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in the Senior Primary Classroom

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Declaration

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Abstract

This thesis presents a practitioner-led, self-study action research project investigating the role of equitable teacher questioning in fostering inclusive, dialogic classroom discussions in an Irish Sixth-Class primary setting. Rooted in the values of fairness, equity, inclusion, and relational pedagogy, the study addresses the persistent gap between pedagogical theory and actual classroom practice regarding teacher questioning. Drawing on national and international literature, the research critiques current questioning practices within the Irish context, highlighting a systemic overreliance on lower-order, teacher-centred questioning despite policy endorsement of more dialogic, enquiry-based methods.

Using an action research approach, the study involved the design and implementation of targeted questioning interventions over ten weeks. Data was collected through semi-structured interviews, surveys, reflective journals and semi-structured observations. The intervention strategies of *Wait Time*, *Exit Post-it's*, *Pose*, *Pause*, *Pounce*, *Bounce (PPPB)*, *"If this is the answer, what is the question?" (ITITA)*, *Table Arrangements*, and *Lesson Plan Question Cards* were designed to enhance pupil voice, improve equitable participation, and support higher-order thinking. Thematic Analysis, supported by triangulation, was employed to analyse the impact of these strategies on classroom discourse.

Findings reveal that deliberate, relationally driven questioning significantly improves pupil engagement, diversifies participation, and enhances critical thinking. Moreover, reflective teaching practice, informed by action research cycles, facilitated a transformation in the researcher's professional identity and alignment with professional values. The research underscores the importance of teacher agency, professional reflection, and sustained professional development in bridging the gap between theory and practice. The study concludes with practical recommendations for embedding equitable questioning within mainstream classroom routines and offers insights for policy development, teacher education, and future research. This thesis contributes to the growing field of practitioner research by demonstrating how contextually grounded, reflective enquiry can lead to meaningful pedagogical change.

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It is said that a wise man learns more from a foolish question, than a fool learns from a wise answer. However, it is my view that, despite being a fool, I have learned plenty from the wise individuals with whom I have surrounded myself throughout this research. Go raibh maith agaibh go léir.

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List of Abbreviations

BERA	British Educational Research Association
CPD	Continuing Professional Development
DES	Department of Education and Skills (Ireland)
GDPR	General Data Protection Regulations
INTO	Irish National Teachers' Organisation
ITE	Initial Teacher Education
ITITA	"If this is the answer, what is the question?"
NCCA	National Council for Curriculum and Assessment
PD	Professional Development
PDST	Professional Development Service for Teachers
PPPB	Pose, Pause, Pounce, Bounce
RTA	Reflexive Thematic Analysis
SEN	Special Educational Needs
SESE	Social, Environmental and Scientific Education
SSE	School Self-Evaluation
UDL	Universal Design for Learning
UNICEF	United Nations International Children's Fund
ZPD	Zone of Proximal Development

Chapter 1: Introduction

“How can I, as a primary school teacher, make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

“You can tell whether a man is clever by his answers. You can tell whether a man is wise by his questions.” (attributed to Mahfouz, n.d.).

1.1 Introduction

Questioning is one of the most powerful, yet underestimated tools available to teachers. It shapes how knowledge is constructed, how dialogue unfolds, and how learners are included, or excluded, from learning. This study explores how purposeful, equitable questioning can be. Set within the everyday reality of an Irish Sixth-Class classroom, the research investigates how questions, when planned and delivered with care, can foster an equitable, fair, inclusive, relationship-focused classroom where children feel valued. What follows is a practitioner-led enquiry into the craft of questioning.

This introductory chapter establishes the foundation for the research presented in this thesis. This chapter begins by outlining the importance and history of questioning as a core teaching strategy, before exploring how it is conceptualised and applied in Irish primary classrooms. It then presents the rationale for this study, highlighting the gap between what research recommends and what is currently evident in practice. The chapter also introduces the central research question and key research aims. My personal values as a teacher that drove the motivation for this research, and a brief overview of the structure of the thesis, are also provided. Finally, the chapter previews the study's main findings, giving the reader an indication of what is to come.

1.2 A history of questioning

Although the majority of teacher questions during instructional time are categorised as higher- or lower-order questions (Cotton, 1988; Murphy & Gipps,

1996; Stanley, 2020), it can be argued that teacher questioning practices extend beyond this dichotomy. Over time, research into different types of questioning has developed (Hadfield, 1992; Stanley, 2020), providing educators with a rich understanding of a range of questioning techniques. As far back as Socrates in 440 BC, the Socratic Method focused on probing questions to uncover underlying beliefs (Padesky, 1993; Paul & Elder, 2019). Aristotle's work in 350 BC explored the use of rhetoric in questioning (Grimaldi, 1958; Gross & Walzer, 2000; Meyer, 2012) and John Locke's study of factual recall questions (Earman, 2000) in 1690 connected the acquisition of knowledge to hands-on experiences.

Herbert Spencer (1861) examined the use of comparison questions (Elwick, 2003; Yoder, 2015), while John Dewey (1916) built upon Socratic questioning by advocating for experiential learning (Hyttén, 2000; Sikandar, 2015). Vygotsky's work on the Zone of Proximal Development (ZPD) emphasised the use of leading questions to scaffold learning (Grimaldi, 1958; Earman, 2000). In contrast, Piaget (1929) promoted the use of open-ended questions to foster exploration, where the direction of learning was not predefined (Galanaki, 2012; Lemieux, 2012). Almost simultaneously, B.F. Skinner (1938) advocated for closed questions (Rachlin, 2018), arguing that they reinforce information and assess learning.

In 1956, Benjamin Bloom and his *Taxonomy of Educational Objectives* emphasised conceptual questions. This notion was expanded upon in 1957 by Jerome Bruner, and later alongside Wood and Ross (1976). In the latter half of the 20th century, Paulo Freire's work on critical consciousness (1970), followed by Albert Bandura's Social Learning Theory (1986), introduced the value of evaluative and hypothetical questions based (Adams, 2015). Although reflective questions have historically been underused by pupils (Cotton, 1988; Murphy & Gipps, 1996), Donald Schön's (1983) model of reflective practice has become more widely adopted in recent years.

Despite this rich variety of questioning techniques, research indicates that more than half of the questions posed by teachers during instructional time fall into a narrower range: disciplinary (Hadfield, 1992), rhetorical (Stanley, 2020), leading, and factual (Hargreaves, 2005). This suggests that, rather than being used to foster critical thinking, many questions are employed primarily for classroom management or to

support direct instruction (Hargreaves, 2005). This is mirrored in an Irish context, where there appears to be a gap between the recognition of questioning as a valuable educational tool and its practical implementation.

1.3 Background and policy context

When used effectively, questioning can promote higher-order thinking, scaffold learning, facilitate formative assessment, and encourage pupil voice (Chin, 2006; Walsh & Sattes, 2011). Within the Irish education system, questioning is referenced in several curriculum documents, including the National Council for Curriculum and Assessment's (NCCA) *Primary Language Curriculum* (NCCA, 2019) and the *Guidelines for Teachers of Students with General Learning Disabilities* (NCCA, 2007a), where it is acknowledged as a valuable strategy for encouraging comprehension and engagement. However, it will be argued in further detail in Chapter 2, that questioning is rarely presented as a standalone pedagogical focus and tends to be treated as a supplementary tool rather than a structured, intentional practice. This lack of explicit curricular guidance means that the quality and equity of questioning in Irish classrooms is largely dependent on individual teacher interpretation. These concerns raise important questions about the adequacy of current policy support for effective, equitable questioning in primary education.

1.4 Current context and rationale

Despite the prominence of questioning in pedagogical discourse, its application in Irish primary schools remains inconsistent and underdeveloped (Timperley, et al., 2007). In upper primary settings in particular, questioning can become rapid, teacher-dominated, and performative, with little space for pupil thinking or dialogic interaction. Although research strongly supports the value of more reflective, inclusive questioning (Black & Wiliam, 2009; Alexander, 2020), there is a clear disconnect between this evidence and what occurs in many classrooms. This gap is partly due to a lack of practical, context-sensitive models and Continuing Professional Development (CPD) opportunities that show teachers how questioning can be improved in meaningful and sustainable ways. As such, this study seeks to address this disconnect by offering a classroom-based exploration of equitable questioning

strategies. Conducted within a Sixth-Class context, the study uses action research to examine the effects of structured questioning approaches on pupil participation and classroom dialogue. Underpinned by my educational values illustrated below, the rationale underpinning this work is the need to generate practice-based insights that reflect the reality of teaching, with aims to narrow the current gap between policy and practice and find solutions to improve practice.

1.5 Research question, aims and values

This research seeks to investigate the implementation and impact of equitable questioning strategies in a Sixth-Class primary classroom in Ireland. The central research question guiding the research is:

“How can I, as a primary school teacher, make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

In tandem with this, are the project’s three primary objectives, which are to:

- ✓ Ensure that I am sharing the distribution of questions around my classroom,
- ✓ Appropriately challenge pupils with the level of each of my questions,
- ✓ Develop new, practical questioning strategies to enhance my questioning practice.

As a teacher, my practice is anchored in the values of fairness, equity, inclusion, and ensuring that every pupil feels valued. As a result of an early realisation in this project that I was not living out my values, partly embodying Whitehead’s (1989) *Living Contradiction* theory, I have been enabled to change my approach towards them. Now, I have reached the point where they are not abstract ideals but lived principles. They shape the way in which I interact with pupils, plan learning experiences, and respond to the diverse needs within the classroom. In the context of questioning, these values become particularly significant. Classroom discourse can either amplify or silence pupil voices. Without careful planning, questioning may inadvertently favour more confident pupils while excluding those who process their thoughts more slowly, those for whom English is an additional language, or those who lack self-assurance. Fairness and equity, then, require the deliberate use of

strategies to scaffold learning. Relationships are central. Pupils are more likely to take intellectual risks when they feel seen, heard, and emotionally safe. Inclusivity means creating a classroom culture where every child knows their voice matters, not only when it is the loudest or quickest one. When pupils feel valued, they are more likely to engage more deeply and develop a sense of ownership in their learning. Ultimately, it is not enough to profess these values, as it is crucial that they be made visible in daily practice (Auer, et al., 2023). Questioning, when guided by these principles, becomes a tool for belonging as much as for assessment, learning or teaching.

1.6 Thesis overview

The thesis is structured across five chapters. Following this introduction, Chapter 2 presents a critical review of literature relating to teacher questioning, classroom discourse, and reflective practice. It identifies key theoretical frameworks and previous empirical research that informs the present study. Chapter 3 outlines the methodological approach, explaining the rationale for employing self-study action research and Thematic Analysis (TA), and describing the procedures for data collection and analysis. Chapter 4 presents the findings of the study, originating from thematic categories which developed during the analysis. These findings are discussed in light of the literature and the research aims. Finally, Chapter 5 provides a discussion of the implications of the findings for educational practice, curriculum policy, and further research. It also considers the limitations of the study and articulates its original contribution to the field of questioning and teacher development.

Chapter 2: Literature Review

“How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

2.1 Introduction

Questioning is a fundamental teaching strategy that involves one party in a conversation inviting contributions from another for teaching and learning purposes such as the recalling of prior knowledge, fostering comprehension, and developing critical thinking (Cotton, 1988; Tofade et al., 2013; Adams, 2015; Heick, 2015). With teachers dedicating 35-50% of instructional time to questioning, it is second only to lecturing in classroom practice (Cotton, 1988). This review critically examines questioning across four sections: the foundations of teacher questioning in education, techniques and types of teacher questioning, the impact of questioning on pupil learning, and challenges and influences on questioning practices. Finally, it addresses gaps in the literature, particularly in the Irish context, noting a need for further exploration of tailored approaches to questioning. It will be argued that, despite the clear benefits of effective questioning in the primary school classroom, there currently exists a disconnect between the theory behind effective questioning, and the practical implementation of it.

2.2 Foundations of teacher questioning in education

Teacher questioning is a foundational educational strategy, historically vital for fostering critical thinking, recall, and engagement in classrooms worldwide. In Ireland, despite policy frameworks advocating enquiry-based learning and formative assessment through questioning, a gap remains between these ideals and classroom practices. This section examines how questioning functions within Irish primary education, considering curriculum goals, assessment frameworks, and the role of professional development (PD) in bridging this gap.

