



**HIBERNIA
COLLEGE**

**Including EAL learners through UDL in
primary classrooms: A Mixed Methods study**

Item Type	Dissertation
Authors	Claffey, Chris
Download date	2026-06-18 08:19:49
Link to Item	https://iasc.hiberniacollege.com/handle/20.500.13012/235



**HIBERNIA
COLLEGE**

Including EAL learners through UDL in primary classrooms: A Mixed Methods study

Chris Claffey

Dissertation submitted in partial fulfilment of the award of Professional Master of Education in Primary Education

Author's Declaration

I agree that this dissertation may be uploaded to Hibernia College's institutional repository, IASC, subject to Hibernia College School of Education agreement, and the Hibernia College open access policy. IASC (Institutional Archive of Scholarly Content) is an open access repository designed to store, archive and disseminate the work of Hibernia College faculty, staff and students.

April 2024

Abstract

Increasing linguistic diversity in Irish primary classrooms poses challenges in addressing the needs of English as an Additional Language learners. Universal Design for Learning claims to meet the needs of all learners and is gaining momentum in Irish education spheres. This study investigates UDL's efficacy in supporting EAL learner participation through an online survey (n=19) and semi-structured interviews (n=2). Frequency and thematic analysis reveal consistent use of several UDL guidelines. The discussion highlights UDL's capacity to foster safe, inclusive learning environments where learners comprehend tasks and express themselves meaningfully. This study contributes to the growing recognition of UDL's potential to enhance inclusive education practices.

Table of Contents

AUTHOR'S DECLARATION	1
ABSTRACT	2
TABLE OF CONTENTS	3
LIST OF FIGURES AND TABLES	5
<i>Figures</i>	5
<i>Tables</i>	5
LIST OF ABBREVIATIONS	6
CHAPTER 1: INTRODUCTION	7
1.1 INTRODUCTION.....	7
1.2 ORIGIN OF THE DISSERTATION	7
1.3 BACKGROUND TO THE PROJECT	7
1.4 RATIONALE	8
1.5 STRUCTURE OF THE DISSERTATION	8
1.6 CONCLUSION	9
CHAPTER 2: LITERATURE REVIEW	10
2.1 INTRODUCTION.....	10
2.2 EAL AND IRISH PRIMARY EDUCATION	10
2.3 INCLUSIVE EDUCATION IN IRELAND.....	11
2.4 UNIVERSAL DESIGN FOR LEARNING.....	12
2.5 UDL AND EAL	16
2.6 UDL IN THE IRISH PRIMARY SECTOR	16
2.7 PURPOSE OF THIS RESEARCH	17
2.8 CONCLUSION	18
CHAPTER 3: METHODOLOGY	19
3.1 INTRODUCTION.....	19
3.2 RESEARCH PARADIGM.....	19
3.3 RESEARCH DESIGN	19
3.4 SAMPLING AND PARTICIPANTS	20
3.5 ONLINE SURVEY.....	21
3.6 QUANTITATIVE DATA ANALYSIS	22
3.7 SEMI-STRUCTURED INTERVIEWS	22
3.8 QUALITATIVE DATA ANALYSIS	23
3.9 ROBUSTNESS: RELIABILITY AND VALIDITY	23
3.10 LIMITATIONS.....	24
3.11 ETHICAL CONSIDERATIONS	25
3.12 CONCLUSION	25
CHAPTER 4: FINDINGS	27
4.1 INTRODUCTION.....	27
4.2 ARE UDL GUIDELINES USED TO SUPPORT THE PARTICIPATION OF EAL LEARNERS?.....	27
4.3 PROVIDE MULTIPLE MEANS OF ENGAGEMENT	30
4.4 PROVIDING MULTIPLE MEANS OF REPRESENTATION	32
4.5 PROVIDE MULTIPLE MEANS OF ACTION AND EXPRESSION.....	34
4.6 CONCLUSION	36
CHAPTER FIVE: DISCUSSION	37
5.1 INTRODUCTION.....	37

5.2 ARE UDL GUIDELINES USED TO SUPPORT THE PARTICIPATION OF EAL LEARNERS?.....	37
5.3 ENGAGEMENT	39
5.4 REPRESENTATION	40
5.5 ACTION AND EXPRESSION.....	41
5.7 CONCLUSION	42
CHAPTER SIX: CONCLUSION.....	44
6.1 INTRODUCTION.....	44
6.2 SUMMARY OF FINDINGS	44
6.3 RECOMMENDATIONS.....	45
6.4 LIMITATIONS	46
6.5 CONCLUSION	46
REFERENCE LIST.....	47
APPENDIX A: ONLINE SURVEY	58
APPENDIX B: TOPIC GUIDE.....	67
APPENDIX C: PARTICIPANT INFORMATION SHEET	72
APPENDIX D: CONSENT FORM	73
APPENDIX E: EXCERPT FROM INTERVIEW TRANSCRIPT WITH CODES.....	74

List of figures and tables

Figures

Figure 1: The Universal Design for Learning guidelines (CAST, 2018)..... 13

Figure 2: Frequency of UDL principle use to support EAL learner participation. 28

Figure 3: The reasons why and the methods how UDL engagement guidelines are used 30

Figure 4: The reasons why and the methods how UDL representation guidelines are used 33

Figure 5: The reasons why and the methods how UDL action and expression guidelines are used 34

Tables

Table 1: Most frequently used UDL guidelines, colour coded by UDL principles of engagement, representation and action and expression..... 29

List of abbreviations

UDL	Universal Design for learning
EAL	English as an Additional Language
LST	Language Support Teacher
DE	Department of Education
DES	Department of Education and Skills
NCCA	National Council of Curriculum and Assessment

Chapter 1: Introduction

1.1 Introduction

Increasing linguistic diversity in Irish primary classrooms presents challenges in addressing the needs of English as an Additional Language (EAL) learners (Lopes-Murphy, 2012). Pupils with EAL needs can be locked out of lessons due to the language barrier between them and their classmates, their teacher, and the curriculum. Universal Design for Learning (UDL) claims to provide educators with a framework to break down barriers to learning and increase the accessibility of the curriculum for all pupils (Meyer, Rose, and Gordon, 2014). This research aims to explore the potential UDL has for supporting EAL learner participation in Irish primary schools.

1.2 Origin of the dissertation

The idea for this research arose after the researcher was asked to incorporate UDL into their school placement lesson plans. This took the place of a section devoted to differentiation, which sparked curiosity about why one had replaced the other. Discussions with school placement tutors and a research supervisor helped build an understanding that there may be a lack of knowledge at the primary level about the role of UDL in addressing different learning needs. The researcher's background in EAL teaching in non-English-speaking countries as well as experience working as a Language Support Teacher (LST) in Irish primary schools created a desire to explore how UDL could support the inclusion of EAL learners.

1.3 Background to the project

A literature review revealed a paucity of research on UDL in Irish primary education. Some research points towards the language of UDL emerging in new curriculum documents (Howe and Griffin, 2020) while others indicate it is gaining momentum (Flood and Banks, 2021). Concurrently, Irish society has recently assumed a degree of linguistic diversity that is historically unprecedented and likely to pose a challenge

to the education system (Little and Kirwan, 2019). Most Irish primary schools have EAL learners and, in some schools, there are a majority of EAL learners (NCCA, 2019). A meta-analysis on EAL learning support indicates there are prevailing organisational and pedagogical challenges in providing for the changing school population (Gardiner-Hyland, 2021). Rao and Torres (2017) posit that UDL holds much promise to meet the needs of linguistically diverse learners while supporting the needs of the whole class.

1.4 Rationale

The prevailing model of inclusive mainstream education is based on differentiated instruction (DI) (Howe and Griffin, 2022), but due to the heterogeneous nature of most classrooms, it has received much criticism (Day and Prunty, 2015; McCoy, Smyth, and Banks, 2012; Westwood, 2013). UDL purports to address learner diversity and could therefore replace DI but there is a lack of evidence to justify doing so (Edyburn, 2010; Flood and Banks, 2021). This grey area creates a need for further research that investigates whether UDL can play a pivotal role in inclusive primary education. The large proportion of EAL learners in classrooms, combined with the researcher's background in working with this demographic, offers a platform to explore this gap.

1.5 Structure of the dissertation

The dissertation is broken into six chapters that begin with this introduction. Chapter two, a literature review, gives an overview of EAL learning in the Irish primary sector. The history of UDL and claims of its potential to address EAL learning needs will then be examined. The chapter concludes by presenting the research questions. Chapter three outlines and justifies the mixed-methods approach to the research. It describes how an online survey and semi-structured interviews were chosen, developed, delivered, and analysed. Chapter four presents and critically analyses both the quantitative and qualitative findings. Chapter five discusses these findings in relation to relevant literature, while chapter six addresses the conclusions, recommendations, and limitations of the study. Finally, the dissertation ends by

outlining the opportunities and challenges for UDL as a means of supporting EAL learner participation.

1.6 Conclusion

This dissertation is an exploration of a relatively new phenomenon in Irish education. UDL holds promise for inclusive education that goes beyond the current system, which is under pressure to address greater linguistic diversity in classrooms. However, its potential is hindered by a lack of research at the primary level and an evidence base of effective pupil outcomes (Flood and Banks, 2021). This research aims to help fill this gap and to develop the researcher's own practice through exploring UDL use as a means to support the participation of EAL learners.

Chapter 2: Literature review

2.1 Introduction

This chapter begins by describing the changing linguistic landscape in Irish education and the systems of inclusive education currently in place. The history of UDL is explored, along with a detailed description of its principles and the instructional framework (CAST, 2018). This is followed by a discussion of literature, which describes how UDL can support EAL learner participation. The increasing need for inclusive education and the ability of UDL to meet said needs are also discussed. The chapter concludes by outlining the research question and reiterating the aims of the study in light of the reviewed literature.

2.2 EAL and Irish primary education

A rapid increase in global mobility means that linguistic diversity in schools has consistently risen over the past few decades (Lucas, Villegas, and Freedson-Gonzalez, 2008). In 2021, Ireland continued to have one of the highest percentages of foreign-born residents (18 percent) among EU member states (ESRI, 2023). This degree of linguistic diversity is historically unprecedented and likely to pose a challenge to the education system (Little and Kirwan, 2019). Given the level of need, it can be a challenge for teachers to design instruction that supports these pupils while concurrently addressing core curriculum content and skills (Lopes-Murphy, 2012).

Many Irish primary schools have some pupils who speak languages other than the language of instruction, with some schools having a majority of these pupils (NCCA, 2019). EAL learners are defined in this dissertation as those who are known or believed to speak a language other than English at home (Arnot et al., 2014). The presence of EAL learners in Irish classrooms is becoming a norm for teachers and could be on the rise, as figures show over 14,000 children arriving from Ukraine in the academic year 2022/2023, with 65 percent of these pupils now attending primary schools (Central Statistics Office, 2024).

Pupils with additional language needs offer benefits to schools in terms of increasing awareness of cultural and linguistic diversity. When provided with equitable access to learning, EAL learners provide diverse perspectives that enrich classroom discussions and encourage intercultural competence among all students (Veliz, Bonar, and Premier, 2023). Nevertheless, teachers can struggle to organise meaningful learning experiences that meet the needs of these pupils due to the language barrier. Pupils from EAL backgrounds have been found to experience social isolation (McGorman and Sugrue, 2007), with newcomer children being particularly vulnerable to exclusion in the classroom (Paradis, 2005).

2.3 Inclusive education in Ireland

An inclusive school environment should reflect and affirm the linguistic, ethnic and cultural diversity of all pupils (DES, 2009). The class teacher has primary responsibility for the education of all pupils, including EAL pupils but Language Support Teachers (LSTs) can act in a supportive role to reinforce EAL pupil learning within the classroom (ibid.). Mainstream teachers are advised to work co-operatively and effectively with the EAL support teacher through practices such as team teaching (DE Inspectorate, 2024). However, it has been found that the withdrawal of EAL learners in groups to receive specific support continues to be used more often than methods where the pupils remain in the classroom (DE Inspectorate 2024; Smyth et al., 2009). Withdrawn pupils are at risk of falling behind on the curriculum content and being alienated from their peers (Wright and Baker, 2017).

Within the mainstream classroom, the focus of inclusive education policy in Ireland has been on differentiated instruction (DI) (DES, 2017). DI is defined as the practice of understanding the unique needs of pupils and adjusting instruction to meet those needs (Tomlinson et al., 2003). DI has evolved as both a philosophy and teaching approach to involve teachers modifying curricula, methods, and resources to cater to diverse pupil learning needs (Tomlinson, 2017). The Professional Development Service for Teachers (PDST) provides documents like 'Differentiation in Action' (PDST, no date) to support the implementation of DI. Initial research supported DI's ability to address diverse learning needs and the problems of a one-size-fits-all

curriculum (Santamaria, 2009), but over time the approach has come under increasing criticism.

Despite its prime place in Irish systems of inclusive education, teachers find it unrealistic to differentiate for all the pupils in their classrooms who require support (Day and Prunty, 2015). It can be hard to enact on a daily basis because of the heterogeneous nature of most classrooms (Taylor, 2017). This is based on the idea that it is almost impossible to accommodate the range of variables that need to be considered when devising activities that meet individual learning needs (Galton and Williamson, 1992). Teachers often need to prepare a demanding amount of resources to meet the needs of these pupils (Bonicci, 2022). Issues with withdrawing EAL pupils for support and with implementing DI have led to alternative approaches to inclusion being explored.

2.4 Universal design for learning

One alternative to DI is that of UDL. This concept was born out of Universal Design, an architectural principle that was designed to create accessible and accommodating environments for everyone, regardless of their ability (Martin, 2016). The subsequent educational approach, UDL, aims to cater to the diverse needs of all learners by proactively designing learning environments, instructional methods, and assessments (Flood and Banks, 2021). In contrast to DI, UDL focuses on making the curriculum accessible to all rather than changing it for some (Meyer, Rose, and Gordon, 2014). The UDL instructional framework (see Figure 1, CAST, 2018) is comprised of three principles relating to engagement, representation and, action and expression. Each principle has three checkpoints, which give general guidance on how to implement the principles. Within each checkpoint, there are a number of specific guidelines which provide practical advice for implementing UDL.

