	3 3 3 3	3 3 3 3	3 3 3 3	3 3 3 3	4 4 4 4	5 5 5 5	Confident user of devices struggled with gap fill in tasks using Textivate and text to speech but showed perseverance and effort to complete tasks. Used checklist and writing frames on One Note effectively.	5
	OBSERV 7	OBSERV 8						5
	5 5 5 5	5 5 5 5						4
H	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	3 3 4 4	4 4 4 3 4	4 4 4 4	4 4 4 4	3 3 4 4	5 5 5 5	Very confident user of devices, engagement and focus varied and preferred working alone when using device. Showed desire to improve writing and used online dictionaries effectively. Enjoyed final tasks.	4
	OBSERV 7	OBSERV 8						4
	3 3 3 3	3 3 4 4						4
I	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	
	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	Found translation tasks difficult and could not complete all activities on Textivate due to technical difficulties but showed high levels of engagement and focus while completing digital creative tasks. Showed a a lot of motivation to complete tasks and did not feel anxious about making mistakes.	3
	OBSERV 7	OBSERV 8						4
	4 4 4 4	3 4 4						3
J	OBSERV 1	OBSERV 2	OBSERV 3	OBSERV 4	OBSERV 5	OBSERV 6	COMMENTS	3
	4 4 4 4	4 4 4 4	4 4 4 4	4 4 4 4	2 3 4 3	2 2 2	Perseverance decreased as final task writing came to completion.	3
	OBSERV 7	OBSERV 8					Struggled with the development of plans and structure of writing. Lack	2
	4 4 4 4						of effort varied and only increased when writing was not required.	3

Attention and focus	Listening to teacher's instructions	Motivation to complete tasks	Using the device to further stretch learning

Kahoot	One Note Class notebook	Use of Textivate

Level of engagement	1	2	3	4	5
Description	No focus/ disengaged	Low and minimal engagement	Partially sustained engagement	Mostly sustained engagement	Fully sustained engagement

Only 8 observations were conducted for this cycle

Pupil C, D, E and F were absent for some of the lessons

Appendix L. C3 Final Student Semi-Structured Interview

L.1 Final Student Semi-Structured Interview Questions

1. How do you see yourself as a language learner? Are you confident or not?
2. Has using the I-pad helped your learning?
3. What have you found easier to do with the I-pad?
4. What have you found difficult?
5. Do you think technology helps you as a language learner?
6. Do you think all the activities we have done and the applications we have used have helped your language skills?

L.2 Student Semi-Structured Interview Results (transcripts)

This appendix contains the results in transcript for of the final student questionnaires at the end of C3.

Pupil A - Interview Transcript

Question: How do you see yourself as a language learner? Are you confident or not?
Response: In between, sometimes I feel confident and sometimes I don't.

Question: When do you feel confident?
Response: When I find something that is easy for me to do and I don't feel confident when I can't do something.

Question: When does this happen?
Response: When I do activities with verbs for example because I can't remember how to conjugate them.

Question: What do you do when that happens?
Response: I ask other people for help.

Question: What activities in lessons are the easiest for you to do?
Response: Probably learning vocabulary and translating from Spanish into English?

Question: Why translation?
Response: Because I can use my English to remember words.

Question: What about the most difficult tasks?
Response: I would say grammar task and writing tasks because I can't always remember the verb endings.

Question: Which ones is easier?
Response: I would say French but because I have been studying it longer.

Question: Which one do you enjoy more?
Response: I would say Spanish because it is easier.

Question: Do you think you use al the strategies I gave you?
Response: Sometimes I do because sometimes they don't work for me.

Question: Do you think technology has helped you?
Response: Yes, because I can use visuals and take notes easier.

Question: And for your writing?
Response: It helps me when I can see a word, use the visual and copy and paste if I need to so my spelling is better.

Pupil B - Interview Transcript

I**ntroduction:** Previously I asked you some questions. I would like to ask you the same questions to find out if you feel different now and how have you felt as a learner.

Question: How do you think you have done as a language learner?
Response: I feel confident.

Question: Do you think using technology has helped you or not?
Response: I find it easier if we use a pen and paper.

Question: Why is that?
Response: I don't know I find it easier.