2.2.1 Relationality: key for quality questioning

The concept of relationality pertains to the interconnectedness among individuals within a social context (Bransford et al., 2000; Alexander, 2008a). In the primary school classroom, relationality plays a crucial role in shaping the nature of interactions between teachers and pupils (Noddings, 2012). Such interactions are foundational to the educational experience, influencing not only the emotional and social environment but also the academic outcomes of learning, including questioning.

From a relational standpoint, questioning is not merely a cognitive tool (Bingham & Sidorkin, 2004) but a relational act that shapes and is shaped by the dynamics between teacher and pupil. The Irish primary school context, as outlined in the *Primary Curriculum Framework* (NCCA, 2023), emphasises the development of holistic educational experiences, with the Department of Education and Skills' (DES) *Looking at Our Schools* framework (DES, 2022) underscoring the importance of establishing a culture of enquiry in schools. This framework mirrors broader educational policy, situating the teacher-pupil relationship at the heart of effective teaching and learning (Biesta, 2006; McNiff, 2013) and recognising that relationships built on trust and mutual respect are essential for fostering critical thinking and pupil engagement. Relational teaching also reflects other recent educational policy documents, such as the *National Literacy, Numeracy and Digital Literacy Strategy 2024 – 2033: Every Learner from Birth to Young Adulthood and 5-year implementation plan* (DES, 2023), which promotes dialogic teaching strategies that place relationality at the centre of learning.

2.2.2 Questioning in the Irish primary school classroom: policy and practice

In the context of the Irish primary education system, longitudinal research on the use and variety of questioning techniques remains limited (O'Brien et al., 2024). This gap is largely due to the complexity involved in conducting and analysing data in this area. Nonetheless, anecdotal evidence suggests that questioning is often treated as a byproduct of lesson planning (Adams, 2015; Paul & Elder, 2019; Stanley, 2020) rather than a central element of instructional design. In many classrooms, questions tend to emerge spontaneously during instruction rather than being deliberately crafted in advance (Hastings & Chantrey Wood, 2002). This reactive approach can limit the

pedagogical potential of questioning, reducing its role to classroom management or checking recall rather than fostering deeper conceptual understanding. Although questioning is identified as a key learning strategy by the NCCA (NCCA, 2023) and is described as integral to active learning (NCCA, 2020) and assessment (NCCA, 2015a), its role is often underemphasised in official curricular documents. Policy intentions and reality, evaluations of policy frameworks, and the identification of areas where further policy intervention could enhance questioning practices, will be analysed below.

2.2.3 Alignment of policy intentions and reality

The *Primary Curriculum Framework* (NCCA, 2023) “supports a variety of pedagogical approaches and strategies with assessment central to learning and teaching (p.17),” and highlights “a focus on issues relating to enquiry-based learning (p.17),” where questioning is a central strategy. The curriculum encourages teachers to use a range of questioning techniques to engage pupils in higher-order thinking, moving beyond the recall of facts to analysis, synthesis, and evaluation (NCCA, 2023). These aims align with global educational trends (Alexander, 2008a) that advocate for the development of 21st-century skills, positioning questioning as a core method to stimulate cognitive engagement and active learning.

In theory, the child-centredness of the curriculum should create a classroom environment where questioning is used not only for assessment purposes but also as a tool for facilitating deep learning. However, research suggests that there are significant discrepancies between the curriculum’s aspirational goals and the actual questioning practices observed in classrooms. For example, research by Walsh et al. (2019) found that although Irish teachers were aware of the importance of using higher-order questions, their actual classroom practice was dominated by lower-order, factual questions. Despite the limited scope of existing research, the evidence available more accurately reflects the realities of classroom practice, where questioning tends to fall short of the curriculum's higher-order aspirations.

2.2.4 Assessment policies and the role of questioning

Assessment plays a pivotal role in shaping classroom questioning practices. In the Irish context, assessment policies have undergone significant reform in recent years. This has included a growing emphasis on formative assessment (NCCA,

2015b), which relies heavily on questioning as a means of gauging pupil understanding. The *Assessment Guidelines for Schools* (NCCA, 2007b) highlight the importance of formative assessment strategies, including the use of questioning.

Despite this policy emphasis on formative assessment, the pressure of summative assessments and standardised testing remains a significant barrier to its widespread implementation. According to Gleeson and O'Flaherty (2013), the focus on performance in Irish primary standardised tests, such as the *Drumcondra Primary Reading and Mathematics Tests*, can lead teachers to prioritise lower-order questioning aimed at fact recall and procedural knowledge, which are more likely to be tested.

Moreover, the ongoing focus on standardised assessments in Ireland may limit teachers' willingness to engage in higher-order questioning that encourages exploration and discussion. Harford & MacRuaric's (2008) study on questioning for critical thinking, reflection and assessment in Irish primary schools identifies that while questioning "is a central principle to teaching and learning," there is a complex relationship between teaching theory and actual practice. This tension between formative, summative assessment and practice creates a policy-practice disconnect, where the formative potential of questioning is overshadowed by the pressures of summative evaluation. It is argued by those such as Black & Wiliam (2009) that as a result, neither are properly implemented.

2.2.5 Teacher professional development and questioning practices

Teacher PD is another critical factor influencing the implementation of questioning strategies in the classroom. The *National Literacy, Numeracy and Digital Literacy Strategy 2024 – 2033: Every Learner from Birth to Young Adulthood and 5-year implementation plan* (DES, 2023) emphasises the role of teacher questioning in promoting higher-order thinking, stating that teachers should be equipped to use questions that encourage pupils to engage in problem-solving, reasoning, and reflection. However, research indicates that many Irish teachers still feel inadequately prepared to use such questioning techniques effectively (Devine et al., 2013).

One of the challenges identified in the literature is that while questioning is often highlighted as an important teaching strategy in PD programmes, there is insufficient focus on the practical, context-specific application of questioning

techniques (Walsh et al., 2019). For example, although the *Droichead* programme, Ireland's induction framework for newly qualified teachers, encourages reflective practice and enquiry-based teaching, there is limited evidence to suggest that this translates into consistent use of higher-order questioning in everyday classroom interactions. A study by Conway and Murphy (2013) found that Irish primary teachers often default to closed questions in their teaching, largely due to a lack of confidence in managing the more open-ended, dialogic discussions that higher-order questioning tends to generate. This lack of confidence in dialogue management, when paired with a heavily over-loaded timetable and curriculum, has the potential to lead to higher-order questioning being treated with a slight apprehension.

2.2.6 Conclusion

Questioning in the Irish primary school context remains an underutilised but essential pedagogical tool. While curricular frameworks highlight its importance in fostering critical thinking and active learning, classroom practice struggles to reflect this. This disconnect suggests a need for more targeted PD to equip teachers with the confidence and skills to implement diverse questioning techniques. Strengthening questioning practices and understanding of questioning frameworks and techniques would align policy goals with classroom realities.

2.3 Techniques and types of teacher questioning

This section examines key questioning theoretical perspectives and techniques in primary education; cognitive and constructivist questioning and Bloom's Taxonomy and its application in questioning. Each approach influences pupil engagement, critical thinking, and classroom dynamics. Understanding the benefits and challenges of each helps educators tailor their questioning strategies to enhance learning.

2.3.1 Theoretical perspectives: cognitive and constructivist approaches to questioning

The two prominent theoretical approaches to questioning in education are cognitive and constructivist approaches. Cognitive questioning can be understood as involving closed, short (Cotton, 1988; Stanley, 2020) and recall-based questions (Chi, 2009), whereas a constructivist approach incorporates more open-ended questions

(Bloom, 1956; Vygotsky, 1997; Coppens & Mendoça, 2013), allowing for a broader exploration of topics. Both approaches offer advantages and disadvantages (King, 1991; Fiorella & Mayer, 2014), reinforcing the argument that neither is a panacea in a primary school context and that it is important to recognise when, as opposed to if, using each is of benefit in the learning process.

2.3.2 Cognitive approach to questioning: benefits and challenges

A cognitive approach to questioning centres on enhancing pupils' mental processes (Graesser, 1994; Graesser et al., 2005; Tofade et al., 2013), including thinking, reasoning, and memory. The teacher's role is to ask questions that challenge pupils to recall information, apply that knowledge to new contexts (Bruner, 1957; Heick, 2015), enabling them to analyse or evaluate concepts.

The cognitive approach to questioning is particularly effective in fostering active learning (Graesser et al., 2005; Fiorella & Mayer, 2014), maintaining a dynamic classroom environment. Furthermore, teacher scaffolding aids in building pupils' confidence (Bruner, 1960, 1990; Vygotsky, 1978) by guiding them towards correct answers.

However, a cognitive approach to questioning also presents challenges in the classroom (Cotton, 1988; King, 1991; Paul & Elder, 2019). Planning, differentiating, and strategically distributing questions around the classroom takes significant time (Van Hiele, 1999; Stanley, 2020), that could be spent using other teaching strategies or allowing pupils to complete self-directed tasks instead. Moreover, cognitive questioning can unintentionally benefit more confident pupils (Cotton, 1988; Hadfield, 1992; Vygotsky, 1997), who dominate classroom discussions, while less confident pupils may have fewer opportunities to participate meaningfully. This reflects my own fears as a mainstream class teacher, where between five and seven pupils dominate my classroom, during both short and long periods of dialogue.

2.3.3 Constructive approach to questioning: benefits and challenges

In contrast, a constructivist approach to questioning encourages pupils to actively construct their own understanding and knowledge (Dewey, 1916; Piaget, 1952; Hadfield, 1992; Vygotsky, 1997). Teachers using this approach pose open-ended, thought-provoking questions (Vygotsky, 1978; Duckworth, 1987; Coppens &

Mendoça, 2013) that invite pupils to explore, think critically, and build on prior knowledge.

The constructivist approach has two main advantages in the primary school classroom. Firstly, constructive questioning promotes a more in-depth understanding of topics (Dillon, 1983; Chin & Osbourne, 2008; Chesters, 2012), with pupils exploring various angles and sharing knowledge. Furthermore, this questioning method promotes a collaborative, dialogical learning environment (Michelet & Robertson, 2010; Meyer, 2012), where pupils contribute their diverse perspectives to class discussions.

However, despite its benefits, constructive questioning presents challenges. Since open-ended questions can lead discussions in multiple directions (Freire, 1970; Van Hiele, 1999; Carey & Mullan, 2004), teachers need to be prepared manage conversations carefully (Pollard, 2019) to maintain focus. It could be argued that depending on the teacher, this can be co-ordinated well, poorly, or often somewhere in the middle. Additionally, assessing the broad and varied answers that result from constructive questioning can be challenging (Chi, 2009; Michelet & Robertson, 2010). Given the emphasis on lower-order assessment questions in an Irish primary context (O'Brien, et al., 2024), this challenge could be central to the under-use of constructive questioning in many classrooms. While considering the strengths and weaknesses of both cognitive and constructive questioning, the need for a framework that combines the two, could be proposed.

2.3.4 Bloom's Taxonomy and its application in questioning

Bloom's Taxonomy (Bloom, 1956), seen in *Figure 2.1* below, categorises questions into six distinct levels that range from basic to complex (Anderson & Krathwohl, 2001; Michelet & Robertson, 2010) and is widely regarded as one of the most significant frameworks in the realm of questioning (Cotton, 1988; Anderson, 1994; Anderson & Krathwohl, 2001; Overbaugh & Schultz, 2006; Adams, 2015). Bloom's Taxonomy is crucial in the context of questioning, as it aligns with the cognitive development of learners (Overbaugh & Schultz, 2006; Waltman, et al., 2017; Stanley, 2020), allowing educators to guide pupils through increasingly sophisticated thought processes. The taxonomy outlines six types of questions:

Remembering, Understanding, Applying, Analysing, Evaluating, and Creating
(Bloom, 1956).

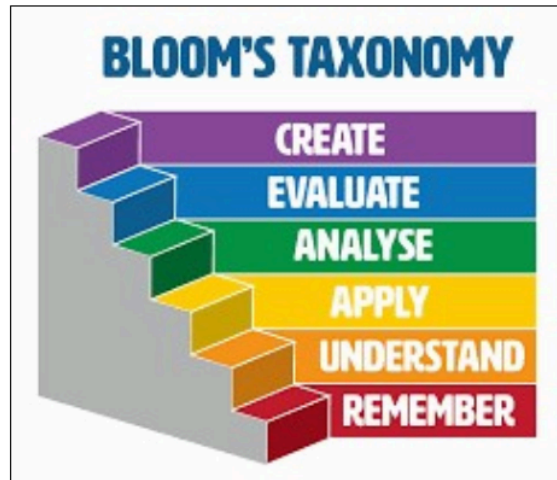


Figure 2.1: Bloom's Taxonomy

Source: skillshub (2023) [online].