Provide multiple means of Engagement	Provide multiple means of Representation	Provide multiple means of Action and Expression
Affective Networks The "WHY" of Learning	Recognition Networks The "WHAT" of Learning	Strategic Networks The "HOW" of Learning
Provide options for Recruiting Interest: <ul style="list-style-type: none"> • Optimise individual choice and autonomy (7.1) • Optimise relevance, value, and authenticity (7.2) • Minimise threats and distractions (7.3) 	Provide options for Perception: <ul style="list-style-type: none"> • Offer ways of customising the display of information (1.1) • Offer alternatives for auditory information (1.2) • Offer alternatives for visual information (1.3) 	Provide options for Physical Action: <ul style="list-style-type: none"> • Vary the methods for response and navigation (4.1) • Optimise access to tools and assistive technologies (4.2)
Provide options for Sustaining Effort and Persistence: <ul style="list-style-type: none"> • Heighten salience of goals and objectives (8.1) • Vary demands and resources to optimise challenge (8.2) • Foster collaboration and community (8.3) • Increase mastery-oriented feedback (8.4) 	Provide options for Language and Symbols: <ul style="list-style-type: none"> • Clarify vocabulary and symbols (2.1) • Clarify syntax and structure (2.2) • Support decoding of text, mathematical notation, and symbols (2.3) • Promote understanding across languages (2.4) • Illustrate through multiple media (2.5) 	Provide options for Expression and Communication: <ul style="list-style-type: none"> • Use multiple media for communication (5.1) • Use multiple tools for construction and composition (5.2) • Build fluencies with graduated levels of support for practice and performance (5.3)
Provide options for Self-Regulation: <ul style="list-style-type: none"> • Promote expectations and beliefs that optimise motivation (9.1) • Facilitate personal coping skills and strategies (9.2) • Develop self-assessment and reflection (9.3) 	Provide options for Comprehension: <ul style="list-style-type: none"> • Activate or supply background knowledge (3.1) • Highlight patterns, critical features, big ideas, and relationships (3.2) • Guide information processing and visualisation (3.3) • Maximise transfer and generalisation (3.4) 	Provide options for Executive Functions: <ul style="list-style-type: none"> • Guide appropriate goal-setting (6.1) • Support planning and strategy development (6.2) • Facilitate managing information and resources (6.3) • Enhance capacity for monitoring progress (6.4)

Figure 1: The Universal Design for Learning guidelines (CAST, 2018).

Rose and Meyer (2002) draw parallels between UDL principles and Vygotsky's (1978) foundational concepts of learning, which include recognising information, employing strategies for processing it, and actively engaging with learning tasks. Essentially, these principles represent the cognitive processes that underlie effective learning, offering insights into how certain learning approaches can yield positive outcomes. Furthermore, these principles underscore the dynamic interplay between cognitive and affective domains in the learning process.

Emotions not only influence how learners engage with tasks but also shape their cognitive processes (Vygotsky, 1978). Vygotsky emphasised the social and cultural aspects of learning, highlighting the importance of interaction and collaboration in cognitive development. In the context of UDL, the engagement principle aligns with Vygotsky's (ibid.) emphasis on the affective dimension of learning, emphasising the role of emotions in fostering engagement and motivation. When tasks are associated with positive emotions, such as interest or excitement, learners are more likely to remain engaged and motivated (Brillante and Nemeth, 2002).

The representation and action principles echo Vygotsky's (1978) emphasis on the cognitive strategies employed by learners in processing information and achieving goals. Representation focuses on learners' ability to comprehend and internalise new information. By recognising and making sense of concepts, learners can better remember and apply them later on (Brillante and Nemeth, 2002). Clarity in understanding aids learners in navigating complex topics with greater ease. Furthermore, the action and expression principle highlights the importance of setting goals and employing strategies to achieve them. This approach empowers learners to take control of their learning journey and experience a sense of accomplishment. These principles offer a complementary perspective to Vygotsky's (1978) learning theory by delving into the neurobiological underpinnings of effective learning strategies.

Over the past two decades, education systems in the USA, Australia, South Africa, and Ireland have begun to use UDL as part of their education policies (Bray et al., 2024). Implementing UDL in primary schools involves designing curriculum material that is accessible to all learners and challenges them appropriately (CAST, 2018).

Technology based tools can enable teachers to respond to the flexible and numerous needs of learners. The PDST outlines a plethora of digital tools which can be used to implement UDL in primary school classrooms (PDST, 2021). These include immersive readers where pupils can easily access vocabulary definitions, text-to-speech options, and choose accessible font styles. These strategies allow teachers to represent information in a more accessible manner than in traditional formats.

A recent meta-analysis of peer-reviewed studies found that there is substantive support for UDL as a research-based practice in inclusive education (King-Sears et al., 2023). All learners, including those with and without disabilities, can benefit when instructional barriers are proactively and thoughtfully reduced through UDL (Kennedy et al., 2014). The application of UDL principles has been shown to increase achievement in reading and writing across multiple levels and abilities (Coyne, Evans, and Karger, 2017). This suggests that by embracing UDL principles, educators can create learning environments that are conducive to the academic success of all students. Furthermore, the benefits of UDL extend beyond academic performance, encompassing broader aspects of student well-being and engagement. By fostering an inclusive and supportive learning environment, UDL promotes a sense of belonging and empowerment among learners (Meyer, Rose, and Gordon, 2014). This not only enhances their academic achievement but can also promote positive social interactions.

Conversely, UDL criticisms revolve around its perceived complexity and challenges in implementation (LaRon, 2018). Critics, such as Dacus-Hare (2023), express concerns regarding the time required to fully comprehend and integrate the framework into educational practices. Additionally, Flood and Banks (2021) highlight a notable gap in evidence concerning the long-term impact of UDL on pupil outcomes. This lack of conclusive data raises questions about the effectiveness of UDL in achieving sustained educational benefits. Furthermore, while the discourse surrounding UDL is gaining traction within primary curriculum documents, as noted by Howe and Griffin (2020), the absence of explicit references to UDL in policy documents is conspicuous. This absence may suggest a degree of hesitancy or reluctance among policymakers to fully embrace UDL within Irish primary education systems. Therefore, despite its conceptual appeal and growing recognition within

academic circles, UDL still faces significant barriers to widespread adoption and integration into educational policies and practices.

2.5 UDL and EAL

UDL can help teachers design flexible lesson plans that provide essential support in the language and literacy development of EAL learners (Rao and Torres, 2017). This is because it is built on the principle that good instruction for these pupils goes beyond accommodations or modifications; it starts with ensuring maximum accessibility in all areas of instruction and assessment (Doran, 2015). Rao and Torres (2017) believe that EAL learners can benefit from UDL as it encourages the creation of a safe, non-threatening, yet challenging environment. This is a prerequisite for language learning, as outlined in Krashen's (1981) theory of language acquisition.

Furthermore, UDL methods can reduce the barriers to students speaking and writing by supporting vocabulary development, providing options to express understanding, and scaffolding language production (Rao and Torres, 2017). UDL emphasises providing multiple means of representation, which involves presenting information in various formats (CAST, 2018). This can include visual aids, multimedia resources, and hands-on activities that accommodate different language proficiencies and learning preferences among EAL learners. By offering diverse ways of accessing content, UDL ensures that all students, regardless of their language abilities, can effectively comprehend and engage with the curriculum (Meyer, Rose, and Gordon, 2014). In doing so, UDL offers the potential to draw EAL learners into lessons and enhance the learning process.

2.6 UDL in the Irish primary sector

In a review of UDL in an Irish context, Reynor (2019) says that inclusive practices can be aided by more knowledge and support for UDL. Despite Ireland's policy commitment to inclusive education, UDL has traditionally focused on the higher education sector, with little discussion about the role it could play at primary and second-level education to achieve inclusion (Flood and Banks, 2021). The recent

development of the Primary Language Curriculum (NCCA, 2019) points to a more committed attitude to inclusion by using UDL at primary level (Howe and Griffin, 2020). The impending rollout of a modern foreign languages curriculum also points to an increasing need for primary teachers to be equipped with the tools to facilitate learning across language barriers (DE, 2017). Furthermore, the Teaching Council of Ireland (2020) has suggested UDL be a core element of inclusive education in initial teacher education going forward. In May 2023, a dedicated UDL project funded by the Department of Education was launched to aid in the establishment of a UDL School Flag programme, assisting primary and post-primary schools in implementing UDL principles and promoting student agency in their learning (Crean, 2023).

2.7 Purpose of this research

While there is a growing body of literature exploring the theoretical underpinnings and benefits of UDL for EAL learners, there remains a notable gap in understanding the practical application of UDL in classrooms (Martin, 2016). Griffiths and Leach (2022) suggest that teachers may find that they are already using many of the UDL principles in their current teaching, but they are not aware of it. Despite the recognition of UDL's potential, there is limited insight into the specific strategies employed by teachers, how these strategies are implemented, and the factors influencing their implementation decisions.

To address these gaps in the literature, this study aims to explore the following research questions:

1. Are UDL guidelines used by primary school teachers to support the participation of EAL learners?
2. Why do teachers implement UDL guidelines in supporting EAL learner participation?
3. How do teachers implement UDL guidelines to support EAL learner participation?

2.8 Conclusion

By investigating these research questions, this study seeks to provide insights into the practical application of UDL in the context of supporting the participation of EAL learners in Irish primary schools. This may contribute to a deeper understanding of effective strategies for promoting the academic success and participation of EAL learners within inclusive learning environments. The following chapter will describe the methods chosen to answer the research questions.

Chapter 3: Methodology

3.1 Introduction

In this chapter, the mixed-methods approach to the study is outlined while also describing the participants and noting limitations and ethical considerations. Given the recent introduction of UDL to Irish education (Flood and Banks, 2021), the researcher aimed to confirm whether it was being used and to what extent through an online survey. For a deeper understanding of how and why teachers use UDL, expert opinions were gathered through semi-structured interviews. The frequency with which UDL was used was analysed, along with a thematic analysis of interview transcripts.

3.2 Research Paradigm

The researcher chose a mixed-methods approach within a pragmatist paradigm to investigate the utilisation of UDL. Solely relying on positivism might not have sufficiently addressed the complexities of UDL in real-world scenarios. Similarly, opting for a constructivist approach would have posed challenges in gathering meaningful data due to the extensive nature of UDL. The pragmatist paradigm prioritises addressing real-world problems and focuses on practical effectiveness (Plano Clark, 2017), which was deemed appropriate for this study. Recognising the impracticality of exploring the entire UDL framework in depth, the researcher initially adopted a quantitative approach through a survey. This approach helped streamline the thirty-one UDL guidelines, identifying those most relevant to EAL learners in a primary context. By combining quantitative and qualitative methods, the study aimed to mitigate the inherent limitations of a single methodological approach (McGrath, 1982), thereby enhancing the overall validity of the project.

3.3 Research Design

An online survey was employed to gather quantitative data in the initial phase of the study. Online surveys provide researchers with a swift and cost-effective method to engage a diverse audience (Nayak and Narayan, 2019). Respondents often prefer completing survey questionnaires online due to their convenience, potentially

enhancing response rates (Callegaro, Lozar-Manfreda, and Vehovar, 2015). Furthermore, the absence of an interviewer helps to mitigate social desirability bias, as respondents are less likely to tailor their answers to please an interviewer (Phillips and Clancy, 1972). Surveys facilitate the comparison of standardised responses, making them ideal for identifying patterns or trends within the data (Evans and Mathur, 2018).

Semi-structured interviews were chosen over focus groups and structured interviews. This method entails using open-ended questions to elicit detailed responses with spontaneity and probing (Harrell and Bradley, 2009). This was considered more advantageous than structured interviews, as the flexible nature allowed for the researcher to clarify responses and uncover rich qualitative data (Bryman, 2016). Focus groups tend to have fewer questions (Alsaawi, 2014), and confidentiality can be an issue with this approach (Robson, 2011). Given the comprehensive scope of UDL and the central role of children within the study, semi-structured interviews were deemed the most appropriate and ethical approach.

3.4 Sampling and participants

Participants for the survey were recruited using purposive, convenience, and snowball sampling techniques. The researcher liaised with the school principal during their school placement to discuss the possibility of surveying staff members, employing convenience sampling due to the school's high number of EAL learners. Convenience sampling involves selecting participants based on practical criteria like geographical proximity or willingness to participate (Dörnyei, 2007). Upon receiving consent from the principal, the survey was distributed to eligible staff members, who needed to be qualified primary school teachers with at least one year of experience working with EAL pupils in mainstream settings. To meet the quota, participants were encouraged to forward the survey to potential candidates, creating a "snowball" effect until the required number of responses was attained.

Participants for the interviews were purposefully chosen for their expertise in primary school teaching and experience with EAL learners, aligning with the principles of iterative analysis (Lingard, Albert, and Levinson, 2008). Participants who completed

the quantitative part of the study were chosen for interviews to ensure familiarity with the research format. Participants volunteered by selecting an option at the survey's conclusion, and those meeting inclusion criteria were contacted and invited to partake. Participant A had ten years' experience and identified as female. Participant B had six years' experience and identified as male. They had worked with numerous EAL pupils throughout their careers and taught every year group from junior infants to sixth class. Both primarily worked in socio-economically disadvantaged urban schools in Ireland.

3.5 Online Survey

The survey (Appendix A) was created using 'Google Forms' and distributed through a shareable link and email invitations on the platform. It was based on the UDL guidelines (Cast, 2018), and comprised four sections. The initial section provided study information and participant rights, including a digital consent form. Demographics, including teaching and EAL experience, were collected in this section. Subsequent sections corresponded to UDL principles: engagement, representation, and action and expression. Participants rated their use of individual UDL guidelines via a Likert scale. Each question included examples of implementing UDL in primary settings that were adapted from UDL website (CAST, 2018).

Participants responded to questions (e.g. do you minimise threats and distractions?) using a Likert scale that had the following options:

- 1: Never
- 2: Rarely
3. Sometimes
4. Regularly
5. Always

Participants were asked open-ended questions at the end of sections 2-4 so they could share additional information that the main questions did not allow for. The survey was piloted and feedback led to questions and exemplars being simplified and altered for clarity.

3.6 Quantitative Data Analysis

The survey data was transferred from Google Forms to Microsoft Excel (version 16.83) for analysis. It was organised, coded, and cleaned to ensure eligibility based on participants' responses. One participant's response was excluded for not meeting inclusion criteria, leaving nineteen participants ($n = 19$) for analysis, with eight having LST experience and eleven without. Data analysis aimed to identify prevalent methods among participants so responses indicating 'never', 'rarely', or 'sometimes' were excluded. Descriptive analysis determined measures of central tendency by converting Likert scale responses to numerical data. Subgroup analysis compared the responses of LST teachers to those of non-LST teachers using an independent t-test. The mean and standard deviation of both groups was calculated, and the data were checked for outliers to ensure a normal distribution. Data visualisation was used to represent findings in accessible formats and these were created using design functions in Microsoft Word (version 16.83).