Question: What are the activities you have enjoyed the most?
Response: Probably the oral exams because find it easier to speak.

Question: What about the activities you don't enjoy as much?
Response: The least favourite is writing.

Question: Why?
Response: I find it difficult.

Question: What is that find difficult?
Response: I know it is easier than English but I still struggle to write and remembering words.

Question: So it is vocabulary? What do you do when you struggle writing?
Response: I use my book and check my vocabulary.

Question: Do you prefer Spanish or French?
Response: I prefer the language but because I have been doing it for longer it is easier for me to remember words and sometimes I find French easier to learn.

Question: Ok I remembered you said you preferred Spanish?
Response: Yes, I know but I will be doing more Spanish and extra English which would be good as well.

Question: Do you think all the activities we have done and the applications we have used have helped your language skills?
Response: Yes, I really liked using the quizzes on Kahoot to remember vocabulary, but I did not enjoy using the other two sites. I struggled with the online writing activities.

Question: Like the ones we just did?
Response: I find it difficult to read instructions and look at the content on One Note. I can't remember where things are.

Question: Today you were off task for a while
Response: I really did not understand.

Question: So what did you do when you don't understand? Keep going - what about asking a teacher of working out what it needs to be done?
Response: I don't know.

Pupil H- Interview Transcript

Question: I just want to find out how do you feel as a language learner now that we are nearly finishing the term.
Response: I feel quite confident, but you know when you learn a language you feel it is really hard, then when you get to know it maybe have a few lessons. it gets easier and they are usually quite fun.

Question: Do you think you do better in Spanish or French?
Response: Obviously Spanish because you usually pronounce all the words and in French you usually have to leave stuff out and have the words learned.

Question: Do you prefer Spanish or French?
Response: I prefer Spanish because it is easier and also the lessons are a bit more fun

Question: That's good to know. Ok When you do activities in class which ones are your favourite? Reading or writing? Speaking or listening?
Response: I would probably say listening because when you must write you are usually pushed to do your best mainly and that is quite hard in a different language.

Question: So your still less favourite is writing?
Response: Probably writing because I don't feel comfortable with my own handwriting and it is usually quite difficult to write all the words.

Question: Why is difficult to write?
Response: It is mainly because you have to remember words and learn different vowel endings and the symbols at the top which are usually confusing, and it makes a bit harder.

Question: What strategies or techniques do you use to help you to write?
Response: I usually try remembering certain words and say them really quickly and then try remembering them and usually it stays in my head.

Question: Do you think using technology for instance One Note helps you?
I like it because it is easier. You have a wider access and you can also set it so it is Spanish and you don't have to have a hard time looking what it says because it is set automatically which is good for accents and spellings and it proofs read and if you get something wrong.

Question: So it helps you with your writing?
Response: It does help me with my writing because personally I feel like it is quicker on the lap top, probably easier than an I-pad,just because you have to move your fingers and you don't actually have to try getting perfectly it is naturally reader.

Question: Do you like using technology?
Response: Yes I do - I like it because sometimes it feels like you are back in the 90's . If you use technology you can do more . Me personally , and children like me have grown up in an era of technology so I feel we should start using it a bit more.

Thanks: Interesting, very good point.

Duration: 4:50 minutes.

Pupil F - Interview Transcript

Question: I know a while ago I asked you some questions regarding your perception as language learner. How do you feel now? Do you feel the same?
Hmmm, I feel confident but sometimes I feel that I am not saying it right.

Question: What is the main difficulty?
Response: Reading in another language.

Question: Why?
Response: Well sometimes it does not make any sense to me. I guess it and it is normally wrong.

Question: Do you think you still do better in Spanish or French?
Response: In French I am more used to it because I go to France a lot, but Spanish I only started this year. I do better slightly in French but I like them both.

Question: In lessons what do you enjoy doing the most?
Response: Probably when you work in pairs or in the computers.
Question: Why?
Response: Because you get more involved than if you are just sitting on your seat just listening. I feel that you are more active.

Question: What about the activities you don't enjoy?
Response: Reading or translating - because sometimes you don't get it and you just have to guess.

Question: Do you think using technology and the applications we have used so far is good for you?
Yes I have enjoyed it more.
Response:
Question: Do you think that has helped you to improve your language?
Response: Yes.