2.3.5 Benefits of Bloom's Taxonomy

Initially, Bloom's Taxonomy lays a solid foundation by ensuring that pupils acquire fundamental knowledge (Chin & Osbourne, 2008; Coppens & Mendonça, 2013) before advancing to more complex tasks. This foundational knowledge is vital (Dillon, 1983; Cotton, 1988; Overbaugh & Schultz, 2006; Adams, 2015), as it serves as a springboard for more sophisticated cognitive activities.

Additionally, the taxonomy promotes active, pupil-centred learning by encouraging pupils to move beyond simple recall (Bloom, 1984; Anderson & Krathwohl, 2001). Questions at the *Understanding* level require pupils to process and articulate their knowledge, fostering engagement and retention. This method also facilitates differentiated instruction by allowing educators to create questions that accommodate various cognitive levels (Anderson, 1994; Overbaugh & Schultz, 2006; Adams, 2015), promoting inclusivity and tailored support.

Furthermore, higher-level taxonomy questions, such as *Analysing*, *Evaluating*, and *Creating*, cultivate critical thinking and problem-solving skills (Duckworth, 1987; Mercer, 2000; Anderson & Krathwohl, 2001; Adams, 2015). For instance, Science tasks that involve comparing plant species (*Analysing*) or designing an experiment (*Creating*) encourage pupils to engage in higher-order thinking, nurturing independent and innovative thinkers.

2.3.6 Challenges of Bloom's Taxonomy

Bloom's Taxonomy, whilst ideal in theory, presents some difficulties in its implementation. One significant challenge is tailoring questions to the developmental stages of young learners (Cotton, 1988; Black & Wiliam, 2010; Coppens & Mendonça, 2013). Since the taxonomy spans from simple recall to complex tasks, designing questions appropriate for young pupils can be difficult (Hadfield, 1992; Paul & Elder, 2019), especially in larger classrooms where individualised attention is limited. With that in mind, despite improvements of late, research from the Irish National Teachers' Organisation (INTO) (2022), would indicate that Irish primary school classroom sizes are still some of the biggest in Europe.

Time constraints further complicate the implementation of Bloom's Taxonomy (Elwick, 2003; Hmelo-Silver, 2004; Adams, 2015; Pollard, 2019). Primary school curricula are often content-heavy (Hargreaves, 2005), leaving little time for teachers to incorporate and assess answers to questions from all taxonomy levels. Teachers may also find it challenging to include higher-order thinking activities (Cotton, 1988; Chesters, 2012) while managing other curricular demands.

Limited teacher training in the use of Bloom's Taxonomy (Black & Wiliam, 2010) also hampers its effective implementation. PD and sufficient support are critical to helping educators harness the taxonomy's full potential (Dillon, 1983; Bloom, 1984; Overbaugh & Schultz, 2006). However, initial teacher education (ITE) often covers a broad range of competencies, leaving little room for in-depth exploration of questioning frameworks, such as Bloom's (1956). This view would align with my own anecdotal experience, where recent ITE categorises questioning as a minor element of one large, broad module of lectures.

2.3.7 Conclusion

Questioning frameworks and techniques in primary education play a critical role in balancing knowledge acquisition with cognitive development. A constructivist approach to questioning stimulates analytical skills but requires skilful scaffolding, whereas cognitive questioning confirms comprehension, though it may curb deeper enquiry. Bloom's Taxonomy provides structured methods for fostering critical thinking, despite there being room for error in its practical implementation. However, it is clear that together, these strategies have the potential to equip educators to enhance learning within a classroom.

2.4 Impact of questioning on pupil learning

This section examines the impact that questioning has on pupil learning in primary education, through the encouragement of pupil engagement and supporting differentiated instruction. Exploring these elements highlights questioning as a powerful pedagogical tool (Anderson, 1994) that enhances comprehension, critical thinking, and participation, ultimately supporting diverse learning needs and promoting meaningful educational experiences.

2.4.1 Pupil engagement and participation

Effective questioning enhances pupil engagement and classroom participation (Wells, 1999; Mercer, 2000; Boaler, 2016), two vital factors influencing learning in primary education. Engagement refers to pupils' mental investment in learning (Dillon, 1983; Chin, 2006; Alexander, 2008a), while participation involves active involvement in classroom activities. Studies, such as those by Dillon (1983) and later Alexander (2008b), show that effective questioning techniques can significantly boost both engagement and participation, in four primary ways, which will be further discussed: nurturing curiosity, creating an equitable classroom, valuing individual voices and focusing on a pupil-centred environment.

One way that questioning fosters engagement is by nurturing curiosity and enquiry (Wragg & Brown, 2001; Chin, 2006; Black & Wiliam, 2010). Open-ended and thought-provoking questions encourage pupils to explore ideas deeply (Hadfield, 1992; Mercer, 2000; Boaler, 2016) and take ownership of their learning. Dillon (1988)

argues that well-crafted questions with no single correct answer stimulate curiosity and motivate pupils to engage in critical thinking and dialogue. This process leads to both emotional and cognitive engagement, as pupils feel more connected to the material when they are asked to justify their answers. Questions that ask pupils to explain their reasoning or consider different viewpoints foster deeper cognitive and emotional engagement (Chin, 2006), making pupils more invested in the learning process.

Questioning also promotes more equitable classroom participation (Cotton, 1988; Black & Wiliam, 1998; Tomlinson, 2001). In diverse classrooms, pupils have varying abilities and learning preferences. Differentiated questioning helps teachers target pupils at different levels of understanding (Wragg & Brown, 2001; Chin, 2006), allowing all pupils to contribute to discussions. By adapting questions to pupils' needs, teachers can ensure that participation is spread evenly across the classroom (Black & Wiliam, 1998; Mercer, 2000; Tieso, 2005), rather than being dominated by high-achieving pupils. This inclusive approach not only enhances participation but also builds pupils' sense of belonging and confidence, as they feel their contributions are valued.

The effectiveness of questioning in promoting participation also depends on the classroom environment. Research by Black and Wiliam (1998) on formative assessment shows that pupils are more likely to engage if they feel safe expressing their ideas without fear of judgement. Teachers must foster an environment where mistakes are seen as learning opportunities. When pupils believe their ideas will be respected, they are more likely to participate and engage with the material (Black & Wiliam, 2010), even when they make mistakes.

Finally, questioning can help shift classrooms from teacher-centred to pupil-centred learning environments. Dialogic teaching, characterised by interactive questioning, promotes a more collaborative learning process (Mercer, 2000; Boaler, 2016), where pupils take a more active role in constructing their knowledge by engaging in discussions, questioning each other, and solving problems collaboratively. Although Paul & Elder (2008) advocate for this benefit of questioning in the classroom, Thompson's (2000) work would argue that the reality of a pupil-centred classroom can be difficult for teachers to foster. Given the complex nature of any

classroom and the lack of clear, practical questioning frameworks to make this a reality, it could be argued that questioning creating a pupil-centred classroom could at times simply be regarded as idealistic, as opposed to realistic.

2.4.2 Differentiated instruction through questioning

Differentiated instruction is a teaching approach that aims to cater to the diverse needs of pupils within a classroom by varying content, processes, or outcomes according to their abilities, learning preferences and prior knowledge (Tomlinson, 2001; Bingham & Sidorkan, 2004; Devine, 2013). In primary education, questioning serves as a powerful tool to implement differentiated instruction, allowing teachers to meet the varying cognitive, social, and emotional needs of pupils. Pupils come to classrooms with diverse backgrounds, abilities, and learning preferences (Cummins, 2001; Alexander, 2008a; Noddings, 2012). As a result, a one-size-fits-all approach to teaching is rarely effective. Drawing on Vygotsky's (1978) concept of the Zone of Proximal Development (ZPD), teachers can tailor questions to each pupil's current level of understanding, thereby providing the right level of challenge to stimulate cognitive growth (Wells, 1999; Mercer, 2000), without causing frustration. Questions can be designed to push pupils slightly beyond their current capabilities, encouraging them to build on what they know and move toward more complex thinking.

Differentiated questioning strategies enable teachers to differentiate in three main ways; the use of different types of questions, differentiating for children with special educational needs (SEN) and pupils for whom English is an additional language, as well as supporting mixed-ability or large groups of pupils. Each is discussed further below.

Teachers can implement differentiated questioning by varying the types of questions they pose (Hadfield, 1992; Graesser, 1994). For example, lower-order questions may be used with pupils who are still building foundational knowledge, while higher-order questions can be posed to more advanced pupils (Wragg & Brown, 2001) to encourage deeper analysis and critical thinking. This approach is aligned with Bloom's taxonomy (1956), which proposes that by adjusting the level of questioning, teachers can ensure that all pupils are cognitively engaged and challenged appropriately. In this way, questioning becomes a form of formative assessment, allowing teachers to gauge pupils' understanding and adjust their instruction accordingly.

Differentiated questioning also plays a crucial role in addressing the needs of pupils with SEN and pupils for whom English is an additional language (Tomlinson, 2001; Wiliam, 2011; Lee, 2014). For SEN pupils, questions can be simplified or broken down into smaller, more manageable parts to ensure that the pupil can understand and respond appropriately (Tomlinson, 2001). Teachers might also use questioning techniques that allow these pupils to respond in non-verbal ways, such as through gestures, drawings, or visual aids, thereby reducing the cognitive load and enabling them to participate meaningfully in the classroom discourse. Meanwhile, pupils for whom English is an additional language benefit from differentiated questioning that takes into account their language proficiency (Lee, 2014). Teachers can scaffold their questions by using simpler language, providing visual cues, or offering more time for these pupils to process and formulate their responses. Such strategies enable EAL pupils to engage in the learning process and contribute to classroom discussions (Wragg & Brown, 2001), even if their language skills are still developing.

Differentiated questioning also supports teachers in managing mixed-ability groups, a common challenge in Irish primary education, given that the vast majority of primary school classrooms are mainstream (INTO, 2022). When a classroom includes pupils with varying levels of ability, it can be difficult for teachers to design lessons that meet the needs of all learners. By using differentiated questioning, teachers can ensure that pupils who require additional support are given questions that match their current understanding (King, 1994; Alexander, 2008b), while other pupils are challenged with higher-order questions that promote deeper thinking. This approach helps to prevent boredom or disengagement among high-achieving pupils while ensuring that lower-achieving pupils are not left behind (Chin, 2006), fostering an inclusive environment. The use of open-ended questions, in particular, can be effective in mixed-ability settings, as they allow pupils to respond at their own level of understanding (Alexander, 2008b). Such questions invite a range of responses, enabling pupils with different levels of ability to contribute to the discussion meaningfully.

2.4.3 Conclusion

Questioning serves as a critical mechanism for enhancing pupil learning in primary education by promoting engagement and differentiation. Through carefully

designed questions, educators can challenge pupils' thinking, encourage active participation, and cater to diverse learning needs. This dynamic approach not only fosters higher-order thinking and reflection but also creates an inclusive environment where all pupils feel valued and empowered to contribute. By integrating effective questioning strategies into their teaching practices, educators can significantly improve learning outcomes and cultivate a classroom atmosphere conducive to exploration, curiosity, and meaningful dialogue among pupils.

2.5 Challenges and influences on questioning practices

Questioning in primary education is shaped by a complex interplay of environmental, cultural and pedagogical factors, each influencing its capacity to promote engagement, differentiation and higher-order thinking. Persistent barriers to questioning include insufficient PD, classroom management demands and the pressures of standardised testing, often limit the scope for critical enquiry. These challenges are compounded by gaps in the literature, particularly the absence of longitudinal studies and limited exploration of the relationship between questioning and assessment, highlighting the need for sustained research and practice development. All of these factors will be explored below.

2.5.1 Environment

The physical and social environment of the classroom plays a crucial role in determining the nature of questioning. Classrooms designed to promote enquiry-based learning and foster open dialogue cultivate a conducive atmosphere for effective questioning (Alexander, 2008b; Mercer & Dawes, 2008; Fisher, 2010). Teachers who thoughtfully arrange their classrooms to facilitate discussions, such as through seating configurations that promote interaction, can create environments where pupils feel comfortable expressing their ideas and asking questions. This supportive atmosphere encourages pupils to engage in dialogue, leading to deeper and more meaningful learning experiences (Chin, 2006). In contrast, highly structured, teacher-centred classrooms may suppress pupil questioning and limit the development of critical thinking (Dillon, 1988; Wragg & Brown, 2001; Mercer & Dawes, 2008). Consequently, the classroom environment is not merely a physical space but a dynamic context that can either hinder or facilitate effective questioning practices.