3.7 Semi-structured interviews

The quantitative analysis provided the researcher with a list of UDL guidelines that teachers use to regularly support EAL learners. A topic guide (Appendix B) with a series of open-ended questions was developed to explore how and why these guidelines could be used in primary classrooms. The questions were centred on:

- EAL learners, including barriers to learning and methods to improve participation,
- UDL principles, their application when working with EAL learners,
- UDL guidelines, the most prevalent ones which emerged from the survey, and how and why they can be implemented.

In line with the iterative design of the study, two questions were included in the topic guide following the analysis of the survey. These questions aimed to explore an emerging finding that two principles (engagement and representation) were being used significantly more often than the third principle (action and expression).

Two critical friends piloted the questionnaire, leading to the rephrasing of some questions and the inclusion of additional prompts to enhance understanding in cases of limited responses. Interviewees were given a research information sheet, and they then signed a consent form indicating their willingness to partake. The two participants were interviewed for 40 minutes each, and the audio of the interviews was recorded.

3.8 Qualitative Data Analysis

Audio recordings were transcribed and organised alongside notes the researcher took during the interviews. Following the steps developed by Braun and Clarke (2006), the researcher familiarised themselves with the data by rereading the transcripts and taking notes. The data were coded by labelling specific excerpts with identifiers. Codes were then organised thematically and refined until a coherent set of themes emerged, each directly relevant to addressing the research questions. Themes were reviewed and sub themes emerged, which were then named and defined. From this point, the data from the quantitative survey was reviewed in light of newly emerging knowledge from the qualitative analysis. These findings will be outlined and discussed in the following chapters.

3.9 Robustness: Reliability and Validity

To ensure the validity of the survey, the text of the questions closely followed the wording found in the UDL guidelines (CAST, 2018). The only change was to rephrase these guidelines as questions rather than statements. Pilot studies are crucial for testing survey questions as they can reveal issues with the clarity of instructions, the comprehensiveness of content, and the feasibility of the technology (Regmi et al., 2016). This survey was piloted three times to ensure the questions were comprehensible and the instructions were clear to ensure a user-friendly design. Initial feedback suggested that the survey took too long to complete and that some questions were hard to comprehend in terms of how a guideline could be implemented. To address these issues, the phrasing of examples was simplified and shortened, and examples were made specific to primary education. To increase the level of reliability, the recognised framework of Braun and Clarke (2006) was used in the qualitative analysis. Validity refers to how well the results of the study represent

true findings among similar individuals outside the study (Patino and Ferreira, 2018). The use of purposive sampling helped to create a population that was consistent in its experience of EAL learning and mainstream primary education, which lends internal validity to this study.

To receive the full benefit of semi-structured interviews, researchers need to plan their interviews carefully and test them beforehand (Luo and Wildemuth, 2009). The interview guide was designed based on a thorough analysis of current literature and in light of the emerging data from the survey.

Interview participants were required to have at least three years of teaching experience to ensure data was gathered from a reliable source. Furthermore, they needed to have worked, between them, in every year group of primary school. This allowed for a more complete perspective on primary education. Both participants were required to have worked with EAL pupils in a mainstream setting for more than one year. This ensured participants were able to reflect on the value of UDL practices with EAL learners, which added internal validity to the study.

It is recommended that open-ended questions in semi-structured interviews be piloted in advance to assess their effectiveness (Dörnyei, 2007). Therefore, the interview questions were piloted using two critical friends. Some questions were simplified, and prompts were added to ensure the researcher was prepared to probe the participants for further information as necessary.

By employing mixed methods, researchers can triangulate data, thereby offering a deeper understanding of the phenomenon under study (Denzin, 2012). In the context of this study, utilising mixed methods helped to provide statistical evidence of what UDL methods were being used, along with a preliminary understanding of how said methods can improve the participation of EAL learners.

3.10 Limitations

A major limitation of this study is the small sample size. Results cannot be generalised to the views of all teachers or to other educational settings. Participants

were selected using purposive sampling, which may introduce self-selection bias. Teachers who were more interested in or knowledgeable about UDL may have been more likely to participate, which could bias the results and limit the representativeness of this sample (Ball, 2019). Furthermore, the use of convenience sampling can lead to outliers, which can skew the data (Farrokhi and Mahmoudi-Hamidabad, 2012).

In the case of this study, participants for the survey were initially chosen through convenience from a school that had a high percentage of EAL learners due to its location in an urban centre. External validity is when findings can apply to participants in different settings (Patino and Ferreira, 2018). In this study, participant responses may not reflect the experience of teachers across the country who may have less experience working with EAL learners and therefore should be interpreted with caution in light of limited external validity.

3.11 Ethical considerations

The researcher conducted the study in accordance with ethical guidelines established by Hibernia College and the British Educational Research Association's (BERA) Ethical Guidelines for Educational Research (2018). Prior to participation, participants were informed about ethical considerations such as data protection, the right to withdraw, and informed consent through an information sheet, a consent form, and discussions with the researcher. They were provided with contact information for any questions or concerns. Participants were informed that they would not receive compensation for their involvement. Participant data was securely stored, adhering to data protection laws and institutional guidelines. Survey data was collected using encrypted software (Google Forms), and interview recordings were securely stored on a password-protected device. Participant data was anonymized by removing personally identifiable information and using pseudonyms.

3.12 Conclusion

This chapter has delineated the research design from the inception of the study to the end of the analysis. In response to investigating a substantial topic with limited

resources, a mixed-methods approach was chosen as part of the pragmatist approach taken by the researcher. The participants for both phases of the research were chosen purposively to gather expert and relevant knowledge to lend internal validity to the study. The following chapter will outline the findings resulting from the chosen methods.

Chapter 4: Findings

4.1 Introduction

The first part of this study aimed to confirm whether UDL was being used through an online survey. Subsequently, semi-structured interviews aimed to explore the practice of supporting EAL learner participation using UDL guidelines. This chapter begins by analysing findings regarding the use of UDL, the most used guidelines and the differences between teachers with experience in a language support role and those without this experience. Following this, subsequent sections are organised by three overarching themes that emerged and align with the UDL principles of a) engagement, b) representation, and c) action and expression. These sections explore findings about the multiple ways that teachers implement UDL guidelines and include the reasons behind using them.

4.2 Are UDL guidelines used to support the participation of EAL learners?

Results show that UDL guidelines are employed in primary schools to aid EAL learners' participation. Analysis of central tendency revealed a mean response of 3.6, which suggests that UDL guidelines are typically implemented with a frequency between 'sometimes' and 'regularly'. Both mode and median values indicate 'regularly' as the most common response. Among the 31 guidelines, 27 were used 'sometimes' or more frequently.

In respect to the UDL principles, the mean response for guidelines related to the principle of engagement was 3.7 and the mode was 'regularly'. The frequency of use for the principle of representation was somewhat similar, with 'regularly' as the mode response and 3.6 as the mean. However, in respect of the principle of action and expression, the mode was 'sometimes' and the mean was 3.3, indicating that respondents used this principle in a less consistent manner than the other two. The frequency with which the three UDL principles were used by respondents is represented in Figure 2.

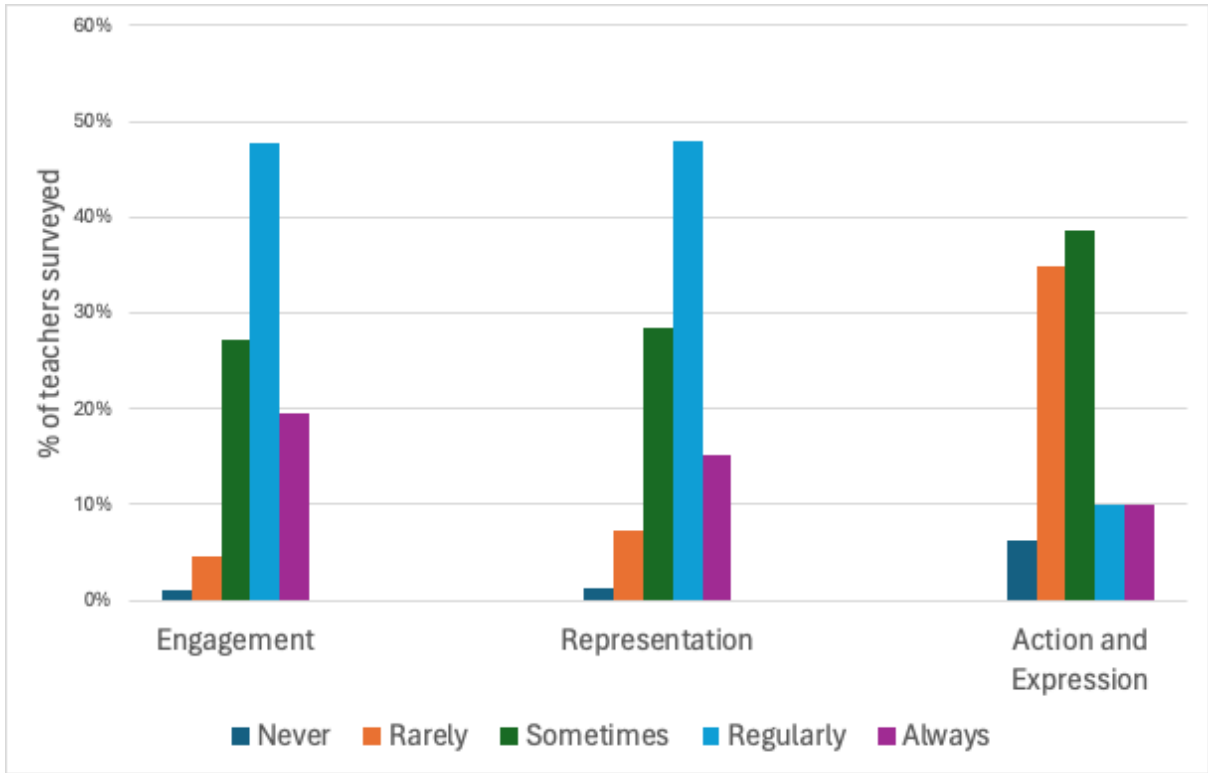


Figure 2: Frequency of UDL principle use to support EAL learner participation.

Most frequently used UDL guidelines

Frequency analysis revealed the ten most used guidelines, as seen in table 1.

Mean Response	UDL guidelines	UDL Principle Provide multiple means of:
4.4	Vary demands and resources to optimise challenge	Engagement
4.3	Clarify vocabulary and symbols	Representation
4.1	Optimise relevance value and authenticity	Engagement
4.1	Minimise threats and distractions	Engagement
4.1	Guide information processing and visualisation	Representation
4.1	Facilitate personal coping skills and strategies	Engagement
4	Increase mastery-oriented feedback	Engagement
3.9	Support decoding of text, mathematical notation, and symbols	Representation
3.8	Activate or supply background knowledge	Representation
3.8	Foster collaboration and community	Engagement

Table 1: Most frequently used UDL guidelines, colour coded by UDL principles of engagement, representation and, action and expression.

Of these ten, six were part of the UDL principle to ‘provide multiple means of engagement’, and four to ‘provide multiple means of representation’. There were no guidelines in the top ten from the principle ‘provide multiple means of action and expression’.

Between-group analysis

Among the participants, teachers who had experience in a language support role (n = 8) were found to utilise UDL guidelines more frequently compared to those without such experience (n = 11). Specifically, the mean score for participants with LST experience (Mean = 3.72, SD = 0.46) was higher than for those without (Mean = 3.47, SD = 0.45). An independent t-test confirmed this difference to be statistically significant ($t(17) = 0.35, p < .01$).

4.3 Provide multiple means of engagement

Engagement was deemed essential for further learning, as 'you can't teach a child who's not engaged' (participant A). This theme encompassed interview responses which explored the methods of and purposes behind UDL use. A summary of these findings can be seen in Figure 3.

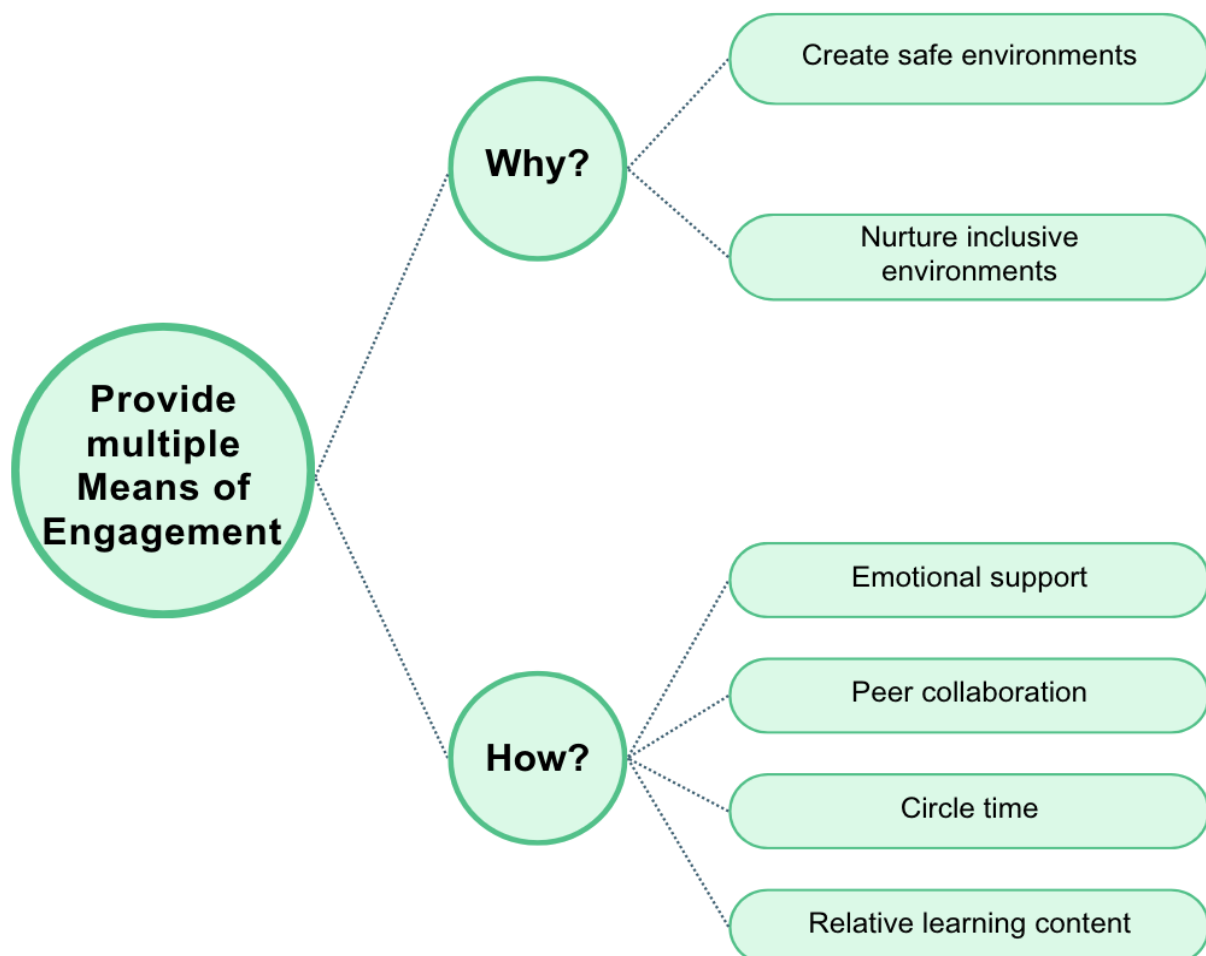


Figure 3: The reasons why and the methods how UDL engagement guidelines are used

Create safe environments

Participants sought to create safe learning environments as sometimes EAL pupils come from difficult situations, such as war-torn countries, and 'in the space of six weeks, their whole lives have changed. So, in the next six weeks, [the teacher doesn't] want their whole lives to go upside-down again' (Participant B). Creating a safe space was said to be easier in younger age groups, possibly due to reduced awareness of linguistic differences but 'as [they] get older... they're more aware of differences, so they're more likely to call out someone's accent' (Participant A).