Question: Has it helped you to improve your writing?
Response: Yes.

Question: How?
Response: It is easier for me to look at a text for instance when we used the readers I can read a text and listen to it.

Question: Do you think it makes your learning easier and you make more effort when you use it?
Response: It is easier but sometimes I put a lot more effort for instance if I am working with a partner.

Question: What about in exams? When you can't have a partner?
Response: Hmm - I know that for instance sometimes in an exam you don't do writing tasks. I don't do it because I don't get it - I think using technology will help me in the future because it is easier to use, and I can write better. Sometimes teachers can't understand my writing.

Pupil G - Interview Transcript

Question: As you remember I asked you some questions at the beginning of the year - Do you think your Spanish has improved since last time spoke?
Response: Yes I think we have been writing a lot more and this has helped me to be more confident.

Question: In what ways has writing helped your learning?
Response: I feel that because you are able to remember vocabulary and use it context that helps a lot. I also think that doing the task more than once actually helps because it helps me to concentrate on my mistakes and correct them. I think writing with a pen is good but I prefer writing with a computer.

Question: Why?
Response: I am dyslexic and I feel much more confident when I type because I find it easier.

Question: Do you think using the I-pad and the applications we have used has helped your learning?
Response: I think it helps me and everybody in my class. We don't always have to write we do activities like online vocabulary games, matching words, describing pictures, doing quizzes.

Question: What applications we have used so far have been more helpful?
Response: I think using Kahoot has been fun and good for checking but I think being able to create our own vocab lists on One Note has been also good because we can check and go over whenever we need to.

Question: What about applications that have been not very helpful?
Response: I think the Immersive Reader was not good for me because I preferred reading in my head and getting the sounds rather than listening to them.

Question: What about activities that haven't helped you?
Response: I am not very sure because all activities we do in class help me. I think sometimes reading tasks don't help me or doing too many activities that use reading. I find that sometimes they can be boring, and we don't get to use the vocabulary we learned which means we can't use it. I sort give up.

Question: Do you think you give up quite often?
Response: I do when it is something that is not interesting but when it is something that is a challenge I try doing my best.

Question: Do you think using technology help you to try harder?
Response: Maybe but I think it depends on the task because sometimes they are tasks that are easy and if I know I can find an additional word or find another better way of doing with technology I would do it but it depends on the topic or task.

Pupil E - Interview Transcript

Question: A while ago I asked you some questions. How do you feel now as a language learner nearly at the end of the term? Do you still feel confident?
Response: I feel confident because I feel it is easier now.

Question: Why is it easier now?
Response: Because we started using I-pads

Question: How using the I-pads have changed your learning ?
Response: Well when I use the site we used in class, I can't remember the name it really helps me remember me because I can see the words and use them. Also if I am writing and I don't know the word I can use an online dictionary.

Question: Do you think it has helped your writing in particular?
Response: Yes because I see the words. I also check at home four times every week and I remember the words when I must write. Reading for example is easier if you can read it online than in a textbook.

Question: What about when you do exams and you don't the access to technology?
Response: I think because I use it a lot it sticks into my head easier because my problem is vocabulary. In exams it is more difficult because you can't access it but if I have done revision I would remember.

Question: What are the strategies you use when you write?
Response: I read the question and then answer. Sometimes I check my words but I don't always do it.

Question: Do you think you put a lot of effort in your written work ?
Response: Sometimes, it depends on the topic and the task but for exams I think I put a lot of effort.

Question: What kind of tasks?
Response: For instance, when we have to write about imaginary people.

Question: Do you think using the I-pad or the lap top makes easier for you to write?
Response: Yes , I like it using it and you can also learn more vocabulary with games or quizzes, etc. It makes it more enjoyable and we learn better.

Pupil H - Interview Transcript

Question: How has technology helped your learning?
Response: I think it has given me more focus and organization as I am very disorganized. I also prefer taking notes and using One Note because it is very visual.

Question: How has technology helped your writing?
Response: It has helped me a lot because I am very slow writing on a piece of paper and while typing you can be quicker, use the autocorrect and it is just easier. When we use the Class Note Book you can also make changes quicker and I like it rather than using my book because I have very scruffy handwriting. I also liked the vocabulary activities online because I can remember more words.