2.5.2 Culture

Cultural factors at both the societal and school levels significantly influence questioning practices. Educational systems exhibit substantial variation in their approaches to questioning, reflecting broader societal values and beliefs about learning. In certain systems, particularly those in East Asia, questioning practices tend to be more hierarchical, with teachers positioned as the primary source of knowledge and pupils encouraged to listen rather than actively question (Wu, 1993; Alexander, 2008b; Gillies, 2011). This cultural norm can hinder the development of critical thinking skills, as pupils may not be accustomed to challenging ideas or engaging in discourse. In contrast, Western educational systems frequently promote a more dialogic classroom culture where pupils are encouraged to challenge ideas and engage in questioning as a collaborative form of knowledge construction (Black & Wiliam, 1998; Mercer, 2000; Alexander, 2008b). These contrasting cultural frameworks significantly shape how teachers frame their questions and how pupils perceive their roles in the learning process. When the school culture prioritises open dialogue, pupils are more likely to engage in metacognitive thinking and enquiry (Mercer, 2000; Paul & Elder, 2006; Gillies, 2011).

2.5.3 Teacher beliefs

Furthermore, teacher beliefs regarding the role of questioning and its perceived value in the learning process substantially influence classroom questioning practices. A teacher's personal philosophy about education often underpins their approach to questioning. Those who view learning as a process of knowledge transmission may rely predominantly on closed questions that primarily assess factual recall (Wragg & Brown, 2001; Black et al., 2004; Fisher, 2010). Conversely, educators who perceive learning as an active process of meaning-making tend to employ open-ended, higher-order questions that stimulate critical thinking and deeper exploration (Tredway, 1995; Chin, 2006; Paul & Elder, 2006). Additionally, teachers' beliefs about pupil ability significantly impact their questioning practices. Those with fixed views on ability may lower their questioning expectations for pupils they perceive as less capable, inadvertently restricting opportunities for cognitive development (Tomlinson, 2001; Hattie, 2009; Cremin et al., 2015). Conversely, teachers who adopt a growth mindset challenge all pupils with complex questions,

thereby fostering cognitive development (Tomlinson, 2001; Dweck, 2006; Cremin et al., 2015).

Moreover, the broader policy and curriculum context plays a crucial role in shaping teacher beliefs and questioning practices. In the Irish context, for instance, there is an increasing emphasis on enquiry-based learning and critical thinking (NCCA, 2015c). However, this policy shift requires support through PD to effect change in deeply ingrained questioning practices (Black et al., 2004; Myhill & Dunkin, 2005; Cremin et al., 2015). PD programmes can provide teachers with the necessary tools and strategies to effectively implement enquiry-based practices in their classrooms, enhancing their questioning techniques and, subsequently, their pupils' learning experiences.

2.5.4 Barriers to effective questioning: professional development, classroom management and testing

Despite the critical role that questioning plays in promoting pupil learning, various barriers hinder teachers from employing effective questioning techniques (Black, et al., 2004; Cremin, et al., 2015), revealing some of the causes in the gap between policy, theory and practice in classrooms. These barriers include inadequate PD, classroom management challenges, and the pressures of standardised testing, all of which shape how teachers approach questioning within the primary school setting.

One significant barrier to effective questioning is the lack of PD teachers receive in utilising questions to foster deeper thinking. Although teacher education programmes often emphasise the importance of questioning (Alexander, 2008b; Hattie & Donoghue, 2016), specific strategies for crafting higher-order questions are frequently underemphasised. As a result, many teachers default to recall-based questions (Black et al., 2004; Myhill & Dunkin, 2005; Chin, 2006) rather than encouraging critical thinking and deeper engagement with the material. In the absence of adequate PD opportunities, teachers may struggle to implement questioning effectively, thereby limiting their pupils' cognitive engagement and overall learning experience.

Classroom management challenges also present significant obstacles to effective questioning. Managing a primary classroom can be particularly demanding (Paul & Elder, 2006; Fisher, 2010), especially when engaging in open-ended

questioning. Such questioning may lead to unpredictable and time-consuming discussions (Chin, 2006; Mercer & Dawes, 2008; Fisher, 2010), causing teachers to avoid higher-order questions, citing concerns about losing control (Tredway, 1995; Wragg & Brown, 2001) over classroom discussions or their ability to manage the flow of conversation. Additionally, large class sizes and diverse learning needs further complicate the implementation of differentiated questioning strategies. Research from Fisher (2010) highlights the necessity for teachers to balance engaging advanced pupils with higher-order questions while also providing support for those requiring additional scaffolding, which can prove difficult to follow through with in practice on a regular basis.

The pressure of standardised testing adds another layer of complexity to teachers' use of questioning. The increasing emphasis on national testing benchmarks often leads to a focus on factual recall and test preparation (Black & Wiliam, 1998; Alexander, 2008a; NCCA, 2015b), rather than encouraging enquiry and critical thinking. Consequently, teachers may prioritise short-term test performance over long-term cognitive development (Black & Wiliam, 1998; Mercer, 2000; Paul & Elder, 2006), thereby limiting the complexity of classroom questions. This prevailing culture of "teaching to the test" (Black, et al., 2004) can discourage exploratory questioning and undermine the potential for questioning to promote deep learning.

2.5.5 Gaps in the literature and areas for future research

While the existing literature on questioning in education is substantial, significant gaps remain, particularly in the Irish context. Much of the current research focuses on broader international contexts, particularly Anglo-American and Western European systems (Cotton, 1988; Myhill & Dunkin, 2005; Boaler, 2016), leaving the implementation and nuances of questioning practices in Irish primary schools relatively underexplored (Gillies, 2011; Cremin et al., 2015; NCCA, 2015d), a trend that has become clear in this literature review process. This lack of longitudinal research in the Irish context indicates an urgent need to investigate how questioning practices can be adapted and refined. In addition to this, the inaccessibility of questioning to an ethnically diverse pupil population and the complex relationship between questioning, question types and assessment in the Irish primary context require further investigation.

2.5.6 Lack of longitudinal studies

One key gap in the literature is the lack of longitudinal studies that track how questioning practices evolve over time in Irish classrooms. While cross-sectional studies provide snapshots of questioning strategies (Myhill & Dunkin, 2005; Cremin et al., 2015), there is limited research on how these practices change as teachers gain experience or as curricular reforms are introduced. Understanding the long-term impact of enquiry-based learning frameworks on questioning practices in schools is essential (Black & Wiliam, 1998; Alexander, 2008b; NCCA, 2015b), so that effective pedagogical strategies that can improve pupil learning outcomes, can be developed.

2.5.7 Questioning and assessment

Finally, more research is needed to examine the relationship between questioning and assessment in the Irish context. The pressure of standardised testing often constrains higher-order questioning (Black & Wiliam, 1998; Alexander, 2008b). However, there is a lack of empirical evidence on how this tension plays out in Irish classrooms. Researching how assessment reforms influence questioning practices could provide valuable insights into how teachers can balance the demands of testing with the need to promote critical thinking (Mercer, 2000; Cremin et al., 2015) through effective questioning.

2.5.8 Conclusion

In conclusion, the challenges and influences on questioning practices within primary education are deeply rooted in the classroom environment, school culture, and teacher beliefs. A supportive classroom atmosphere can facilitate effective questioning, leading to enhanced cognitive engagement and critical thinking among pupils. Conversely, restrictive environments hinder the development of enquiry-based learning, emphasising the importance of fostering open dialogue and collaboration. Additionally, teacher beliefs and the broader cultural context play a crucial role in shaping questioning strategies, underscoring the need for ongoing PD. Addressing these multifaceted challenges will be instrumental in transforming questioning practices and improving educational outcomes for all pupils. Continued research, particularly in the Irish context, is vital for refining strategies that promote inclusive, effective questioning practices in diverse primary school settings.

2.6 Chapter summary

In summary, the literature on questioning in primary school classrooms reveals its critical role in fostering engagement, cognitive development, and differentiated instruction. Foundationally, questioning is shaped by relational dynamics (Cotton, 1988; Cremin et al., 2015), particularly within the context of Irish educational policies and practices. Key techniques, such as applying Bloom's Taxonomy and balancing higher- and lower-order questions, emphasise cognitive and constructivist approaches (Bloom, 1956; Chin, 2006), highlighting both opportunities and constraints in using questioning to stimulate student learning. The classroom context, including teacher beliefs, environmental factors, and cultural influences (Wragg & Brown, 2001), profoundly affects questioning practices and outcomes. However, barriers such as insufficient training, classroom management challenges, and the pressures of standardised testing limit questioning's potential. Addressing gaps, particularly the lack of longitudinal research and the accessibility of questioning practices for diverse learners, is essential for advancing questioning methods that more inclusively and effectively support pupil engagement and critical thinking in Irish primary classrooms.

Chapter 3: Methodology

“How can I, as a primary school teacher, make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

3.1 Introduction

This chapter outlines the research methodology I have chosen to use for this research. My chosen intervention approach is explored, as well as the intervention strategies I implemented and used during my research. Descriptions and rationale for the data collection instruments, as well as some ethical considerations I have identified while preparing to carry out this research, are outlined. Finally, the analysis of the data that was collected is explained, before the conclusion of the chapter.

3.2 Research question

The key question underpinning my study is “How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

My primary objectives were the following:

- ✓ Ensure that I am sharing the distribution of questions around my classroom,
- ✓ Appropriately challenge pupils with the level of each of my questions,
- ✓ Develop new, practical questioning strategies as part of enhancing my questioning practice.

3.3 Research paradigm: self-study action research

Self-study action research (see *Figure 3.1*) is a flexible and dynamic methodology that has been interpreted in various ways and applied for diverse purposes. At its core, it involves a systematic approach to improving personal practices through iterative cycles of planning, acting, observing, and reflecting. A defining feature of self-study action research is the “active role of practitioners as

both the subjects and agents of change, focusing specifically on their own practices within their unique contexts" (McNiff & Whitehead, 2011, p. 8). This individual nature distinguishes self-study action research from other approaches by positioning practitioners as researchers who critically engage in investigating and improving their own professional actions.

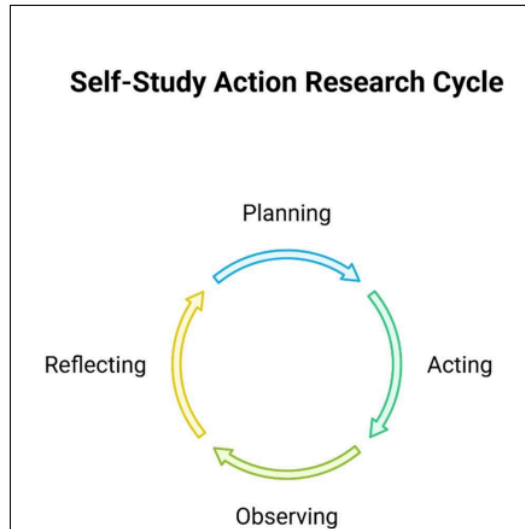


Figure 3.1: Self-study Action Research Cycle

Source: Canva (2025) [online].

In addressing the research question, "*How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in my classroom?*" I selected self-study action research as my methodological framework. What drew me most to self-study action research was its inherently reflective, personal and values-based nature. As an educator, reflection is not only central to professional growth but also serves as a foundation for making intentional, meaningful changes. The iterative cycles of self-study action research; planning, acting, observing, and reflecting, closely mirror the cyclical processes of teaching, enabling gradual, evidence-based refinement of strategies. Koshy (2010) argues that self-study action research allows practitioners to assess the effectiveness of their interventions while aiding their personal and professional growth. This dual advantage underlines its transformative potential in educational settings.

For my research, this methodology proved particularly effective in facilitating a systematic and focused examination of my questioning techniques within the primary school classroom, allowing me to bridge the gap between the theory of the variety of questioning strategies available to teacher, and their practical implementation. This led to the development of praxis, defined by Carr and Kemmis (1986, p. 190) as “informed, committed action, conducted in the light of a theory or rationale which can be defended.” Through the iterative cycles of self-study action research, I was able to plan and implement different questioning strategies, observe their impact on pupil engagement and learning, and reflect on their effectiveness. This reflective process allowed me to make informed adjustments, fostering an ongoing cycle of improvement.