To combat these challenges, participants advocated for fostering a supportive classroom culture towards diversity using circle time. This methodology allowed the teacher to get the message across that 'people are different, they have different abilities and they're at different stages' (Participant A).

To manage emotional distress, participants gave advance notice to pupils about sensitive subjects, as some of them come from backgrounds where such topics can be emotionally triggering. They also monitored their well-being and provided emotional support.

Sometimes people just need time and then checking in on them two or three minutes later... to make sure that they know that you're keeping an eye on them (Participant B).

Over time, these approaches enabled EAL learners to feel more at ease, resulting in greater participation.

He was probably sitting in the classroom nervous from nine o'clock to half two, and now he is comfortable. He'd been listening that whole time, but I hadn't put pressure on him to speak. And then one day, he just decided that that was the day he was going to speak (Participant A).

Participants built a collaborative environment by pairing EAL pupils with those who did not speak their language but were 'very helpful' as it 'created challenge, rather than reliance' (Participant B). Project-based learning enhanced motivation by fostering a sense of mutual accomplishment, as 'children from different backgrounds

are involved in a shared goal' and 'when it goes up on the wall, they're up there with all of the other English speakers' (Participant A).

Nurture inclusive environments

Participants highlighted the importance of using content that resonates with the cultural backgrounds of pupils 'Trying to get full engagement is finding any type of link between kids' lives and what you're teaching' (Participant B). 'I have a boy who's Chinese. We did a whole week on Chinese New Year. He was immediately engaged" (Participant A).

Moreover, participants discussed the need to adapt monocultural resources to provide authentic learning experiences that pupils could relate to 'I think it's representation, seeing themselves or their mum in a doll or in a story instead of just Goldilocks and Rapunzel' (Participant A). Introducing culturally relevant materials can have a profound emotional impact. Participant A realised that 'all of the dolls and small world characters in [her] classroom were white' so she bought 'a book about afro hair' for her pupils and 'they absolutely lit up.'

4.4 Providing multiple means of representation

Analysis revealed several methods for adapting how information was represented to EAL pupils so that it was 'as clear as possible' (Participant B). Participants employed these techniques so that instructions, presentations and written work would be more comprehensible. These results are summarised in Figure 4.

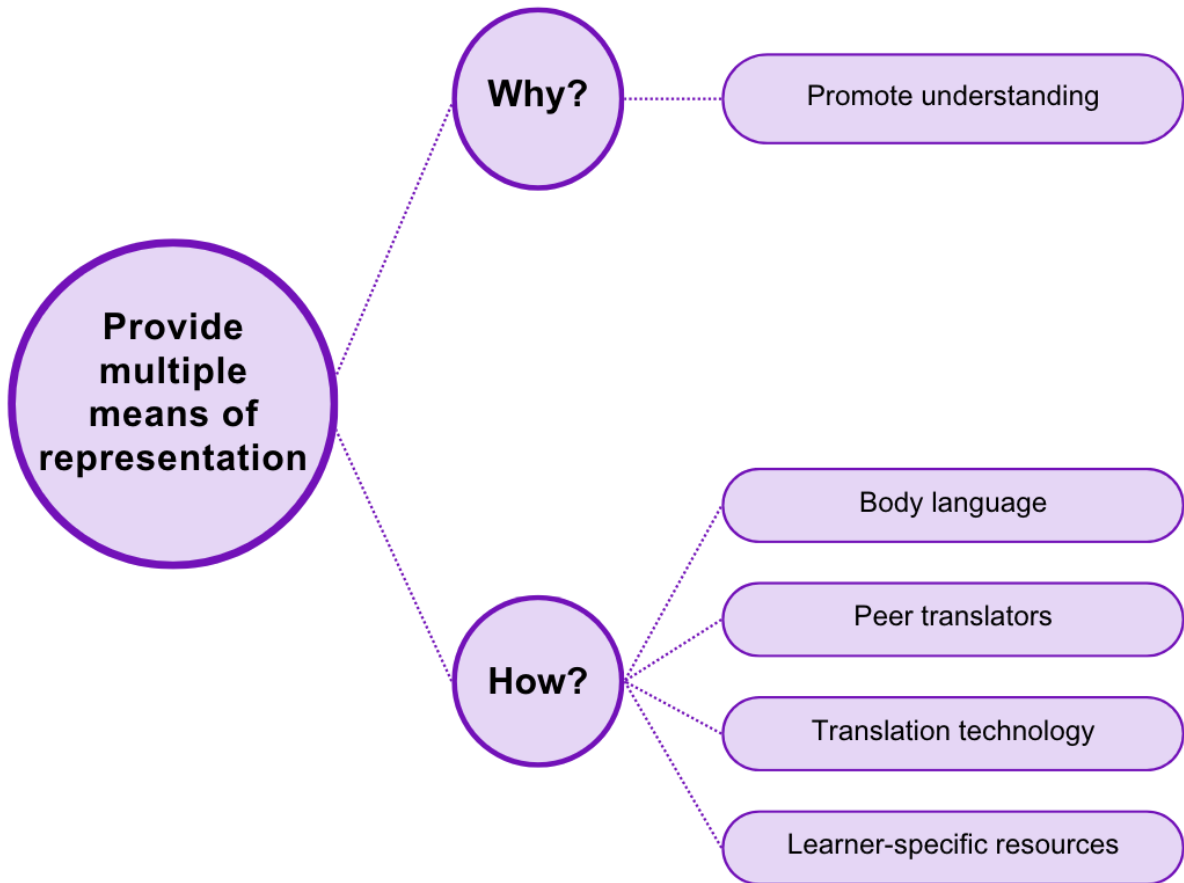


Figure 4: The reasons why and the methods how UDL representation guidelines are used

Both participants described using hand gestures and visual cues to convey instructions and information in ways that pupils understood 'what they had to do' (Participant A). Some pupils 'from the same country who spoke the same language' were recruited as translators for their peers (Participant A). The use of 'tablets' with translating software tool was another strategy but it was 'more relevant for older children' (Participant A) due to difficulties operating the devices and navigating more complex subject matter. Many physical resources in books or online were said to be inappropriate as their generic format did not take into account the specific needs of language learners. The 'interests of the child don't matter, the age, their level or their proficiency, they're all the same' (Participant A). Therefore, participants made their own resources and adapted learning experiences to be 'more manageable' (Participant A).

4.5 Provide multiple means of action and expression

This theme encapsulates the reasons why and the methods how teachers facilitated pupil action and expression (see Figure 5).

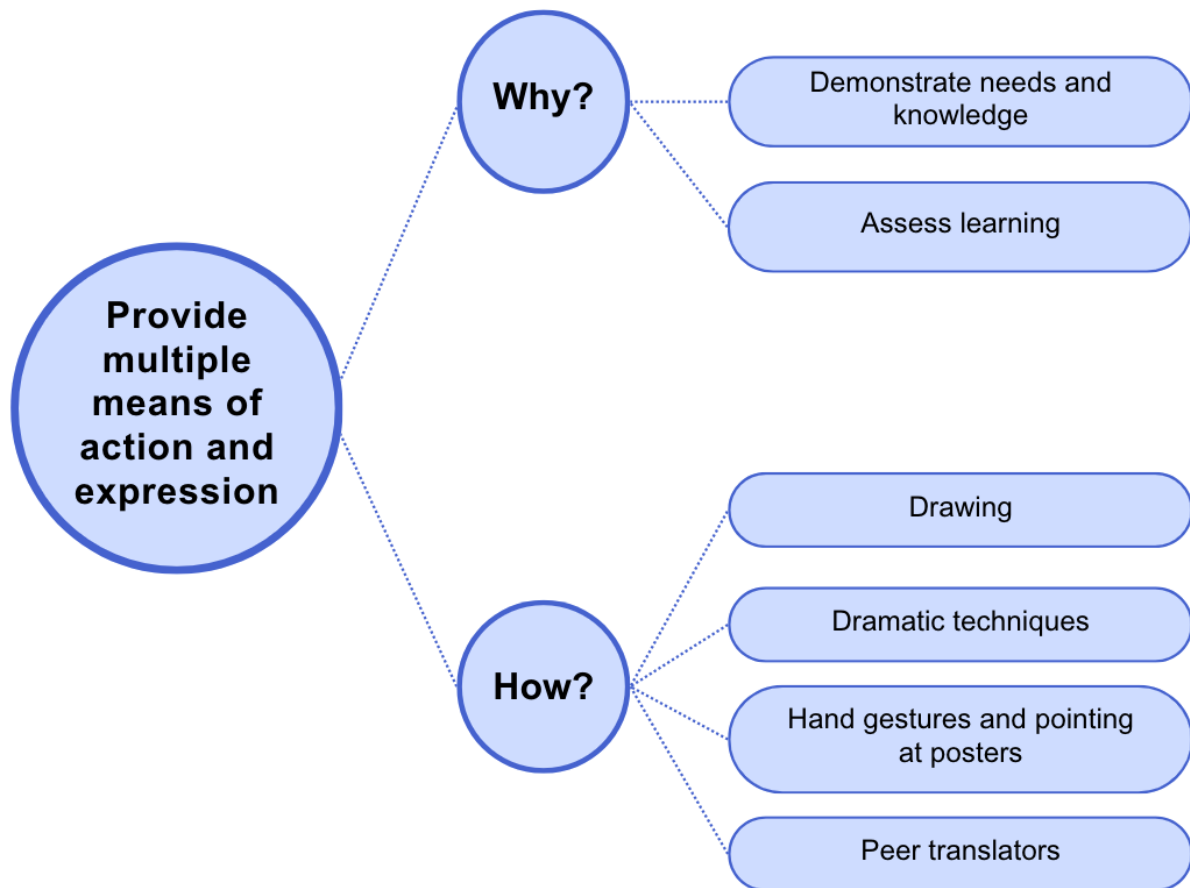


Figure 5: The reasons why and the methods how UDL action and expression guidelines are used

Participants were initially questioned on a finding in the quantitative analysis that indicated a lower frequency of use for means of promoting action and expression than for the other two principles. Their responses shed light on factors such as time constraints and the prioritisation of core subjects.

We're trained as teachers to automatically focus on core subjects.... There seems to be a lot more book work involved in those types of lessons. So, it becomes very difficult to get a huge amount of expression and physical action. (Participant B)

It was also pointed out that the guidelines for this principle suggest using technology-based tools, which may be less applicable to younger primary school learners who cannot operate devices independently.

Participants recognised that sometimes 'EAL children are [the] most able children' (Participant A) and found it frustrating on their behalf that 'these kids want to be able to participate, but they just can't' (Participant B). They endeavoured to use means of action and expression as they thought that it did 'a disservice not to give them the tools that they need to show how able they are' (Participant A).

It was noted that EAL learners have physical and emotional needs that can be communicated through physical action. Physical needs could be shared through body language, such as a hand signal in the shape of a 'T' for going to the toilet. Furthermore, pupils could use custom made posters that display feelings that they could 'go and press to show' how they [were] feeling (Participant A).

Knowledge could be expressed in a multitude of ways that went beyond writing or speaking, such as through 'drawings, pictures, or diagrams... a little skit or freeze frames' (Participant A). Participants saw the value in using physical responses to assess learning; 'he liked to show me that he understood stories by drawing little summaries of them' (Participant A). Providing multiple means to present information enabled greater output, as the pupils 'might not be able to draw what they think but they might be able to make it with playdough or build it with sticks' (Participant A). Participants said this allowed them to recognise the diverse learning styles and create situations where every student could demonstrate their knowledge effectively.

Using peers to translate was mentioned earlier as a means of portraying the meaning of instructions or lesson content. In this section, participants employed, when possible, other pupils as translators to 'pick out key words from what that child is saying to make it more accessible for the teacher' (Participant A). Classmates with a stronger command of English assumed this 'role very naturally, to help other kids' (Participant B). This method facilitated communication and comprehension between teachers and their pupils.

4.6 Conclusion

In summary, the results of the study found that UDL guidelines were being used regularly. The most commonly used guidelines came from the principles of engagement and representation. Teachers with experience in a language support role used UDL more than those without this experience. Participants used UDL to create safe and inclusive learning environments to engage learners. This was achieved through circle time, peer collaboration, using relevant learning material and providing emotional support to EAL pupils. The purpose of using guidelines related to representation was to promote understanding of instructions and lesson content. This was facilitated through the use of pupils' home languages, translation software, visual cues, and learner-specific resources. The purposes of using guidelines relating to action and expression were to enable learners to demonstrate their existing capabilities, their physical and emotional needs and assess their learning outcomes. This was perceived to be more difficult to implement due to barriers relating to technology and teacher time constraints. The following chapter will discuss and interpret these findings in the context of relevant literature.

Chapter five: Discussion

5.1 Introduction

This chapter interprets the results presented in the previous chapter, outlining how they relate to existing knowledge before drawing general conclusions and exploring the implications of the study. The layout of the chapter follows that of the previous one in addressing the research questions. It begins by discussing the use of UDL and the most frequently used guidelines. This is followed by discussing the comparatively smaller use of the action and expression principle to the other two principles. Next follows a discussion of the greater frequency of UDL use by teachers with experience in a language support role compared with those without this experience. This is followed by an examination of how and why the most commonly used guidelines were implemented. This is organised by the UDL principles of engagement, representation and action and expression.