Question: At the beginning of the year, you said that writing was one of the areas you found it challenging? Is it still difficult?
Response: It is but I feel I am more confident if I know I can access my notes and plan my writing.

Question: So, planning your writing has helped you?
Response: Yes, when we used a checklist is good to know what I need to say.

Question: One of the areas you mentioned you found difficult was listening? Is still a problem?
Response: Yes, I find it difficult, but I think I did better this time in my test.

Question: Has any of the applications helped to improve your listening?
Response: I am not sure, but I think when we can read and listen a text that really helps because for me being dyslexic reading is not always easy and I can relate to the sounds of the word.

Question: Do you think using technology makes you work harder?
Response: Yes, I think because I know I can do better and I understand things easier.

Question: What about when you don't have access to technology?
Response: I try but if I do my have my preparation notes ready it helps me.

Pupil I - Interview Transcript

Question: How do you feel as a language learner now that we are finishing the course?
Response: I feel less confident because I remember how I would feel in English when I was younger. I found it extremely hard and I was young. My own aunt tried teaching me a bit of French but I also struggled with that and I only learned English but yes… it was difficult.

Question: So, it is hard for you?
Response: Yes.

Question: Do you still prefer French?
Response: I don't know because they have kind of similar things. It is hard to say.

Question: Which ones do you think you do better? Spanish or French?

Response: I think I do well in French and I think as a child my mum taught me a little bit.

Question: In class, what is the most difficult activity for you?
Response: Definitively, writing a big paragraph for me that is quite difficult.

Question: Why is that?
Response: Because I can look at a test and know what it is but I can write a text and know what it is about so I find it hard because of the words and vocabulary.

Question: What do you do when you struggle?
Response: I normally ask someone for help.

Question: Do you think you use the strategies that I give you?
Response: Yes.

Question: Do you think they help you? How?
Response: Yes because if I don't know the word and let's say I look for another word similar which is close I can use it.

Question: What is the activity that you enjoyed the most?
Response: I quite translating.

Question: Why translating?
Response: From Spanish into English.

Question: Why do you like it?
Response: Like I said I can read through things and write down quite easily.

Question: What about English into Spanish?
Response: Not quite the same and I find it difficult.

Question: What do you do when you have to translate from Spanish into English?
Response: I use an online dictionary or look at my notes or the vocabulary lists I have made on One Note and I can refer to them, but it is more difficult if I am writing on a piece of paper.

Question: Do you think using technology helps you?
Response: Yes because if you do wrong you can check it quickly.

Question: Do you feel more confident learner if you use One Note or the I-pad?
Response: Yes, I feel more confident because I can look at my notes and they are not messy.

Question: Do you think we should use more technology in class?
Response: Because everybody enjoys and you learn when it is fun.

Duration: 4:00

L.3 Coded Results of Interviews

Question No.	Response	Positive or Negative	Response Code	Respondent Id
1a Identity as a Language learner	Confidence varies linked to task difficulty	Negative -Positive	N-P	A-B-F
	Confident and recognition of difficulty	positive	P	H-G
	Confident but feeling is linked to task using I-pad	Positive	N	E-H
	Less confident and self- perception is negative	Negative	N	I
2 Use of I-pad reflection	Finds easier to complete tasks with technology rather than traditional methods	positive	P	B-H-E-F-G-i
3. Opinion on technology	Useful, and help to be more confident	positive	P	B-E-F-J-H
4 Opinion on activities and technology	Useful for checking spelling and writing	positive	P	A-H
	Useful for vocabulary learning	positive	P	B-G-E
	Finds difficult using OneNotebook because can't remember login details	negative	N	B
	Finds easier for reading and recognition of words	positive	P	F
	Being able to be more organised and take notes	positive	P	A-I
5. Activities and skills which are easy and enjoyable	Learning vocabulary	positive	P	A
	Speaking tasks and oral exams	positive	P	B
	Listening -enjoy challenge	positive	P	H
	Working with computers and tablets	positive	P	F
	All activities and tasks are helpful	positive	P	G
6. Finds difficult	Writing and grammar tasks	negative	N	A-B-H-I
	Reading and translation tasks	Negative	N	F