Overall, self-study action research provided a robust and introspective framework for addressing my research question. By combining personal reflection, critical enquiry, and iterative improvement, it allowed me to systematically enhance my use of questioning in ways that align with my professional values of fairness, equity, inclusivity and feeling valued, the theoretical underpinnings of effective teaching, and the specific needs of my pupils.

3.3.1 Action research framework

Theorists have proposed varying interpretations of the stages involved in conducting action research, with differences arising regarding the exact number of steps required to complete the process. Stringer (2014, p. 8) highlights that action research is fundamentally “a systematic approach to investigation that enables people to find effective solutions to problems they confront in their everyday lives.” While the precise stages vary across models, most agree that the process is iterative and cyclical. Kemmis, McTaggart, and Nixon (2014) describe action research as encompassing four primary stages: planning, acting, observing, and reflecting. These stages are interconnected and repeated across cycles, allowing for continual refinement of practice. Despite many variations, there is a shared understanding among theorists that action research is not strictly linear (Kember, 2000), with the steps of action research being iterative and overlapping in nature.

Action research and self-study action research are closely interconnected methodologies, both aiming to foster critical reflection and improvement within

educational practice (Kemmis, et al., 2014). While action research focuses on collaborative enquiry to address systemic issues like equity in primary classrooms, self-study action research emphasises the practitioner's introspection and examination of their own pedagogical approaches (Loughran, 2007), enabling a deeper understanding of how individual practices impact equity outcomes.

Central to the action research process is reflection, which Schön (1983, p. 68) highlights as “the bridge between theoretical understanding and practical application,” deepening practitioners’ understanding and informing subsequent actions. McNiff and Whitehead (2011) further underscore the non-linear and interconnected nature of action research, emphasising how revisiting earlier stages in light of new insights supports continual refinement.

Another key element to the action research process is its “problem nature” (Cohen, et al., 2018). Problem-solving is a fundamental aspect of action research, as it involves identifying practical issues within educational settings and implementing iterative strategies to address them. The problem-solving nature of action research in part causes its cyclical and reflective features (Flutter & Ruddock, 2004), with the three depending on each other to occur themselves. Self-study action research extends the problem-solving process by focusing on the practitioner's reflective examination of their own role in shaping and resolving these challenges (Kemmis & McTaggart, 1988), fostering personal and systemic improvements. Given potential difficulties in fostering equitable teacher questioning faced in the context of this study, the application of action research and its “problem nature” was appropriate.

In summary, while theorists’ views on the process of action research may vary, they converge on the idea that action research is an iterative and flexible methodology. Its recursive nature, combining planning, acting, observing, and reflecting, ensures that educators can respond dynamically to the unique demands and problems of their contexts, making it particularly suitable to the needs of research in a primary school setting.

3.3.2 The suitability of Stringer’s Action Research Cycle

Stringer’s action research model (see *Figure 3.2*) offers a robust and systematic approach to data collection in a primary school classroom, and to my research question in particular. The model's cyclical nature of *Look, Think, Act*, aligns

effectively with the iterative and reflective demands of exploring equitable teacher questioning strategies. This framework emphasises collaboration, reflexivity, and a problem-solving orientation, which are integral when working with 27 twelve-year-old pupils to foster more inclusive classroom discussions. As Stringer (2014) explains, "action research provides a systematic approach to investigation that enables people to find effective solutions" (p. 8) to everyday classroom problems.



Figure 3.2: Stringer's Action Research Cycle

Source: Canva (2025) [online].

The *Look* phase of Stringer's model is well-suited to the initial stages of research. During this phase, I was enabled to observe and document current questioning practices and their effects on classroom discussions. Stringer (2014) emphasises the importance of this phase in establishing a clear picture of the problem, while Elliot (1991) highlights that effective action research begins with "the careful identification of the practical and theoretical issues that need to be addressed" (p. 49).

In the *Think* phase, I analysed the collected data to uncover the underlying factors contributing to the issue at hand. This stage aligns with the critical reflection aspect of my research question, as it involves interpreting observations, pupil

interactions, and engagement levels. By synthesising this data, I was able to identify specific challenges (Stringer, 2014), such as unconscious bias in question distribution or the need for scaffolded questions to include less confident pupils.

The *Act* phase allows for the implementation of targeted strategies aimed at creating more equitable questioning. During this time, I experimented with techniques to provide all pupils with equal opportunities to participate. The iterative structure of Stringer's model aligns with McNiff and Whitehead's (2011) emphasis on the ongoing, participatory nature of action research, allowing me to refine approaches based on continual feedback.

In summary, Stringer's (2014) Action Research Cycle provided a multi-faceted approach to investigating and addressing inequitable questioning practices. This collaborative, reflective, and iterative enquiry process lead to substantive improvements in my own practice, and pupil engagement.

3.4 Research site and study participants

The research took place in a co-educational primary school of a Roman Catholic ethos. The school is located in the east of the country, in an urban area. It is a vertical school catering for Junior Infants to Sixth-Class. The children come from a variety of socio-economic backgrounds. There are approximately 600 children in both mainstream and autism classes. The individuals involved in the research were 25 Sixth-Class children.

3.5 Intervention strategies

Timeframe	Intervention Strategy	Subject Areas
Week 1 – 10	<i>Lesson Plan Question Card</i> (see Appendix A) (provide a prepared list of differentiated, key questions for each lesson)	SESE, Maths, Gaeilge
Week 1 – 3	<i>Wait Time</i> (see Appendix B) (provide all children with more time to formulate potential answers to questions)	SESE, Maths, Gaeilge
Week 4 – 6	<i>Pose, Pause, Pounce, Bounce</i> (see Appendix C) (enable the children to answer questions and challenge answers)	SESE, Maths
Week 6 – 8	<i>“If this is the answer, what’s the question?”</i> (see Appendix D) (enhance problem-solving and incorporate multiple correct answers into questioning)	SESE, Maths
Week 8 – 10	<i>Exit Post-it’s</i> (see Appendix E) (gather immediate feedback on content taught in the form of pupil questions)	SESE, Maths
Week 8 – 10	<i>Table Arrangements</i> (alter the physical dynamic of the classroom)	SESE, Maths, Gaeilge

Figure 3.3: A table of the intervention strategies used during the research

Source: O'Donnell, C. (2025)

3.6 Intervention lessons

In data cycles one and two, the data collection with children took place on Wednesday and Thursday afternoons as part of allocated time for Social, Environmental and Scientific Education (SESE) and Maths in the class timetable, as well as during three selected Gaeilge lessons. The subjects of SESE and Maths were strategically chosen, given the multitude of opportunities for talk and discussion within them, with Gaeilge being selected to assess the suitability of *Table Arrangements* and *Wait Time* to it. These lessons were usually approximately 50 minutes in length. An introductory lesson was given to the children participating in the research to reiterate the purpose of the study and clarify their right of withdrawal. During this lesson, the planned research timeline and process were discussed with the children. This allowed children to raise any questions or share concerns prior to the

interventions. As well as this, one planned lesson on reflective journaling was taught, and two subsequent ones were arranged to further explicitly teach it. A critical friend observed a lesson at the beginning and end of data cycle one and the end of data cycle two. Another critical friend who regularly visited the classroom provided observations and reflections with the same regularity as the children. Anonymous (see Appendix F) and named (see Appendix G) baseline pupil surveys were used at the starting point of the research, as well as at the end (see Appendix H).

An individualised reflective journal was given to each child participant, and they were actively encouraged to reflect freely in this during and after each intervention lesson. Strategies that were introduced during the research cycle remained present in the classroom for each cycle through the use of posters, as they were presented.

3.7 Data collection instruments

I utilised the following methods for data collection purposes:

- Semi-structured interviews
- Pupil surveys
- Teacher reflective journal
- Pupil reflective journal
- Semi-structured observation

Data Collection Method	Frequency of Use	Researchers	Total Uses
Semi-structured interviews	Week 1: 2 interviews Week 7: 1 interview	Critical friend Other Sixth-Class teacher	Three interviews
Pupil survey	Week 1: 2 surveys Week 10: 1 survey	Sixth-Class children	73 surveys
Teacher reflective journal	Daily	Teacher	50 journal entries
Pupil reflective journal	Following each intervention lesson (20 total)	Sixth-Class children	500 entries
Question tally sheets	Week 1: Full week, Week 3: One day Week 4: One day	Sixth-Class children	175 tally sheets
Question mapping	Week 1: Three full days Week 2: One full day Week 3: One full day Week 4: One full day Week 5: One full day Week 8: Two full days Week 9: Two full days Week 10: One full day	Teacher	12 maps

Figure 3.4: A table of the data collection instruments used during the research

Source: O'Donnell, C. (2025)

3.7.1 *Semi-structured interviews*

Semi-structured interviews combine structured questions with the flexibility to explore participants' responses in depth, making them particularly suitable for gaining rich insights into personal experiences and perceptions (Kvale & Brinkmann, 2009). These interviews allow researchers to adapt questions based on the flow of conversation, providing depth and context to the data collected. An advantage of semi-structured interviews is their ability to capture nuanced insights, while their flexibility ensures relevance to the participant's experiences (Cohen, Manion & Morrison, 2018). Semi-structured interviews are relevant to my research as they directly align with exploring personal experiences related to effective questioning. Therefore, I carried out two with one critical friend, and one with another. I used semi-structured interviews to understand how two other teachers of a similar class

level to mine perceived questioning strategies and their impact on equitable classroom participation. This was particularly useful when comparing new questioning strategies to more traditional methods, for similar purposes. An example of this was the contrast between the use of *Exit Post-it's* to assess pupil learning, with another teacher asking a small sample of children oral questions to assess learning, at the conclusion of a lesson, enabling them to plan for future teaching and learning.

In addition to this, semi-structured interviews provided a structure with which I had conversation with my critical friends, with prepared questions providing an initial starting point from which a conversation could travel in a number of directions. The use of critical friend templates provided structured tools for collecting constructive feedback from trusted colleagues, allowing reflective improvement on teaching practices (Costa & Kallick, 1993). These templates encourage systematic reflection and critique, helping identify strengths and areas for growth. One advantage is that they provide a framework for critical yet supportive feedback, promoting professional learning (Schuck & Russell, 2005). I used these templates to formally gather feedback from colleagues on my questioning strategies and their observed impact on classroom discussions, following their observation of two intervention lessons during the research project. This method proved to be useful because it allowed me to refine my practices through objective peer feedback.

3.7.2 Pupil surveys

Pupil surveys are tools designed to capture pupils' perceptions and experiences regarding classroom practices, offering a platform for their voices (Fink, 2015). They typically consist of structured or semi-structured questions aimed at understanding pupils' perspectives. An advantage of pupil surveys is their ability to gather data from a large group quickly and efficiently (Cohen et al., 2018). I used pupil surveys to understand how pupils perceived the inclusivity and effectiveness of my questioning strategies. Pupil surveys were used both before and after the research project, with a named and anonymous survey to begin with for triangulation purposes, as well as a final anonymous survey after the last intervention lesson. The first surveys focused on children's attitudes towards answering questions in our classroom, the existing questioning strategies that I used, as well as their thoughts on the level of difficulty in questions asked of them. At the end of the project, attitudes towards

being asked questions were re-assessed, as well as ranking the effectiveness of the new questioning strategies, in relation to the research aims. In all surveys, both closed and open questions were asked of the pupils, with them being encouraged to provide as much detail and opinion when answering open questions. Similarly to semi-structured interviews, pupil surveys provided direct insights from those most affected by the research question.

3.7.3 Teacher reflective journal

A reflective journal is a personal account of thoughts, experiences, and learning, used to document and analyse one's practice systematically (Schön, 1983). It encourages critical self-reflection, fostering continuous professional growth. An advantage of reflective journals is their potential for deep personal insight, promoting mindful improvements in practice (Boud, Keogh & Walker, 1985). I used a reflective journal to record my thoughts and observations on how questioning strategies impact classroom dynamics. Reflective journals allowed for an ongoing, internal perspective on the effectiveness of my interventions.

Using a reflective framework daily enables teachers to systematically evaluate and refine their practice, promoting continuous professional growth (Schön, 1983) and deeper pedagogical awareness. Despite time constraints and the emotional demands of teaching making sustained reflection challenging, particularly without institutional support (Larrivee, 2000), the long-term benefits of daily reflection include improved instructional quality, greater self-efficacy, and the development of a more critical and adaptive teaching mindset (Ghaye, 2011), making it a key element of any teacher's toolkit.