5.2 Are UDL guidelines used to support the participation of EAL learners?

This section deals with the first research question, which aimed to discover if UDL guidelines were being used in primary classrooms to support EAL learner participation. Interviewees expressed limited awareness of the concept of UDL. Nevertheless, both the results from the survey and the interviews revealed frequent use of UDL guidelines. This is in line with Griffiths and Leech's (2022) suggestion that teachers may find they are using UDL without being aware that they are using it. Edyburn (2021) raises the issue that there is a widespread belief that teachers are using UDL incidentally, but that this may be superficial, as UDL is a learned skill that cannot be implemented without training. While the increased use of UDL may lead to more inclusive teaching practices, it's worth noting that the version of UDL observed in this study may be an improvised or ad-hoc adaptation. Reliably assessing the effectiveness of UDL in such cases may prove challenging.

Teachers with experience in a language support role used UDL guidelines more often in their practice than those without this experience. These professionals have expert knowledge on grammar, language acquisition, and language transfer (Kane et

al., 2019). The greater use of UDL in this sample may support an alignment between effective EAL teaching practice and UDL. This is supported by Rao and Torres (2017), who believe UDL provides an effective framework to support EAL learners while simultaneously supporting the whole class.

The principles relating to action and expression were used significantly less than those of engagement and representation. When asked about the relatively smaller use of action and expression, participants mentioned the challenge of balancing core curriculum needs while providing opportunities for pupil output. Teachers who feel they are already under pressure may be reluctant to adopt UDL, as it can take a significant amount of time and practice to implement (Evans et al., 2010). Given the time constraint related issues with DI (Bonnici, 2022; Day and Prunty, 2015), teachers may be hesitant to subscribe to a new model that will also take up much of their time. However, it is theorised that teachers who use UDL may spend less time addressing learning needs, as a core tenet of the framework is to develop competent and independent learners who do not rely on their teacher (Dacus-Hare, 2023).

It was pointed out that means of action and expression for EAL learners require the use of technology-based tools such as Padlet or translators. Utilising a tablet to operate these tools was thought to be too difficult for many younger pupils in a primary school. It has been pointed out that while the UDL framework does not necessitate the use of technology (Hall et al., 2012; Rose et al., 2012), teachers have found it central to implementation (Lowrey et al., 2017). This ever-increasing role of technology in education has been a consistent source of consternation for teachers (Edyburn, 2014). Technology that assists EAL learner participation is plentiful, including the use of audio recordings, reading aids, video-making tools, internet search functions, and electronic dictionaries (Nomass, 2013). However, teachers must first familiarise themselves with how to use these tools before pupils can use them (Martin, 2016). Furthermore, there is little understanding of the role technology can play in UDL implementation across different sectors of education (King-Sears et al., 2023). The participants of this study did not mention using technology-based tools beyond translating software (Microsoft and Google Translate applications), which may suggest unfamiliarity or unwillingness to use technology-

based tools. This may pose a problem if UDL were to be rolled out in primary schools.

The following sections deal with the reasons why and the methods that are used to implement UDL to support EAL learner participation. They are explored through the lens of the three principles of UDL: engagement, representation, and action and expression.

5.3 Engagement

Participants wanted to create a safe learning environment, which is in line with existing literature that says that EAL learners benefit from UDL as it encourages the creation of non-threatening environments (Rao and Torres, 2017). When learners have to focus their attention on having basic needs met or avoiding a negative experience, they struggle to engage with the learning process (CAST, 2024). Having the opportunity to practice language skills in an enjoyable and non-threatening way can help reduce anxiety about producing language accurately and lower students' affective filters, allowing for more meaningful language production and development (Rao and Torres, 2017). This resonates with Krashen's (1986) language learning theory, which posits that elevated emotions, such as anxiety, fear, or embarrassment, can impede language learning. Recent neuroscientific evidence lends evidence to this theory by showing that stress can impede learning (Vogel et al., 2018).

To mitigate these challenges, teachers fostered a supportive classroom culture that embraced diversity, provided advance notice about sensitive topics, and attended to the emotional needs of pupils. Learner wellbeing is closely connected to increased engagement and motivation, along with enhanced creative and critical thinking (MacIntyre et al., 2016). These approaches aligned with UDL guidelines 7.3 (minimise threats and distractions) and 8.3 (foster collaboration and community).

Teachers wanted to nurture inclusive environments by providing learner-specific resources that were culturally relevant. Adapting resources to reflect learner identities can promote an inclusive environment (Day and Prunty, 2015). Minority

children often seek 'mirrors' in classrooms, and when their reflections are negatively portrayed or omitted, they learn how they are devalued in society (Bishop, 1990, p. ix). In this study, the use of dolls that reflect diverse skin colours and hair types helped teachers create positive reflections that engaged learners. Resources in Irish classrooms often do not reflect the diversity of their pupils (Golden, 2022), and they can distance pupils from the lives of people in other cultures (Moloney and O'Toole, 2018). By using UDL guideline 7.2 (optimise relevance, value, and authenticity), the findings of this study suggest that teachers can create more inclusive classrooms by acquiring resources that resonate with their learners.

In conclusion, UDL guidelines 7.2 (optimise relevance, value, and authenticity), 7.3 (minimise threats and distractions), and 8.3 (foster collaboration and community) are well aligned to meeting the needs of EAL learners and supporting their participation. They increase engagement by creating safe and inclusive learning environments.

5.4 Representation

Teachers used UDL for the purpose of promoting understanding of instructions and lesson content. This was carried out through the use of UDL guidelines relating to providing alternatives for auditory information (1.2) and promoting understanding across languages (2.4). They used body language, including gestures, facial expressions, and eye contact, to provide multiple representations of what they were saying. These means have been shown to enhance or replace oral communication, allowing teachers to deliver more meaningful messages to EAL learners (Gregerson, 2007). Teacher's also utilised pupils' home languages through the provision of devices with translating software and peer translators.

The use of pupils' home language facilitates language development through the transfer of skills between pupils' first and any additional languages (NCCA, 2020). Furthermore, incorporating an EAL pupil's home language into the classroom demonstrates respect for their culture, which builds an inclusive learning environment (Little and Kirwan, 2019). From a representation point of view, home language use helps pupils understand what a lesson is about, which gives them a

platform to express what they know on a topic or contribute meaningfully to discussions.

Peer translators involve one pupil acting as an interpreter between the teacher and another pupil. Little and Kirwan (2021) suggest this can improve learner self-efficacy as they can participate in an authentic way using their home language. There is an international basis for using peer translators, as seen in the UK's young interpreter scheme (NCCA, no date), where pupils of different ages collaborate to translate texts and complete language tasks. A drawback to this approach is what the teacher should do if a school does not have multiple learners with the same language background.

Findings related to representation saw teachers providing personalised resources and designing activities in ways that reduced the amount of text in language-based tasks. This was done by using UDL guidelines related to guiding information processing (3.3) and supporting the decoding of text (2.3). This enabled learners to participate in tasks that they previously could not have had the teacher used generic resources or employed a 'one-size-fits-all' approach.

In summary, teachers used multiple means of representation to promote understanding of instructions and lesson content, which can act as a platform for learner participation. Means of adapting resources overlap with the use of DI and may complement UDL implementation. Four guidelines are of particular use in the context of supporting EAL learner participation: 1.2 (providing alternatives for auditory information), 2.3 (supporting the decoding of text, symbols, and mathematical notation), 2.4 (promoting understanding across languages), and 3.3 (guiding information processing and visualisation).

5.5 Action and Expression

This study found that teachers provided multiple means of action and expression so learners could communicate their needs, emotions, and existing knowledge.

Teachers used peer translation and provided alternatives to speaking and writing in line with UDL guideline 4.1, which encourages varied means of response and

navigation. Peer translation has already been mentioned as a means for a teacher to represent information in an accessible way, or, in other words, to manage input. In this section, peer translation refers to when a pupil uses a classmate - who speaks English at a more advanced level to express something they want to say. This approach fits well with expert advice in Irish primary education that advocates for home language use to make meaningful contributions (OIDE, 2024). However, this approach, while effective, cannot be relied upon as multiple EAL learners with the same language are not always in the same classroom or school.

The alternative forms of pupil output mentioned above were also used as a means of assessment. Participants encouraged pupils to act out stories or draw sketches, which could demonstrate their comprehension of vocabulary and concepts. This approach aligns with the Total Physical Response (TPR) method (Asher, 1962), which helps EAL learners respond without the need to use language. Allowing learners to express comprehension through physical actions can be especially beneficial during silent periods when verbal communication may be limited (Krashen, 1981). Participants mentioned that many EAL pupils go through a silent or settling period when they join a class for the first time. However, utilising TPR reduced the pressure for them to speak when they may not have wanted to while still allowing the teacher to assess their learning.

In conclusion, this study finds that teachers provide multiple means of action expression to assist in communicating needs, emotions, and existing knowledge. They also use these means to assess pupils' learning. These findings indicate that guideline 4.1 (vary means of response and navigation) is of particular use when supporting EAL learner participation.

5.7 Conclusion

This section has critically analysed the results of this study and found that UDL is being used in primary education, which is in line with findings from both Flood and Banks (2021) and Griffiths and Leech (2022). Teachers with expertise in language support roles are using UDL more often than teachers without this experience, which suggests UDL is well aligned with effective practice. Means of action and expression

are less popular, which may relate to issues incorporating technology with younger age groups and with teacher time constraints. UDL guidelines across all principles can be implemented in several ways in primary classrooms to support EAL learners. Doing so can assist in creating a safe, inclusive environment where learners understand instructions and learning materials and can express what they know and have learned. The upcoming chapter will provide a summary of key findings, offer recommendations, and address the limitations of the study.

Chapter six: Conclusion

6.1 Introduction

This chapter provides a summary of key findings, which form the basis for a series of recommendations for further research and professional practice. Findings reveal regular use of multiple UDL strategies to address academic and affective needs. The limitations of the study are discussed and caution in interpreting the results is advised.

6.2 Summary of findings

- As predicted by Flood and Banks (2021), UDL is emerging in Irish primary education and is being used as a means of including EAL learners.
- Principles of engagement and representation are more often used than the principle of action and expression. This may be due to problems integrating technology into classrooms and teacher time constraints.
- Teachers with experience in a language support role use UDL guidelines more often than those without this experience, which points towards UDL use aligning with effective EAL teaching practice.
- UDL guidelines 7.2 (optimise relevance, value, and authenticity), 7.3 (minimise threats and distractions), and 8.3 (foster collaboration and community) are well aligned to meeting the needs of EAL learners and supporting their participation. They increase engagement by creating a safe learning environment and fostering an inclusive classroom atmosphere.
- Providing multiple means of representation promoted understanding of instructions and lesson content. Four guidelines are of particular benefit: 1.2 (providing alternatives for auditory information); 2.3 (supporting the decoding of text, symbols, and mathematical notation); 2.4 (promote understanding across languages); and 3.3 (guide information processing and visualisation).
- Teachers provide multiple means of action expression to assist in communicating needs, emotions, and existing knowledge. They also use these means to assess pupils' learning. Findings indicate that guideline 4.1 (vary means of response and navigation), is of particular use when supporting EAL learner participation.

6.3 Recommendations

UDL implementation

Findings indicate that UDL is being used incidentally by teachers and this ad-hoc approach may result in unreliable outcomes. Further research on UDL implementation by primary teachers trained in using the framework is essential to reliably exploring its impact. Efforts to raise awareness, provide training, and support educators in implementing UDL are needed if rigorous outcomes are to be achieved.

Collaboration between LSTs and mainstream class teachers

Collaboration between LSTs and mainstream teachers is recommended. School leadership teams may see value in facilitating this in their efforts to develop a more inclusive school environment.

Technology Tools

Research into affordable and convenient UDL-related technology tools for primary classrooms is recommended, prioritising resources that allow younger primary pupils to express knowledge.

Assessment

Guidelines for assessment in primary school (NCCA, 2007) call for schools to provide alternative means for EAL learners but are unspecific in how this can be done. Using the alternatives to speaking and writing seen in this study may be an appropriate way to facilitate assessment of EAL pupils.

Differentiated Instruction or Universal Design for Learning?

While it is too early to tell whether UDL will replace DI, this study lays the groundwork for further research that compares the merits and drawbacks of both models. In discussing the creation of a full inclusion model, Rapp (2014) offers that each of these models has a role to play if the needs of all learners are to be met. Rather than seeing them as opposing forces, it may be better to view them as two complementary tools to be used in addressing inclusive education issues.

6.4 Limitations

The study's participants were drawn primarily from urban schools with high numbers of EAL pupils. Results may differ among rural populations or in schools that have fewer EAL pupils. Due to the limited sample size of both the questionnaire and interviews, generalising the results may not be meaningful until corroborated by larger-scale studies. Participants may have given socially desirable responses in order to appear to be using UDL guidelines more often than they do. It was beyond the scope of the study to explore each of the thirty-one guidelines that the UDL framework consists of, so there may well be unexplored potential beyond those highlighted here.

6.5 Conclusion

This study has explored the use of UDL to support EAL learner participation. Findings support previous literature that UDL is an emerging practice in primary education and that it has potential to address EAL learner needs. There are opportunities for UDL to create safe, inclusive learning environments where learners comprehend information and can express themselves meaningfully. Challenges involve the use of technology and finding time for teachers to implement it. Training and support should be provided to ensure it is implemented in a rigorous manner. Future research is needed to determine whether UDL can deliver a more inclusive education experience than what the current system offers.

Reference List

Alsaawi, A. (2014) A critical review of qualitative interviews. *European Journal of Business and Social Sciences*, 3(4). Available at:

<http://dx.doi.org/10.2139/ssrn.2819536>

Arnot, M., Schneider, C., Evans, M., Liu, Y., Welply, O. and Davies-Tutt, D. (2014) *School approaches to the education of EAL students. Language development, social integration and achievement*. Cambridge: The Bell Educational Trust Ltd. Available at: <https://durham-repository.worktribe.com/output/1636069>.

Asher, J.J. (1981) The total physical response: theory and practice. *Annals of the New York Academy of Sciences*, 379, pp. 324-321. Available at:

<https://doi.org/10.1111/j.1749-6632.1981.tb42019.x>

Ball, H. L. (2019) Conducting online surveys. *Journal of human lactation*, 35(3), pp. 413-417. Available at: <https://doi.org/10.1177/0890334419848734>.

BERA (2018) *Ethical guidelines for educational research (4th edn)* Available at: www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018 (Accessed: 2 Apr 2024).