I journaled after each school day as normal. Over the course of ten weeks, this totalled around 50 entries. Specific attention was paid to my use of questioning each day. However, on the days of the intervention lessons, twice weekly, a specific section was reserved for the explicit reflection on how the intervention lesson and strategy played out. Using Rolfe's (2001) Reflective Model (see *Figure 3.5*) and its three core questions of *What?*, *So what?*, and *Now what?*, provided me with a clear and straightforward framework for daily reflection (see Appendix I). This structure helped focus my thinking on key aspects of each lesson, guiding me to describe events, analyse their significance, and identify next steps for improvement. Alongside

this structured approach, I also allowed myself unstructured space during each reflection session to record any spontaneous thoughts, such as recurring issues, emerging patterns, or broader concerns not easily captured by the model. This balance between guided and open reflection supported both immediate lesson evaluation and ongoing professional insight.

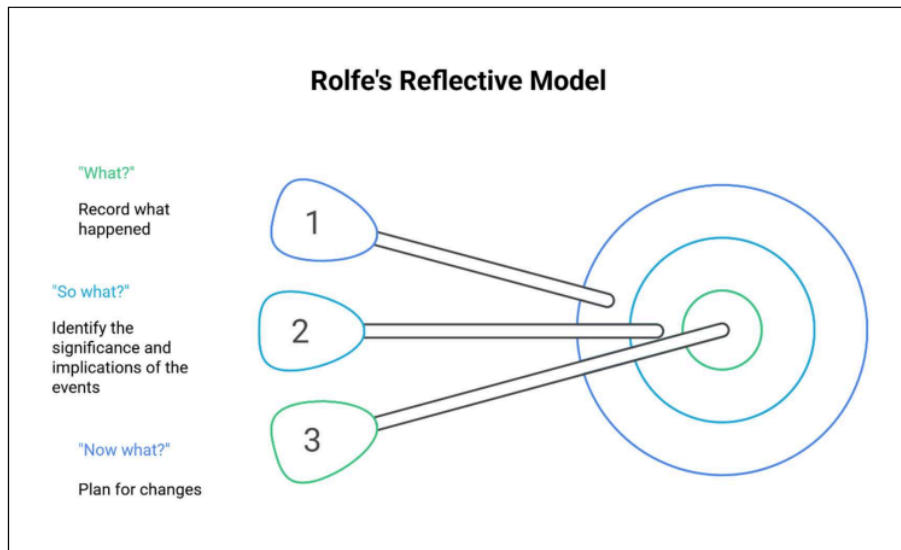


Figure 3.5: Rolfe's Reflective Model

Source: Canva (2025) [online].

3.7.4 Pupil reflective journal

Pupil reflective journals (see Appendix J) are personal writings by pupils that document their thoughts and learning experiences over time (Boud et al., 1985). These journals provide rich, qualitative insights into pupils' engagement and perspectives. An advantage of this method is its ability to capture authentic, longitudinal, individualised reflections, offering a deeper understanding of pupil experiences (Mills, 2011). I used pupil reflective journals to understand how they perceive and respond to different questioning strategies, making it offer a more intimate, pupil-centred view of the classroom environment. Over the course of ten weeks, approximately 25 pupils journaled twice weekly, with an approximate total of 500 journal entries compiled as part of the data collection process. Between two and

five prompt questions were provided to the children each time they journaled as a class, with a sample of these available in Appendix K. As well as these prompt questions, the opportunity to simply freely journal their own thoughts during the school day, was provided. Given the varying nature of the strategies that I plan to introduce into my questioning, I made the decision not to follow a pre-determined reflective framework other than to ensure to include variety in the types of questions I posed to the class, usually beginning each day's reflection with a simple lower-order question to stimulate their reflection. The prompt questions varied from lesson to lesson. The remainder of the questions were comprised of lower-order, factual response questions, higher-order questions, as well as metacognitive and opinion-based questions. As part of a wider differentiation strategy, the children were enabled to respond to as many as they liked, through both the written word and pictorially.

3.7.5 Semi-structured observations

Semi-structured observations involve systematically observing and recording behaviours and interactions, guided by predefined themes while allowing flexibility (Wragg, 1999). Semi-structured observations capture real-time interactions in natural settings (Robson & McCartan, 2016), as well as potentially revealing subtle behaviours and dynamics that might not be captured through other methods. I used semi-structured observations to analyse how pupils and teachers engaged during questioning. The direct, contextualised evidence of classroom practices shown by this method made it extremely useful for my research. Semi-structured observations were carried out in two main ways, namely question tally sheets (see Appendix L) and question mapping (see Appendix M). Question tally sheets involved children tallying the number of questions asked and answered of them by their teacher, over the course of a week, by marking it on a sheet on their desk. The children carried this out for the first full week of the intervention each day, as well as two individual days on the third and fourth week. This enabled me to observe who was being asked, as well as who was successfully answering, questions from me. Question mapping was a similar data collection method, used by me on twelve days between the first and eighth week of the data collection process, to geographically measure the distribution of my questioning. On a map of the classroom, I tallied who had been asked questions throughout the day.

3.8 Ethical considerations

In participatory action research, where children are directly involved in the process of enquiry, ethical principles must include mutual respect, acquisition of both consent and informed assent, careful consideration of power imbalances, caution around sensitive data and recognition of the children's right to withdraw at any time (Gallacher & Gallagher, 2008; Kemmis, et al., 2014; Cohen, Manion, & Morrison, 2018). In this research, I adhered to several ethical guidelines to ensure the protection of all participants. I followed the professional codes and ethical guidelines of the Froebel Department of Primary and Early Childhood Education Ethics Policy, Maynooth University Ethics Policy, British Educational Research Association (BERA) Guidelines for ethical research (2024), Children First National Guidance for the Protection and Welfare of Children (2017), the Data Protection Act (2018), and my own school's Child Safeguarding Statement.

3.8.1 Ethics approval

My ethics proposal form outlining my proposed self-study action research project was approved by the Froebel Department Research and Ethics Committee of Maynooth University (see Appendix N). Permission to carry out action research was also granted by the Principal and Board of Management in my school (see Appendix O).

3.8.2 Informed consent and assent

Informed consent is a crucial aspect of ethical action research involving children, as it ensures that both the child participants and their parents fully understand the research process, its aims, and any potential risks.

Informed consent refers to the process of fully informing children and their parents and/or guardians of the purpose of the research, what their involvement in that process will be and any potential risks that may be involved (United Nations Children's Fund (UNICEF), 2013), prior to their decision to take part or not. Assent is an affirmative agreement from the child in agreeing to participate in research (Anderson, 2004), ensuring that children, relative to their cognitive ability, understand and agree to their involvement. The on-going nature of assent means that it is a continuous dialogue (Barker & Weller, 2003) between researcher and co-researchers. Assent must be reaffirmed throughout the research process.

Following Coyne's (2010) phased approach model for acquiring consent and assent, I ensured to firstly provide information to all parties, before gaining parental and guardian consent, as well as children's assent, before finally regularly reassessing understanding and willingness to participate throughout the research process. I sent the prospective participants, including the parents and guardians, and their children, an introductory letter (see Appendix P) using appropriate language, and an information sheet (see Appendix Q) outlining my proposed research study. I opened a channel for dialogue for parents and guardians, who may have had any questions about the research study. I also provided the children with a child-friendly information sheet (see Appendix R), ensuring to state that any questions about the research study were welcome at any time. The parents and guardians signed the parent consent form (see Appendix S), and the children gave their assent to participate by signing their own form (see Appendix T).

Dignity and care for the participants is vital in upholding ethical research (Anderson, 2004; Coyne, 2010). I ensured that all participants were aware that the aim of the research was to maximise good and minimise any possible harm for the participants. This was reaffirmed throughout the study by providing regular opportunities to the children to re-confirm assent.

3.8.3 Power dynamics

Any potential power imbalance in action research becomes even more evident when working with children. A key concern in this context was the risk of acquiescence bias, where the children may have responded in ways they believe are expected or desirable to their teacher. Recognising this, I remained critically aware of how my dual role could inadvertently influence children's responses or participation. To combat any potential power imbalances, I incorporated the use of participatory research methods into my research (Graham, et al., 2013), emphasise "co-reflexivity" (El Gemayel & Salema, 2023, p. 1159), where the children were co-researchers in the study and by openly discussing, and regularly emphasised, the children's right to withdraw from the study if they wish to do so, at any stage of the research. They were also encouraged to share any concerns or conflicts they had regarding the research.

My values of fairness, equity, inclusivity and feeling valued were maintained at the forefront of my research. The values I hold as a teacher within my chosen profession were also upheld.

“The following ethical values underpin the standards of teaching, knowledge, skill, competence and conduct as set out in this Code: Respect, Integrity, Trust and Care” (The Teaching Council, 2016, p. 6).

As a researcher, it is crucial to explicitly recognise the difference in roles and relationships of teacher and pupils, and researcher and participants or co-researchers. I used a ‘Research On’ (see Appendix U) sign to notify the children of the movement between everyday classroom learning and the combined concepts of classroom learning and research.

3.8.4 Data storage

The data gathered during this research was stored in accordance with my ethical commitments and General Data Protection Regulations (GDPR) guidelines. Online soft copies were kept in a password protected online folder using the ‘Google Drive’ programme. Physical hard copies were stored in a locked filing cabinet. Any physical data was cleared of personal identifiers such as pupil’s full names and were stored in a folder where it was accessed by a secure number pin. I used pseudonyms to uphold the promised anonymity and confidentiality of participant’s responses (Anderson, 2004; Alderson & Morrow, 2011; UNICEF, 2013).

If at any stage data needed to be transferred, it was done using a password protected USB which was stored in a locked filing cabinet. All data obtained during school hours, was stored, and protected in line with the school’s Data Protection Policy. Both electronic and physical data obtained throughout the research process will be stored for the minimum period of six years and destroyed in the form of confidential shredding and secure deletion of digital materials, in accordance with Maynooth University guidelines.

3.9 Data analysis

The primary framework for the data analysis stage of my research was Reflexive Thematic Analysis (RTA), with triangulation of data performed alongside it.

RTA was conducted in accordance with a step-by-step guide set out by Braun and Clarke (2021) (see *Figure 3.6*).

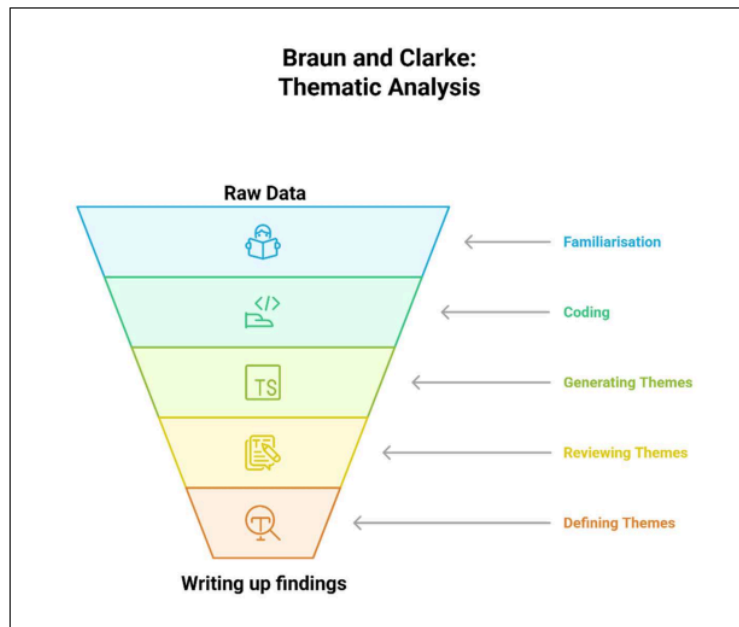


Figure 3.6: Braun and Clarke's Thematic Analysis Model

Source: Canva (2025) [online].

3.9.1 Reflexive Thematic Analysis

Reflexive Thematic Analysis (RTA) is a widely utilised method for identifying, analysing, and interpreting patterns of meaning within qualitative data, with Braun and Clarke (2021) identifying that it is particularly well-suited to action research due to its flexibility and accessibility. Action research, which seeks to generate practical knowledge through iterative cycles of planning, acting, observing, and reflecting, often involves the collection of rich, context-specific data from participants actively engaged in change processes (Kemmis et al., 2014). RTA enables researchers to systematically examine participants' experiences, perspectives, and interpretations, aligning with the democratic and participatory ethos of action research. Moreover, its capacity to work within a range of epistemological positions

allows it to complement the reflexive, interpretivist stance (Nowell et al., 2017), typically adopted in action research settings. By facilitating a transparent and rigorous process of coding and theme development, RTA supports both the interpretive depth and practical relevance required for action-oriented enquiry.

Braun and Clarke's (2021) six-phase RTA framework includes familiarisation with the data, coding, theme development, reviewing themes, defining and naming themes, and producing the report. This structured yet adaptable process allows researchers to conduct rigorous and transparent qualitative analysis across a range of epistemological positions. Its accessibility and clarity have made it one of the most widely used methods in psychology and the social sciences (Nowell et al., 2017).

Piece of data	Code	Sub-theme	Theme
Mr. O'Donnell hesitating when asking questions	HQ	Expression of Questions	Question Distribution
Mr. O'Donnell not thinking questions through before asking them	NTT	Expression of Questions	Question Distribution
Mr. O'Donnell asking questions that are too long	ALQ	Expression of Questions	Question Distribution

Figure 3.7: A snapshot table of the data analysis process

Source: O'Donnell, C. (2025).

My engagement with the analysis process can be seen in the sample (see *Figure 3.7*) above. First, data from the sources of pupil reflective journals and the pupil surveys were reviewed. From the children's input, the features of 'Hesitating,' 'Not thinking questions through' and 'Asking questions that are too long' were commonly noted about my verbal expression of questions. From here, those terms were allocated codes of 'HQ,' 'NTT,' and 'ALQ,' before I compiled the codes together as part of the sub-theme of Expression of Questions. The penultimate step was gathering similar sub-themes together alongside Expression of Questions, under the

over-arching theme of Question Distribution. Finally, appropriate findings were written up and can be seen later in Chapter 4. In total, 97 codes, 19 sub-themes and eight themes were generated, before three findings could be identified and articulated. A more detailed sample of codes are available in the coding frame as part of Appendix V.

3.9.2 Triangulation of data

Triangulation (see *Figure 3.8*) in research involves using multiple data sources, methods, or theoretical perspectives to cross-check and validate findings, enhancing the reliability and depth of the research (Silverman, 2016; Cohen, et al., 2018; Denzin & Lincoln, 2018). In educational action research, it helps provide a more comprehensive understanding of the research problem (Bassey, 1998) by confirming results across different methods and perspectives. Educational settings are often multifaceted (Hargreaves, 2005), with complex interactions among pupils, teachers, curricula, and broader social and cultural factors. Triangulation allows researchers to explore these complexities from multiple angles.

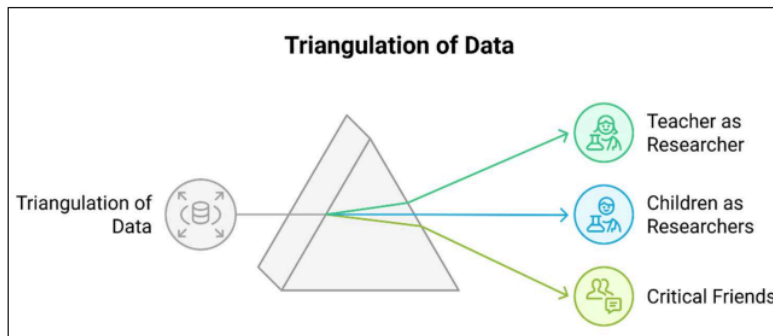


Figure 3.8: The data triangulation process

Source: Canva (2025) [online].

I completed methodological triangulation of the data by comparing findings from all of my data collection methods. I examined the data from three different perspectives: myself as the researcher in extracts from my reflective journal and observation notes, the children from content analysis of their work, reflective journals and surveys and critical friends from the critical friend observation template sheets.

3.10 Chapter summary

Given that action research is akin to changing a tire while the car is in motion (Denzin & Lincoln, 2018), it requires a range of elements throughout its approach, which have been outlined above. This chapter outlined the justification for self-study action research as my research methodology, along with the key objectives guiding the research process. The research framework I followed and the data cycles for the effective introduction of intervention strategies have been explained in detail. The data instruments I used and their implementation were outlined, as well as the rationale for the use of those specific methods. I then discussed some ethical considerations necessary for undertaking the process. Finally, the suitability for RTA as the data analysis framework and the use of triangulation alongside it, were discussed. Chapter 4 will now articulate the key findings of the importance of an accessible and inclusive classroom environment, effective questioning practices for teaching and learning, and questioning strategies to support equity in the classroom, that developed through the use of the chosen research methodology and analysis techniques.

Chapter 4: Findings and Discussion

“How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

4.1 Introduction

This chapter outlines and analyses the data collected over the course of my self-study action research project, aiming to break down the three key findings that have emerged as a result of it. In a bid to compile and evaluate the data collected during this project, entries from the reflective journals of the pupils, as co-researchers, will be engaged with, as well as pupil survey data, content analysis data, critical friend survey data, the relevant literature and my own reflective journal content. Finally, explicit reference will be made to the project's primary objectives, which were to:

- ✓ Ensure that I am sharing the distribution of questions around my classroom,
- ✓ Appropriately challenge pupils with the level of each of my questions,
- ✓ Develop new, practical questioning strategies as part of enhancing my questioning practice.

An underpinning feature of this chapter is an explication of the core values anchoring this self-study action research project, namely fairness, equity, inclusivity and feeling valued

4.2 Findings

Upon thorough analysis of the data collected during the research, the following three key findings developed:

1. The importance of an accessible and inclusive classroom environment
2. Effective questioning practices for teaching and learning
3. Questioning strategies to support equity in the classroom

These principal findings, as well as their relevant sub-findings, will be explored in greater detail below.

Finding	Sub-findings
1. The importance of an accessible and inclusive classroom environment	<ul style="list-style-type: none"> ✓ Table arrangements ✓ Position and orientation of children in relation to their teacher ✓ Self-consciousness and anonymity ✓ Learning from peers' answers
2. Effective questioning practices for teaching and learning	<ul style="list-style-type: none"> ✓ Teacher delivery of questions ✓ Time for brainstorming and thought ✓ Barriers to effective questioning ✓ Varying question types and fostering debate
3. Questioning strategies to support equity in the classroom	<ul style="list-style-type: none"> ✓ Sharing question distribution ✓ Appropriately challenging pupils through differentiation of questions ✓ Development of practical strategies

Table 4.1: An overview table of the findings and sub-findings

Source: O'Donnell, C. (2025).

4.3 Key finding one: the importance of an accessible and inclusive classroom environment

Through data triangulation, it became clear that both the physical and cultural classroom environments played a fundamental role in the pupils' engagement with questioning in the classroom. My early observation was that "study of my classroom, how I lay it out and how the children feel in it, will need more work," (O'Donnell, 'Reflective Journal,' 25th September 2024). Unbeknownst to myself at the time, this echoed the sentiments of theorists such as Bruner (1996) and Rogoff (2003), who say that the physical structure of a classroom has implications on interactions, scaffolding learning and shared enquiry. The physical classroom environment can be defined as the space, primarily indoors, in which the majority of the school day's lessons take place (Tanner, 2000; Lippman, 2010; Barrett, et al., 2013). The cultural classroom environment is an inclusive learning space that reflects and respects the diversity of its pupil body (Vygotsky, 1978; Gay, 2010). As the project developed, a distinct

difference between the physical and cultural classroom environments and their unique effect on questions, emerged. The findings of this project in relation to these aspects will be explored through the effects of *Table Arrangements*, the position and orientation of pupils, anonymity and pupils learning from each other.

4.3.1 Table Arrangements

Positive findings were identified by using different *Table Arrangements* and their contribution to conversations, brainstorming effectiveness and debates. Despite the pupils' views on our usual classroom layout of five, grouped tables being largely positive regarding general questioning (see *Figure 4.2*), interesting observations can be drawn from trialling the use of one large, rectangular group (see *Figure 4.3*), with an empty space in the centre, as well as the pupils' suggestion of two long groups (see *Figure 4.4*) containing ten to 12 pupils in each.

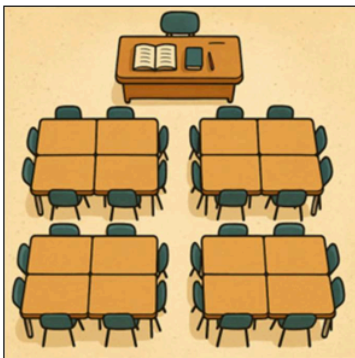


Figure 4.2: Our normal groups
Source: Canva (2025) [online]

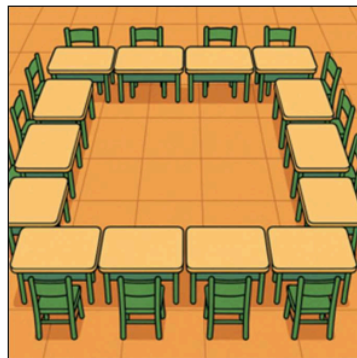


Figure 4.3: Rectangular table
Source: Canva (2025) [online].

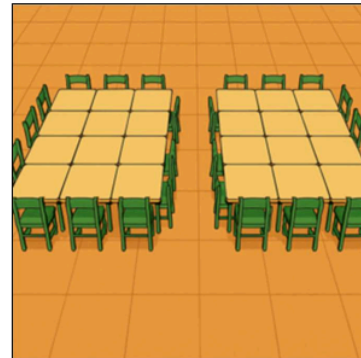


Figure 4.4: Two long groups
Source: Canva (2025) [online].

The main shortfall in the use of one large group was a reluctance among some pupils to contribute to discussions. Wilkinson and Brooks (1991) note that despite many children disliking speaking in front of larger groups, a lack of understanding of the content at hand is not regularly the dominating factor. Pupils such as Meadhbh shared this sentiment, stating “I feel less comfortable in big groups. I prefer smaller groups” (Meadhbh, 6th March, 2025). However, despite this trend, a number of pupils noted that they enjoyed the large group’s non-confrontational manner during

brainstorms. "I was not looking directly at someone across the table from me" (Mark, 5th March 2025). Being limited to one pupil on either side of them also encouraged pupils who identified themselves as being less willing to contribute to brainstorming, to speak up in pair or trio work, when compared to their normal seating groups. This was the case for six of the eight pupils who identified themselves in the "I do not like putting up my hand" category. One such pupil was Olivia, who reflected "I don't like speaking in front of the class... James spoke for our group but it was basically my answer" (Olivia, 5th March 2025).

When placed in two groups, brainstorming and debate opportunities became plentiful during the talk and discussion period of lessons. Transitioning away from seats in rows, or tables of two pupils facing forward has enabled classrooms to move gradually away from a teacher-led environment regarding instruction (Marzano & Marzano, 2013; Emmer & Evertson, 2016), paving the way for more enquiry-based learning. Pupils like Beth thrived in a debate-based environment, enjoying its confrontational manner: "I had more people to talk to and argue with. We ended up with a better answer" (Beth, 5th March 2025). Michael John noted that there is safety in numbers, leading to the effective distillation of information:

"I felt more comfortable in the two big groups because I got to brainstorm with so many people, so I knew at least a few people agreed with my answer before I put up my hand" (Michael John, 5th March 2025).

Despite effective classroom management techniques emerging as crucial for this arrangement to work, the benefits were clear. Overall, different *Table Arrangements* impacted pupils' comfort and participation in discussions, with smaller groupings encouraging reluctant speakers and larger or dual-group formats enhancing brainstorming, debate, and collaborative learning.

4.3.2 Position and orientation of children in relation to their teacher

The orientation and seating positions of pupils in relation to me while teacher questions were posed during talk and discussion revealed implications for pupil contribution levels during conversations. Both Oliver & Reschly (2007) and Wannarka & Ruhl (2008) posit that, in short, pupils who face the questioner, usually the teacher, raise their hand more and are more likely to answer questions, while Hastings and Schweiso (1995) add to this by highlighting pupils spatial orientation to their teacher influence their feeling of inclusion in conversations and thus, willingness

to contribute. Although this same conclusion can be drawn from the mapping tally data collection method (see *Figure 4.5*) for our usual grouped tables, there were contrasting results whilst trialling two long groups (see *Figure 4.6*).