Bishop, R. S. (1990) 'Windows and mirrors: Children's books and parallel cultures', *Celebrating Literacy: The proceedings of the 14th annual reading conference*: San Bernadino, CA, 5 March. Available at:

<https://files.eric.ed.gov/fulltext/ED337744.pdf#page=11> (Accessed: 16 April 2024)

Bonnici, M. (2022) The teachers' perception of the use of the Universal Design for Learning in inclusive primary school classrooms, *The educator*, 7. Available at: [https://mut.org.mt/wp-content/uploads/2022/05/The-Educator-2022-with-cover.pdf - page=35](https://mut.org.mt/wp-content/uploads/2022/05/The-Educator-2022-with-cover.pdf-page=35)

Braun, V., and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), pp. 77-101. Available at:

<https://doi.org/10.1191/1478088706qp063oa>.

Bray, A., Devitt, A., Banks, J., Sanchez Fuentes, S., Sandoval, M., Riviou, K., Byrne, D., Flood, M., Reale, J., and Terrenzio, S. (2024) What next for Universal Design for Learning? A systematic literature review of technology in UDL implementations at second level. *British Journal of Educational Technology*, 55, pp. 113–138. Available at: <https://doi.org/10.1111/bjet.13328>

Brillante, P., and Nemeth, K. (2022) *Universal design for learning in the early childhood classroom: Teaching children of all languages, cultures, and abilities, birth–8 years*. London: Routledge.

Bryman, A. (2016) *Social research methods*. 5th ed. Oxford: Oxford university press.

Callegaro, M., Lozar Manfreda, K., and Vehovar, V. (2015) *Web survey methodology*. London: Sage Publications

Center for Applied Special Technology (CAST) (2018) *Universal design for learning guidelines, Version 2.2*. Available at: <http://udlguidelines.cast.org> (Accessed on (5 Apr 2024)).

Central Statistics Office (CSO) (2024) *Arrivals from Ukraine in Ireland Series 12*. Available at: <https://www.cso.ie/en/releasesandpublications/FP/P-AUI/arrivalsfromukraineinirelandseries12/backgroundnotes/> (Accessed 16 Apr 2024).

Coyne, P., Evans, M., and Karger, J. (2017) Use of a UDL literacy environment by middle school students with intellectual and developmental disabilities. *Intellectual and developmental disabilities*, 55(1), pp. 4-14. Available at: <https://doi.org/10.1352/1934-9556-55.1.4>.

Crean, T. (2023) 'Minister Launches Collaborative UDL Research Project At Kerry College Clash Campus', *Tralee Today*, May 24. Available at: <http://traleetoday.ie/minister-launches-collaborative-udl-research-project-at-kerry-college-clash-campus/> (Accessed: 16 Apr 2024).

Dacus-Hare, D (2018) *The Barriers Teachers Face When Implementing the Universal Design for Learning*. Master's Thesis. Dominican University of California. Available at: <https://scholar.dominican.edu/education-masters-theses/78/>.

Day, T., and Prunty, A. (2015) Responding to the challenges of inclusion in Irish schools. *European journal of special needs education*, 30(2), pp. 237-252. Available at: <https://doi.org/10.1080/08856257.2015.1009701>.

DE Inspectorate (2024) Meeting Additional Language Needs: Whole-school and Classroom Approaches for Inclusive Language Learning. Available at: <https://assets.gov.ie/284884/43debd6d-6362-4bdf-b46d-0326f3de13bd.pdf> (Accessed on 3/4/24).

Denzin, N. K. (2012) Triangulation 2.0. *Journal of Mixed Methods Research*, 6, pp. 80-88. Available at: <https://doi.org/10.1177/1558689812437186>.

Department of Education and Science (DES) (2009) *Meeting the needs of pupils learning English as an Additional Language (EAL)*. Available at: <https://assets.gov.ie/14314/835e8db7cadb43f092b3a1b06f05fbf4.pdf> (Accessed on 3 Apr 2024)

Department of Education and Skills (DES) (2017) *Languages connect: Ireland's strategy for foreign languages in education, 2017–2026*. Available at: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/47794/d324b1efe66c433aa6a1cee0db0e7c56.pdf#page=null> (Accessed on 6 Apr 2024)

Doran, P. R. (2015) Language accessibility in the classroom: How UDL can promote success for linguistically diverse learners. *Exceptionality Education International*, 25(3). Available at: <https://doi.org/10.5206/eei.v25i3.7728>.

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

Edyburn, D. L. (2010). Would you recognize universal design for learning if you saw it? Ten propositions for new directions for the second decade of UDL. *Learning Disability Quarterly*, 33(1), pp. 33-41. Available at: <https://doi.org/10.1177/073194871003300103>.

Edyburn, D. L. (2014) Response to Intervention (Rtl): Is there a role for Assistive Technology? *Special Education Technology Practice*, 16 April. Available at: <http://www.setp.net/articles/article0903-1.html> (Accessed on: 16 Apr 2024).

Edyburn, D. L. (2021) Ten years later: Would you recognize universal design for learning if you saw it?, *Intervention in School and Clinic*, 56(5), pp. 308-309. Available at: <https://doi.org/10.1177/105345122096311>.

Evans, C., Williams, J. B., King, L., and Metcalf, D. (2010) Modeling, guided instruction, and application of UDL in a rural special education teacher preparation program. *Rural Special Education Quarterly*, 29(4), pp. 41-48. Available at: [10.1177/875687051002900409](https://doi.org/10.1177/875687051002900409).

Evans, J. R. and Mathur, A. (2018) The value of online surveys: A look back and a look ahead. *Internet research*, 28(4), pp. 854-887. Available at: <https://doi.org/10.1108/IntR-03-2018-0089>.

Farrokhi, F. and Mahmoudi-Hamidabad, A. (2012) Rethinking convenience sampling: Defining quality criteria. *Theory and practice in language studies*, 2(4). Available at: <https://www.academypublication.com/issues/past/tpls/vol02/04/20.pdf>.

Flood, M. and Banks, J. (2021) Universal design for learning: Is it gaining momentum in Irish education?, *Education Sciences*, 11(7), pp. 341. Available at: <https://doi.org/10.3390/educsci11070341>.

Galton, M. and Williamson, J. (1992) *Group Work in the Primary Classroom*. London: Routledge.

Gardiner-Hyland, F. (2021) Don't forget us! Challenges supporting children with EAL in Irish primary schools. *European Journal of Applied Linguistics and TEFL*, 10(2), pp. 177-199.

Golden, R. (2022) "Windows and Mirrors" or Cracked Glass? *Student Teacher Educational Research e-Journal*, 5, pp 39-49. Available at: <http://www.tara.tcd.ie/bitstream/handle/2262/102452/Golden,%20R.%20Representations%20of%20Diversity%20in%20Classroom%20Resources.%20STER%20Vol%205%202022.pdf?sequence=1>.

Gregersen, T. S. (2007) Language learning beyond words: Incorporating body language into classroom activities. *Reflections on English language teaching*, 6(1), 51-64. Available at:

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=bd2e376ce224c510696b7e32ee8e59d29dd89486>.

Griffiths, D. and Leach, I. (2022) Marrying 'universal' neurodiversity and Universal Design for Learning to enhance inclusive pedagogy: A case study from the primary school geography classroom. *Impact: Journal of the Chartered College of Teaching*, (14). Available at: https://my.chartered.college/impact_article/marryi...

Hall, T. E., Cohen, N., Vue, G., and Ganley, P. (2015) Addressing learning disabilities with UDL and technology: Strategic reader. *Learning Disability Quarterly*, 38(2), pp. 72-83. Available at: <https://doi.org/10.1177/0731948714544375>.

Harrell, M. C. and Bradley, M. (2009) Data collection methods: Semi-structured interviews and focus groups. Available at: <https://apps.dtic.mil/sti/tr/pdf/ADA512853.pdf> (Accessed on: 16 Apr 2024).

Howe, C., and Griffin, C. (2020) Is Ireland at a Crossroads of Inclusive Education?. *REACH: Journal of Inclusive Education in Ireland*, 33(1), pp. 44-56. Available at: <https://www.reachjournal.ie/index.php/reach/article/view/8>.

Kane, F., Kennedy, L., Sevdali, C., Folli, R., and Rhys, C. (2019) Language made fun: Supporting EAL students in primary education. *TEANGA, the Journal of the Irish Association for Applied Linguistics*, 10, 113-125. Available at: <https://doi.org/10.35903/teanga.v10i0.73>.

Kennedy, M. J., Thomas, C. N., Meyer, J. P., Alves, K. D., and Lloyd, J. W. (2014) Using evidence-based multimedia to improve vocabulary performance of adolescents with LD: A UDL approach. *Learning Disability Quarterly*, 37(2), pp.71-86. Available at: <https://doi.org/10.1177/0731948713507262>.

King-Sears, M. E., Stefanidis, A., Evmenova, A. S., Rao, K., Mergen, R. L., Owen, L. S., and Strimel, M. M. (2023). Achievement of learners receiving UDL instruction: A meta-analysis. *Teaching and Teacher Education*, 122, 103956. Available at: https://www.researchgate.net/publication/369787953_Achievement_of_Learners_Receiving_UDL_Instruction_A_Meta-Analysis.

Krashen, S. D. (1981) *Principles and practice in second language acquisition*. Oxford: Pergamon Press.

Lambert, R., McNiff, A., Schuck, R., Imm, K., and Zimmerman, S. (2023) "UDL is a way of thinking"; theorizing UDL teacher knowledge, beliefs, and practices, *Frontiers in Education*, 8. Available at: <https://doi.org/10.3389/feduc.2023.1145293>.

LaRon A. S. (2018) Barriers With Implementing a Universal Design for Learning Framework, *Inclusion*, 6(4), pp.274–286. Available at: <https://doi.org/10.1352/2326-6988-6.4.274>

Lingard, L., Albert, M., and Levinson, W. (2008) Grounded theory, mixed methods, and action research. *Bmj*, 337. Available at: <https://doi.org/10.1136/bmj.39602.690162.47>.

Little, D., and Kirwan, D. (2021) *Language and languages in the primary school: Some guidelines for teachers*. Available at: <https://ppli.ie/ppli-primary-guidelines/>.

Lopes-Murphy, S. (2012) Universal design for learning: Preparing secondary education teachers in training to increase academic accessibility of high school English learners. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 85(6), pp. 226-230. Available at: <https://doi.org/10.1080/00098655.2012.693549>.

Lowrey, K. A., Classen, A., and Sylvest, A. (2019) Exploring ways to support preservice teachers' use of UDL in planning and instruction. *Journal of Educational Research & Practice*, 9(1), pp. 261. Available at: https://aquila.usm.edu/cgi/viewcontent.cgi?article=18006&context=fac_pubs.

Lowrey, K. A., Hollingshead, A., Howery, K. and Bishop, J. B. (2017) More than one way: Stories of UDL, inclusive classrooms, and students with ID. *Research and Practice for Persons With Severe Disabilities*, 42, pp. 225–242. Available at: <https://eric.ed.gov/?id=EJ1160598>.

Lucas, T., Villegas, A. M. and Freedson-Gonzalez, M. (2008) Linguistically Responsive Teacher Education: Preparing Classroom Teachers to Teach English

Language Learners. *Journal of Teacher Education*, 59(4), pp.361-373. Available at: <https://doi.org/10.1177/0022487108322110>.

Luo, L., and Wildemuth, B. M. (2009) 'Semistructured interviews' in Wildemuth B. M. (ed) *Applications of social research methods to questions in information and library science*, Libraries Unlimited: Santa Barbara, CA.

MacIntyre, P., Gregersen, T. and Mercer, S. (2016) *Positive Psychology in SLA*. Bristol: Multilingual Matters. Available at: [//doi.org/10.21832/9781783095360](https://doi.org/10.21832/9781783095360)

Martin, C. (2016). How Do Teachers Overcome the Perceived Barriers of Using the Universal Design for Learning? Master's thesis. University of Georgia. Available at: https://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1026&context=iph_capstone.

McGorman, E., and Sugrue, C. (2007) *Intercultural Education: Primary Challenges in Dublin 15*. St. Patrick's College. Available at: https://www.academia.edu/50799817/Intercultural_education_Primary_challenges_in_Dublin_15 (Accessed: 16 Apr 2024).

McGrath, J. E. (1981) Dilemmatics: "The Study of Research Choices and Dilemmas" , *American Behavioral Scientist*, 25(2), p.179. Available at: <https://www2.psych.ubc.ca/~schaller/528Readings/McGrath1981.pdf>.

Meyer, A., Rose, D. H. and Gordon, D. T. (2014) *Universal Design for Learning: Theory and Practice*. Massachusetts: CAST Professional Publishing.

Moloney, C & O'Toole, B. (2018) "Windows and mirrors" or "closed doors?" Representations of diversity in early year's textbooks. *Irish Teachers Journal*, 6(1), pp. 55- 72.

National Council for Curriculum and Assessment (NCCA) (2007) *Assessment in the primary school curriculum: guidelines for schools*. Dublin: NCCA.

National Council for Curriculum and Assessment (NCCA) (2019) *Primary language curriculum/curaclam teanga na bunscoile*. Available at:

https://www.curriculumonline.ie/getmedia/2a6e5f79-6f29-4d68-b850-379510805656/PLC-Document_English.pdf

National Council for Curriculum and Assessment. (2020) *Draft primary curriculum framework for consultation 2020*. Available at: <https://ncca.ie/media/4456/ncca-primary-curriculum-framework-2020.pdf> (Accessed: 16 Apr 2024)

National Council of Curriculum and Assessment (NCCA) (no date) *Linguistic Diversity - Young Interpreters*. Available at: <https://www.curriculumonline.ie/getmedia/28abb7f8-bc14-4203-a679-19d48827b9ef/Linguistic-Diversity-Young-Interpreters.pdf> (Accessed: 15 Apr 2024)

Nayak, M. S. D. P. and Narayan, K. A. (2019) 'Strengths and weaknesses of online surveys', *Technology*, 6(7), Available at: https://www.researchgate.net/publication/333207786_Strengths_and_Weakness_of_Online_Surveys.

Nomass, B. B. (2013) The impact of using technology in teaching English as a second language. *English language and literature studies*, 3(1), p.111. Available at: <http://dx.doi.org/10.5539/ells.v3n1p111>

OIDE (2024) OIDE EAL Padlet. Available at: <https://padlet.com/PDSTLanguage/oide-primary-eal-support-pcbnf205l0r10nb9>. Accessed on: 23/03/2024

Paradis, J. (2005) Grammatical Morphology in Children Learning English as a Second Language, *Language, Speech, and Hearing Services in Schools*, 36(3), pp. 172-187. Available at: [https://doi.org/10.1044/0161-1461\(2005/019\)](https://doi.org/10.1044/0161-1461(2005/019)).

Patino, C. M., and Ferreira, J. C. (2018) Internal and external validity: can you apply research study results to your patients? *J Bras Pneumol*. 44(3): p.183. Available at: 10.1590/S1806-37562018000000164 (Accessed: 16 Apr 2024).

Phillips, D. L., and Clancy, K. J. (1972) Some effects of "social desirability" in survey studies. *American journal of sociology*, 77(5), pp.921-940. Available at: <https://doi.org/10.1086/225231>.

Plano Clark, V. L. (2017) Mixed methods research. *The Journal of Positive Psychology*, 12(3), pp. 305-306. Available at:
<https://doi.org/10.1080/17439760.2016.1262619>.

Premier, J. (2021) Teachers' experiences of educating EAL students in mainstream primary and secondary classrooms. *Australian Journal of Teacher Education*, 46(8), pp. 1-16. Available at: <http://dx.doi.org/10.14221/ajte.2021v46n8.1>.

Professional Development Service for Teachers (PDST) (2021) *Adapting Digitally to a Changing Reality*. Available at: <https://pdst.ie/CESI2021> (Accessed: 16 Apr 2024)

Professional Development Service for Teachers (PDST) (no date) *Differentiation in Action*. Available at: https://pdst.ie/sites/default/files/Session%20%20-%20Differentiation%20Resource%20_0_0.pdf (Accessed: 16 Apr 2024)

Rao, K., and Torres, C. (2017) 'Supporting Academic and Affective Learning Processes for English Language Learners with Universal Design for Learning', *TESOL Quarterly*, 51(2), pp.460–472. Available at:
<http://www.jstor.org/stable/44984766> (Accessed: 16 Apr 2024).

Rapp, W. (2014) *Universal design for learning in action*. Baltimore: Brookes.

Regmi, P. R., Waithaka, E., Paudyal, A., Simkhada, P., and van Teijlingen, E. (2016) 'Guide to the design and application of online questionnaire surveys'. *Nepal Journal of Epidemiology*, 6(4), pp.640–644. Available at: [10.3126/nje.v6i4.17258](https://doi.org/10.3126/nje.v6i4.17258).

Reynor, E. (2019) 'Developing inclusive education in Ireland: The case for UDL in initial teacher education', in Gronseth, S. and Dalton, E. M. (eds) *Universal Access Through Inclusive Instructional Design*, pp. 258-266. London: Routledge.

Richards, J.C. and Rodgers, T.S. (2001) *Approaches and methods in language teaching*. Cambridge: Cambridge University press.

Robson, C. (2011) *Real world research: a resource for users of social research methods in applied settings*. Chichester: Wiley.

Rose, D. H. and Meyer, A. (2002) *Teaching every student in the digital age: Universal design for learning*. Alexandria, VA: ASCD.

Santamaria, L. J. (2009) Culturally responsive differentiated instruction: Narrowing gaps between best pedagogical practices benefiting all learners. *Teachers College Record*, 111(1), pp. 214-247. Available at: <https://doi.org/10.1177/016146810911100105>.

Smyth, E., Darmody, M., McGinnity, F., and Byrne, D. (2009) *Adapting to diversity: Irish schools and newcomer students*. Dublin: ESRI.

Smyth, E., McCoy, S., and Kingston, G. (2015) *Learning from the Evaluation of DEIS*. Dublin: ESRI.

Taylor, S. C. (2017) Contested knowledge: A critical review of the concept of differentiation in teaching and learning. *Warwick Journal of Education-Transforming Teaching*, 1, pp.55-68. Available at: <https://exchanges.warwick.ac.uk/index.php/wjett/article/view/44>.

Teaching Council of Ireland (2020) *Céim: Standards for Initial Teacher Education*. Available at: <https://www.teachingcouncil.ie/assets/uploads/2023/08/ceim-standards-for-initial-teacher-education.pdf> (Accessed: 16 Apr 2024).

Tomlinson, C. A. (2017) *How to differentiate instruction in academically diverse classrooms*. Alexandria, VA: ASCD.

Tomlinson, C.A., Brighton, C., Hertberg, H., Callahan, C.M., Moon, T.R., Brimijoin, K., Conover, L.A. and Reynolds, T., (2003) Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature, *Journal for the Education of the Gifted*, 27(2-3), pp.119-145. Available at: <https://doi.org/10.1177/016235320302700203>.

Veliz, L., Bonar, G., and Premier, J. (2023) Teaching EAL/D learners across the curriculum, *TESOL in Context*, 32(1), pp. 1-10. Available at: [10.21153/tesol2023vol32no1art1909](https://doi.org/10.21153/tesol2023vol32no1art1909).

Vibha, K and Walsh, C.A., (2019) Pragmatism as a Research Paradigm and Its Implications for Social Work Research, *Social Sciences*, 8(9) p.255. Available at: <https://doi.org/10.3390/socsci8090255> (Accessed: 16 April 2024).

Vogel, S., Klüen, L. M., Fernandez, G., and Schwabe, L. (2018) 'Stress affects the neural ensemble for integrating new information and prior knowledge', *Neuroimage*, 173, pp.176-187. Available at: <https://doi.org/10.1016/j.neuroimage.2018.02.038>.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard, MA: Harvard University Press.

Westwood, P. (2013) *Inclusive and Adaptive Teaching*. London: Routledge.

Wright, W. E., and Baker, C. (2017) Key concepts in bilingual education. *Bilingual and multilingual education*, 3, pp.65-79. Available at: [10.1007/978-3-319-02258-1_2](https://doi.org/10.1007/978-3-319-02258-1_2)

Appendix A: Online survey

Using Universal Design for Learning (UDL) to include pupils with English as an Additional Language (EAL) in mainstream primary classrooms

Survey Information Sheet

The proposed research aims to explore teacher perspectives of using Universal Design for Learning (UDL) as a means for including learners who have English as an Additional Language (EAL). UDL is an approach to learning, teaching, and assessment design that is proactive in addressing the varied identities, competencies, learning strengths, and needs of every learner. It is becoming increasingly popular in curricular approaches and initial teacher education due to the potential it has for making classrooms more inclusive.

Due to a significant rise in global mobility, linguistic diversity in classrooms has been increasing over the past number of years. Current census figures point to a high portion of pupils enrolled in primary schools with EAL needs. This research will explore how these needs could be met using the UDL framework.

The purpose of the study is to:

a) identify which UDL methods teachers of EAL pupils are use to support pupil participation and
b) investigate how and why teachers might use these methods in including their their pupils. To address these questions, a mixed-methods approach will be used. Part A of the study, which you are about to begin, will survey 20 teachers anonymously about UDL. Part B will interview teachers about specific UDL methods to provide more detail on information gathered in part A. If you would like to involved in Part B, you will have the opportunity to indicate this at the end of the survey.

Further information about the UDL guidelines can be found at: <https://udlguidelines.cast.org/>

This survey will take approximately 15 minutes to complete.

* Indicates required question

Please read the details of the study regarding voluntary participation, data confidentiality and anonymity.

- Your participation in the study is voluntary.
- You may refuse to answer any questions or withdraw from the study at any point up to one month after participation.
- No school, teacher or student will be identified specifically in any publication of the work.
- All data will be stored safely and securely in line with the British Educational Research Association (BERA) Ethical Guidelines for Educational Research (2018).
- All data/files will be saved in password-protected and encrypted directories/folders.
- You are entitled to ask for a copy of your data, at any stage.
- You have the right to withdraw consent without negative consequences during the data collection phase and up to 1 month after data collection.
- Data will only be used for the purpose for which it is gathered and will not be shared with a third person unless with the consent of the participant.

If you need to discuss the study or ask questions, please contact the researcher at: Phone: 0894989465 or Email: 40027305@hcxstudent.net

1. Are you *
 - a) a qualified primary school teacher who is currently teaching or has previously taught in Ireland and
 - b) have worked with one or more EAL pupils during my time as a mainstream class teacher in Ireland?

If you do not meet these requirements, you cannot partake in the study.

Mark only one oval.

- Yes
 No

2. How old are you?

Mark only one oval.

- 18-24
 25-34
 35-44
 45-54
 55-64
 65+

3. Since qualifying, how long have you worked as a mainstream teacher in an Irish primary school?

Mark only one oval.

- less than a year
 1 to 3 years
 4 to 6 years
 7 to 9 years
 10 years or more

4. For how long have you been teaching EAL pupils in a mainstream setting?

Mark only one oval.

- I have never taught EAL pupils
 less than a year
 1 to 3 years
 4 to 6 years
 7 to 9 years
 10 years or more

5. Have you worked as an EAL teacher in an Irish primary school?

Mark only one oval.

- Yes
 No

7. **Consent Form** *

- I have read the information sheet and I am fully informed about the study

- I have been given an opportunity to ask questions and discuss this study. I have received satisfactory answers to all questions asked

- I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without the withdrawal having an adverse effect on me

- I agree to take part in this study, the results of which are likely to be published or presented at a conference

- I am aware that a copy of this consent form will be kept by the researcher

- I am satisfied that any information I give to the researcher will be kept confidential and anonymous

Mark only one oval.

- I consent to all of the above
 I do not consent

6. If yes, for how long?

Mark only one oval.

- less than a year
 1 to 3 years
 4 to 6 years
 7 to 9 years
 10 years or more

How the survey works

There are 31 UDL methods that are divided into 3 categories:

1. Provide multiple means of engagement
2. Provide multiple means of representation
3. Provide multiple means of action and expression

You will be asked if you use each method and if so, how frequently. Examples are provided to aid understanding of each method. Should you need further explanation, a link to the UDL methods has been provided for each category.

All answers should be based on whether you use the method to support the participation of EAL learners. **If you use any of the following methods but they do not support your EAL learners, please answer that you do not use the method.**

The survey will now begin. Thank you in advance for your participation.

Category 1 of 3 - Providing multiple means of Engagement (Question 1-10)

The UDL Engagement guidelines can be found at: <https://udelguidelines.cast.org/engagement>

8. Question 1 - Do you optimise individual choice or autonomy?

You might:

- Allow learners to participate in the design of classroom activities and academic tasks
- Involve learners, where and whenever possible, in setting their own personal academic and behavioral goals

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Question 2 - Do you optimise relevance, value, and authenticity?

You might:

- Make activities culturally and socially relevant
- Ensure content is age and ability appropriate

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Question 3 - Do you minimise threats and distractions?

You might:

- Create an accepting and supportive classroom climate
- Use charts, calendars, schedules, visible timers, cues, etc. that can increase the predictability of daily activities and transitions

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Question 4 - Do you heighten salience of goals and objectives?

You might:

- Prompt or require learners to explicitly state a goal
- Use prompts or scaffolds for visualising desired outcomes

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Question 5 - Do you vary demands and resources to optimise challenge?

You might:

- Differentiate the degree of difficulty of core activities
- Provide alternatives tools and scaffolds

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Question 6 - Do you foster collaboration and community?

You might:

- Create cooperative learning groups with clear goals, roles, and responsibilities
- Provide prompts that guide learners in when and how to ask peers and/or teachers for help
- Create expectations for group work (e.g., rubrics, norms, etc.)

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. **Question 7 - Do you increase mastery-oriented feedback?**

You might:

- Provide feedback that emphasises effort, improvement, and achieving a standard rather than on relative performance
- Provide feedback that is substantive and informative rather than comparative or competitive

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. **Question 10 - Do you develop self-assessment and reflection?**

You might:

- Promote self-assessment through learning logs and writing checklists
- Use physical charts or displays that assist individuals in learning to monitor their own participation

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. **Question 8 - Do you promote expectations and beliefs that optimise motivation?**

You might:

- Model the process of setting personally appropriate goals that take into account both strengths and weaknesses
- Provide prompts, reminders, guides, rubrics, checklists which increase motivation.

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Category 2 of 3 - Providing multiple means of representation (Question 11-22)

The UDL representation guidelines can be found at: <https://udlguidelines.cast.org/representation>

16. **Question 9 - Do you facilitate personal coping skills and strategies?**

Teachers can provide models, scaffolds and feedback for:

- Managing frustration
- Appropriately handling subject specific phobias and judgements of "natural" aptitude (e.g., "how can I improve on the areas I am struggling in?" rather than "I am not good at English")

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Is there anything you want to add about how you engage pupils to support the participation of EAL pupils in the classroom?

19. **Question 11 - Do you offer students ways of customising the display of information?**

Examples of this include varying:

- The size of text, images, graphs, tables, or other visual content
- The volume or rate of speech or sound
- The speed or timing of video, animation, song

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. **Question 12 - Do you offer alternatives for auditory information?**

You might:

- Use text equivalents in the form of captions or automated speech-to-text (voice recognition) for spoken language
- Provide visual diagrams or charts
- Provide written transcripts for videos or auditory clips

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. **Question 13 - Do you offer alternatives for visual information?**

You might:

- Provide descriptions (text or spoken) for images, graphics, video, or animations
- Provide auditory cues for key concepts

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. **Question 14 - Do you clarify vocabulary and symbols?**

You might:

- Pre-teach vocabulary and symbols, especially in ways that promote connection to the learners' experience and prior knowledge
- Provide graphic symbols with alternative text descriptions

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. **Question 15 - Do you clarify syntax and structure?**

You might:

- Clarify unfamiliar syntax explicitly
- Make connections to previously learned structures explicit e.g., highlighting transition words in a text a week after teaching pupils about transition words

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. **Question 16 - Do you support decoding of text, mathematical notation, and symbols?**

You might:

- Provide pictures, keys or symbols to support decoding of texts.
- Pre-teach certain notations or symbols individually

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. **Question 17 - Do you promote understanding across languages?**

You might:

- Make key information in the dominant language (e.g., English) also available in first languages (e.g., Ukrainian)
- Define subject-specific vocabulary
- Provide electronic translation tools

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. **Question 18 - Do you illustrate through multiple media?**

You might:

- Provide alternatives — especially illustrations, simulations, images or interactive graphics — which make the information in text more comprehensible
- Make explicit links between information provided in texts and any accompanying representation of that information in illustrations, equations, charts, or diagram

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. **Question 21 - Do you guide information processing and visualisation?**

You might:

- Give explicit prompts for each step in a sequential process
- “Chunk” information into smaller elements
- Progressively release information

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. **Question 19 - Do you activate or supply background knowledge?**

You might:

- Use advanced organisers (e.g., KWL methods, concept maps)
- Make explicit cross-curricular connections (e.g., teaching literacy strategies in the social studies classroom)

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. **Question 22 - Do you maximise transfer and generalisation?**

You might:

- Integrate lesson content with other curriculum areas
- Provide templates, graphic organisers, concept maps to support note-taking

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. **Question 20 - Do you highlight patterns, critical features, big ideas, and relationships?**

You might:

- Highlight or emphasise key elements in text, graphics, diagrams, formulas
- Use multiple examples and non-examples to emphasise critical features
- Use cues and prompts to draw attention to critical areas

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Is there anything you want to add about how you represent information to support the participation of EAL pupils in the classroom?

Category 3 of 3 - Action and expression (Question 23-31)

The UDL action and expression guidelines can be found at: <https://udlguidelines.cast.org/action-expression>

32. **Question 23 - Do you guide appropriate goal-setting?**

You might:

- Provide models or examples of the process and product of goal-setting
- Provide guides and checklists for scaffolding goal-setting
- Post goals, objectives, and schedules in an obvious place

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. **Question 24 - Do you vary the methods for response and navigation?**

You might:

- Allow an EAL pupil to respond through another person in the class who speaks the same language
- Allow pupils to write using a digital keyboard that has predictive text

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. **Question 25 - Do you optimise access to tools and assistive technologies?**

You might:

- Provide access to a tablet with alternative keyboard languages
- Customise language of tablets and computers

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. **Question 26 - Do you use multiple media for communication?**

You might:

- Encourage the use of different media such as illustration, comics, storyboards, music, dance/movement, visual art, sculpture, or video.

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. **Question 27 - Do you use multiple tools for construction and composition?**

You might:

- Provide spellcheckers, grammar checkers, word prediction software, dictionaries
- Use story webs, outlining tools, or concept mapping tools

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. **Question 28 - Do you build fluencies with graduated levels of support for practice and performance?**

You might:

- Provide differentiated models that demonstrate the same outcomes but use differing approaches e.g. in solving a maths equation
- Provide scaffolds that can be gradually released with increasing independence and skills
- Provide sentence starters or sentence strips

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. Question 29 - Do you support student planning and strategy development?

You might:

- Embed prompts to "stop and think" before acting
- Embed prompts to "show and explain your work" (e.g., portfolio review, art critiques)

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. Question 30 - Do you facilitate managing information and resources?

You might:

- Provide graphic organisers and templates for data collection and organizing information
- Provide checklists and guides for note-taking

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. Question 31 - Do you enhance capacity for monitoring progress?

You might:

- Ask questions to guide self-monitoring and reflection
- Show representations of progress (e.g., before and after photos, graphs and charts showing progress over time, process portfolios)

Mark only one oval per row.

	Never	Rarely	Sometimes	Regularly	Always
Q31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

41. Is there anything you want to add about how you use action and expression to support the participation of EAL pupils in the classroom?

Thank you for taking part in this survey. If you know anyone who might also be interested in completing it, please share a link to the survey.

42. Part B of the study involves an interview about the survey results. If you would be interested in taking part, please include your email below.

This content is neither created nor endorsed by Google.

Google Forms

Appendix B: Topic guide

Topic area	Examples of questions and (probes)
Opener	<p>Greeting. Thank the participant for taking part. Brief overview of the interview. Remind participant to keep pupil's names anonymous.</p> <p>Demographics. When did you qualify? How long have you been working in primary schools? In what roles? Have you worked as an EAL teacher? When working in mainstream have you worked with EAL pupils?</p>
Experience and opinions of the needs of EAL learners - Challenges/Barriers to learning	<ol style="list-style-type: none"> 1. Could you describe the level of English your pupils had? 2. How old would these pupils have been? 3. What first language would they have? 4. Are there challenges as a teacher to include these learners? Are there other barriers to learning and participation (Could you elaborate on the experience you just mentioned?) 5. What methods have you found to be effective to include these learners in your lessons? (What might you do to include them in an English class/SESE class/the arts?) 6. Why do you think these methods are effective? <p>Follow ups - Could you speak more about... - Could you explain what that means... - Could you give an example of what you mean...</p>
Experience and opinions on UDL	<ol style="list-style-type: none"> 1. So now let's talk about UDL, this is a relatively new term in an Irish primary school education context. Have you come across the term UDL before? If not, is there a methodology that you have used to support the needs of different learners in your class (give differentiated instruction as an example if needed) (Back up: What about the term inclusion, what does it mean to you?) 2. Follow up on any experience with UDL. - Can you elaborate on that?
General discussion on UDL sections	<p>Here are the UDL guidelines which outline the different checkpoints that educators can use to include all learners in a lesson. When you did the survey, you</p>

	<p>were asked to see which of the methods you use most often. <i>We found certain methods teachers use more often than others. Today, I would like to discuss these methods with you in greater detail. The aim is to find out how a teacher might use the method and why.</i></p> <p><i>Before we discuss any individual methods, let's talk about the 3 general areas of UDL or sections. Section 1 is providing multiple means of engagement. The people who designed UDL say that "there is not one means of engagement that will be optimal for all learners in all contexts". When it comes to engagement with EAL learners, what might a teacher do? Why would they do that?</i></p> <p><i>Section 2 is providing multiple means of representation. "Learners differ in the ways that they perceive and comprehend information that is presented to them. There is not one means of representation that will be optimal for all learners". When it comes to representing information to EAL learners, what might a teacher do or what might you do yourself? Why would you do that?</i></p> <p><i>Finally, section 3 is providing multiple means for action and expression. "Learners differ in the ways that they can navigate a learning environment and express what they know, Some may be able to express themselves well in written text but not speech, and vice versa". When it comes to assisting EAL learners in expressing themselves through actions and words, what might you do or what might a teacher do? Why would you do that?</i></p> <p><i>If the participant is struggling to come up with ideas, invite them to look at the different UDL checkpoints in front of them.</i></p>
<p>Specific Methods of UDL from the survey</p> <p>+</p> <p>Offer a break</p>	<p><i>If a participant mentions one of the below methods earlier in the conversation, follow that line of thought by asking the following questions.</i></p> <p>So now let's discuss the most popular methods according to the survey results. 5 methods were highlighted as being the most popular. I'd like to hear your thoughts on how a teacher might use these methods and why they might use them. Are you happy to continue or do you need a break?</p>

Let's begin with the following:

Question 5: Do you vary demands and resources to optimise challenge?

You might:

- Differentiate the degree of difficulty of core activities
- Provide alternatives tools and scaffolds

Would you like to hear more information about this method before discussing it? (if yes, show them the following details for each checkpoint:

<https://udlguidelines.cast.org/>)

1. How does a teacher vary demands and resources?
2. Why do they do it?
3. Can you give an example for a specific activity or subject for example in a Maths/SESE/language lesson?

Question 21: Do you guide information processing and visualisation?

You might:

- Make activities culturally and socially relevant
- Ensure content is age and ability appropriate

Would you like to hear more information about this method before discussing it? (if yes, show them the following details for each checkpoint:

<https://udlguidelines.cast.org/>)

1. How does a teacher vary demands and resources?
2. Why do they do it?
3. Can you give an example for a specific activity or subject for example in a Maths/SESE/language lesson?

Question 2 - Do you optimise relevance, value, and authenticity?

You might:

- Give explicit prompts for each step in a sequential process
- "Chunk" information into smaller elements
- Progressively release information

Would you like to hear more information about this method before discussing it? (if yes, show them the following details for each checkpoint:

<https://udlguidelines.cast.org/>)

	<p>1. How does a teacher vary demands and resources? 2. Why do they do it? 3. Can you give an example for a specific activity or subject for example in a Maths/SESE/language lesson?</p> <p>Question 3 - Do you minimise threats and distractions? You might: - Create an accepting and supportive classroom climate - Use charts, calendars, schedules, visible timers, cues etc. that can increase the predictability of daily activities and transitions</p> <p>1. How does a teacher vary demands and resources? 2. Why do they do it? 3. Can you give an example for a specific activity or subject for example in a Maths/SESE/language lesson?</p> <p>Question 14 - Do you clarify vocabulary and symbols? You might: - Pre-teach vocabulary and symbols, especially in ways that promote connection to the learners' experience and prior knowledge. - Provide graphic symbols with alternative text descriptions</p> <p>1. How does a teacher vary demands and resources? 2. Why do they do it? 3. Can you give an example for a specific activity or subject for example in a Maths/SESE/language lesson?</p>
<p>Brief discussion of other most popular methods:</p> <p>Question 6, 7, 9, 16, 19, 20 will be highlighted on the UDL checkpoint paper</p>	<p>Could you take a look at the highlighted methods here. These methods were not as popular as the ones we discussed but still rated highly. Is there any that you think should be highlighted as effective in including EAL learners?</p>
<p>The silent phase and discussion of action and expression being less popular</p>	<p>We are close to finishing up. The second last question</p> <p>The professional development service for teachers (PDST) describe a silent phase in language acquisition. This is where pupils may contribute very little if at all. Have you come across this in the learners you have worked with?</p>

	<p>Are there certain methods you find helpful for this stage in particular (e.g. through the use of sign or gesture, drawing a picture or through the use of technology)?</p> <p>And finally, the survey data indicates that section one relating 2 engagement and section to relating to representation are the most popular. Section 3 - providing multiple means for action and expression - was not as popular. Is this reflected in your own practice? Why might these methods not be as popular?</p>
<p>Thank you</p>	<p>Is there anything you want to add about what we discussed today?</p> <p>Thank you very much for your time and insights. You have been extremely helpful. I will stop the recording now.</p>



Appendix C: Participant Information Sheet

Participant Information Sheet

The proposed research aims to explore teacher perspectives of using Universal Design for Learning (UDL) as a means for including learners who have English as an Additional Language (EAL). UDL is an approach to learning, teaching, and assessment design that is proactive in addressing the varied identities, competencies, learning strengths, and needs of every learner. It is becoming increasingly popular in curricular approaches and initial teacher education due to the potential it has for approaching the neurodiversity seen in modern classrooms. While UDL can appear to be a new approach, it is believed that many of the methods it employs are already common practice for teachers.

Due to a significant rise in global mobility, linguistic diversity in classrooms has been increasing over the past number of years. Current census figures point to a high portion of pupils enrolled in primary schools with EAL needs so this research aims to support an understanding of whether these needs can be met using the UDL framework.

The purpose of the study is to a) identify which UDL methods teachers of EAL pupils are currently using and b) investigate how and why teachers might use these methods to support their pupils. To address these questions, a mixed-methods approach will be used. To identify the UDL methods currently in use, this project will survey at least 20 fully qualified teachers. Following the analysis of this data, three semi-structured interviews will investigate how and why the most pertinent UDL methods are used.

Data confidentiality and Anonymity

- Participation in the study is voluntary.
- Interviewees may refuse to answer any questions or withdraw from the study at any time.
- No school, teacher or student will be identified specifically in any publication of the work.
- All data will be stored safely and securely - e.g., all data/files will be saved in password-protected and encrypted directories/folders.
- You are entitled to ask for a copy of their data, at any stage - e.g., audio recording or interview transcript upon request.
- You have the right to withdraw consent without negative consequences during the data collection phase and up to 1 month after data collection.
- Data can only be used for the purpose for which it is gathered and may not be shared with a third person unless with the consent of the participant.
- All audio recordings will be stored in a secure location that is separate from all written notes, written transcripts, data analysis and insights, and data/study outcomes.

If you have any further questions, please get in touch using the contact details below.

Kind regards,

Signed: _____

Appendix D: Consent form



**HIBERNIA
COLLEGE**

Consent Form (to be completed by the participant)

Researcher's name:

Organisation: Hibernia College Dublin



	Please circle
Have you been fully informed/read the information sheet about this study?	Yes / No
Have you had an opportunity to ask questions and discuss this study?	Yes / No
Have you received satisfactory answers to all your questions?	Yes / No
Do you understand that you are free to withdraw from this study at any time, up to one month after the study has been conducted, without giving a reason for withdrawing and without your withdrawal having an adverse effect for you?	Yes / No
Do you agree to take part in this study, the results of which are likely to be published or presented at a conference?	Yes / No
Have you been informed that a copy of this consent form will be kept by the researcher?	Yes / No
Are you satisfied that any information you give to the researcher will be kept confidential? Your name and the name of the school will not appear in the research report.	Yes / No



	Printed Name	Signature	Date
Participant			
Researcher			

Appendix E: Excerpt from interview transcript with codes

Methods to support EAL learner participation

- Technology
- Translation
- Peer Translators
- Visual Cues
- SNA

Reasons for using these methods

- Promote understanding
- Same home language
- Harder content for older learners

Comments: Relationship to UDL guidelines

Researcher: So what methods have you found to be effective to include these learners in your lessons?

Participant B: I suppose it would vary. Having a tablet or maybe translating any simple questions, and trying to use as much visual cues as much as possible. We are also a Gael school, which creates more difficulties. So lessons that would be through Irish, you'd be maybe going over and giving them information in English as well as in Irish, and having a tablet. You'd be giving your instructions to the tablet maybe for English.

Researcher: What else would you be doing?

Participant B: I suppose having, again, having very little SNA support in class. You might be using the SNA to kind of repeat any questions or that. Hopefully using peer mentoring if you have a decent classroom and you've kids who are willing to participate. You also have challenges with that with your kids who...

Researcher: What does peer mentoring mean?

Participant B: You'd also have, if your kids would have a good ability, and maybe might understand the topic, you'd hope that they could be helping in ways. And maybe obviously not trying to give the answers, but explaining if you're in a

classroom of 20 plus, it's very hard to be able to go around one-to-one. So if you have kids who are willing to help and who understand the topic, they can... Yeah, it's a tricky one because it might help you with some language. You've got kids then who hopefully, like in certain situations, you've might have one or two kids from the same country, speak the same language. One of them might be stronger than the other. So you'd be kind of nearly using them as a translator to get your message across clearer.

Researcher: Excellent. There's loads there. We've got translating, using the SNA, using dual language, English and Irish, and then peer mentoring. Why do you think these methods are effective? And why have you chosen to use them?

Participant B: Okay, so it's being effective. It's trying to get the message across as clearly and as simplified as I can. Why I'm doing it is probably a more difficult question because it's something that probably I'm doing naturally more than having set objectives to get my message across. It's, I suppose, it is you need to use what resources you have. We have recently had like all tablets in the school and using the translator, depending on the level of the ability of the kids as well and what class they're at. The older kids is more difficult because the lessons are more difficult. So trying to get the meaning of the lesson across, you need to use a translator. And for, I suppose, if you have two or three kids who are from the same country and one has a decent level of English, you're obviously going to use them more. It just happens more naturally. They actually take on the role themselves very naturally as well to help out other kids. They would be very good at translating. Probably are doing it at home with their parents. It's a very simple one. An SNA is an extra app in the classroom.