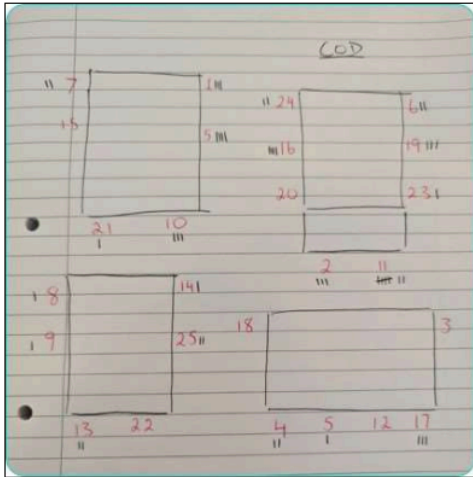


Figure 4.5: Question mapping of usual *Table Arrangements* throughout an SESE and Maths lesson

Source: O'Donnell, C. (2025).

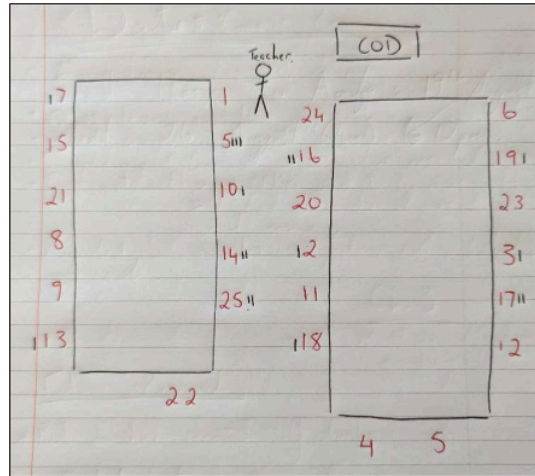


Figure 4.6: Question mapping of two long groups throughout one SESE lesson

Source: O'Donnell, C. (2025).

Throughout two Social, Environmental and Science Education (SESE) lessons on reducing, reusing and recycling, where talk and discussion were used at both the beginning and end of each lesson, a finding of note was that answers from pupils not facing the teacher were higher than those who were, during both lessons. Upon reflection, nine children noted that they enjoyed the non-confrontational element of not looking at the questioner. Vincent noted that “It was nice to put up my hand to answer when Mr. O’Donnell wasn’t looking, because I could always put it down before he turned around if I wanted” (Vincent, 5th March 2025). This accidental creation of a safe questioning space resonates with Wells (1999), Mercer and Littleton (2007) and Alexander (2008a), who all state that a safe classroom space often develops organically, as opposed to being a deliberate structure.

One of the earliest observations made by the children in their reflective journals was that I picked a disproportionately large number of children who sit closest to my desk for answers when asking questions during lessons, especially higher-order and clarification ones. I have potentially been asking those nearest to me

due to an eagerness to move the lesson on (Woolner, 2010), being able to make more convenient eye contact with pupils closest to me (Zheng & Zhang, 2023) or simply because my seat was facing in their direction as I asked questions (Hastings & Schweiso, 1995), all of which I have since noted during reflections. Although I held the original belief that “I only give quick jobs or ask for favours of the pupils closest to me, but they don’t dominate classroom conversations” (O’Donnell, ‘Reflective Journal,’ 12th November 2024), the input of the pupils encouraged me to explore this area further. These sentiments aligned with those of my critical friend, Megan (Megan, ‘Critical Friend Feedback,’ 19th December, 2024), but the data proved otherwise. During the question mapping (see *Figure 4.7*) that I carried out for two hours, during Maths and Gaeilge lessons where I taught from my desk, 22 out of 51 (more than 40%) of the questions asked of the class were answered by children seated at the table closest to me. The tallied questions were lower-order, higher-order and follow-up or clarification in nature, as opposed to asking children to do jobs or tasks. Similar results could be found during the children’s time tallying their own question answering. This revealed an unconscious bias of mine, mirrored by the findings of relevant literature.

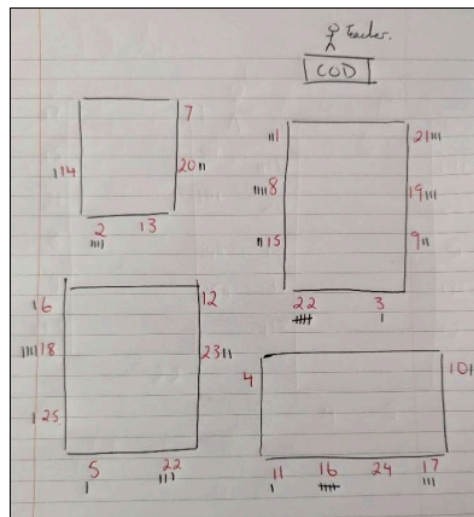


Figure 4.7: Question mapping during Maths and Gaeilge lessons, noting the frequency of answers from children seated nearest to where I taught from

Source: O’Donnell, C. (2025).

4.3.3 Self-consciousness and anonymity

An important finding, contrasting with my usual questioning style, was that children enjoy anonymity when answering higher-order and problem-solving questions. Using anonymity when asking and answering more complex questions alleviates pupil fears around giving incorrect answers (Boscardin & Penuel, 2012), potential embarrassment and judgement (Barr, 2017) and impacts on their teacher's opinions of them (Sritrakarn, 2021). These theorists' works are reflected in my observation that these features are only exaggerated in the pupil body of this class, given their age and developmental stage:

“When the children have to give answers, especially opinion-based ones, they are eager to brainstorm with their peers first. I don't think this is always to get new ideas, I think it's to see if their ideas are 'safe' to say in front of a group, given that many of them are self-conscious” (O'Donnell, 'Reflective Journal,' 10th February 2025).

Despite the majority of children's feelings on general classroom questioning being positive, with 80% of children marking that they thought classroom questioning was either 'ok' or 'liking' them (see *Figure 4.8*), the use of more anonymity in asking and answering questions was a strategy that proved effective during the project.

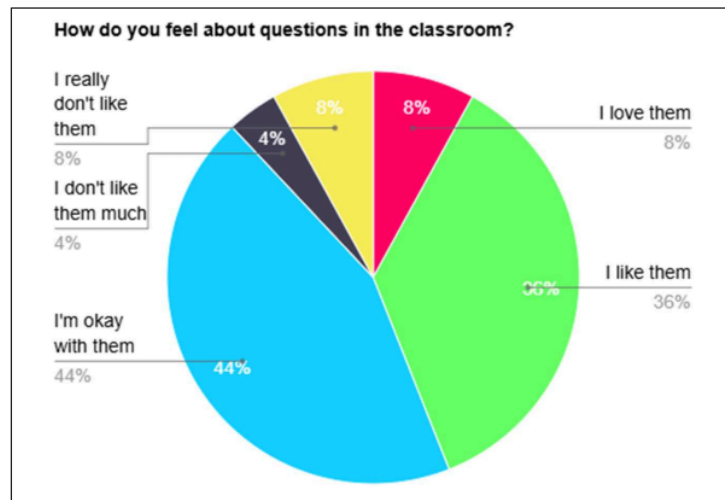


Figure 4.8: A pie chart depicting the children's feelings about questions

Source: Pie chart maker (2025) [online].

Exit Post-it's in particular aided anonymity in asking questions, with Valentine noting that they saved him from “having to put up my hand and ask a silly question” (Valentine, 21st March 2025), even though it was something that he needed clarification on. 77% of pupils answered “Yes” when asked if they were “Useful for asking questions,” (see *Figure 4.9*) while 17 of 25 pupils agreed that they liked that their question was answered (see *Figure 4.10*), without them having to ask it or identify themselves. Despite it being impractical to allow anonymously-answered questions to dominate classroom questioning (Barr, 2017), they present a useful opportunity to provide variety in questioning.

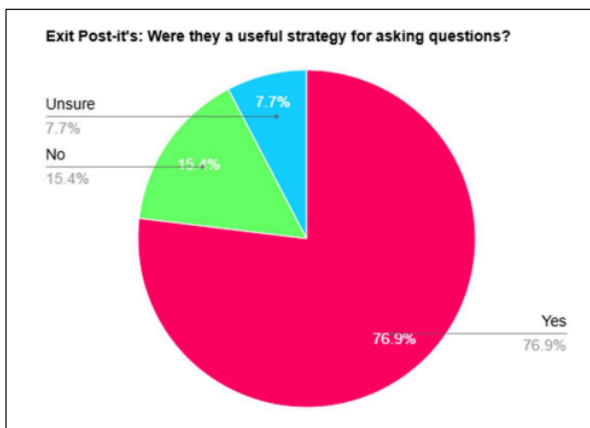


Figure 4.9: A pie chart depicting the children’s feelings on the usefulness of *Exit Post-it's*

Source: Pie chart maker (2025) [online].

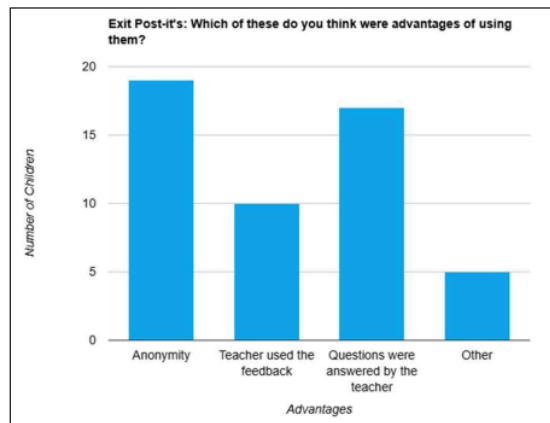


Figure 4.10: A bar chart illustrating the advantages of *Exit Post-it's*

Source: Pie chart maker (2025) [online].

4.3.4 Learning from peers’ answers

Although I was somewhat aware of the impact of children peer-teaching each other, this research project revealed the degree to which children’s answers to more complex problem-solving questions can be a form of peer-teaching. Peer teaching through talk and discussion, brainstorming and questioning each other enables voices other than the teacher’s to be valued during classroom discourse (Liu & Carless, 2006; Mercer & Littleton, 2007). This statement emerged as the case in my class, despite my naivety; “In my ignorance, I assumed that when I asked a tough question, whether a pupil gave a correct answer or not, that ultimately, the other pupils in the

class were learning from me and the question I had posed” (O'Donnell, 'Reflective Journal,' 17th January 2025). As important a theme as my planning of appropriate questions for the children is, their answers are inherently more important. The children were acutely aware of this. Seven of 25 pupils identified learning from their peers' answers as an important aspect of what 'good questioning' was. A view from one pupil in particular, Meadhbh, reflects this sentiment. She reflected that:

“A good question is where only a few people know the answer to it so loads of people in the class can learn. There's no point asking a question that everyone knows the answer to” (Meadhbh, 16th January 2025).

This eagerness to learn from their peers and valuing their ideas was a concept that I completely underestimated prior to the commencement of this project. A strategy that aligned with this view were debate-based ones, namely *Pose, Pause, Pounce, Bounce (PPPB)* and “*If this is the answer, what's the question?*” (*ITITA*) where differing answers could be fielded to the class.

4.4 Key finding two: effective questioning practices for teaching and learning

A number of relevant features of effective questions developed in the data. Effective classroom questioning is a deliberate strategy to stimulate thinking, assess understanding, and support learning, aligning with the curriculum's aim to “enable children to think critically, solve problems and develop informed opinions” (NCCA, 1999, p. 16), and is most impactful when used formatively to guide teaching and promote pupil voice in line with current guidance on inclusive and child-centred practice (NCCA, 2017; DES, 2023). The sub-findings of effective questioning practices were found to be the teacher's delivery of questions, time for brainstorming, the acknowledgment of barriers to questioning and adding variety to questioning difficulty and strategies. Each is expanded upon below.

4.4.1 Teacher delivery of questions

One strong sub-finding that developed from the research project, through mainly pupil surveys and research journals, was that my delivery of questions, especially higher-order ones that required prompting, was poor, with planning, oral delivery of questions and clarifying being the main components. Literature from William (2011) and later, Cameron (2012) found that the majority of teachers casually

plan for classroom questioning, which can result in poor delivery and use of questions. Early in the research project, John and Sally both noted in their research journals that “Mr. O'Donnell rushes long questions” (John and Sally, 17th January 2025), with the latter adding that she thought that “Mr. O'Donnell doesn't always think through hard questions before he says them, and then he has to go back and explain them” (Sally, 17th January 2025). This was reinforced by my acknowledgement that “I get lost in the flow of a lesson and often think aloud whilst simultaneously posing complex questions aloud” (O'Donnell, 'Reflective Journal,' 19th February 2025), not giving myself silent thinking time.

Despite giving more explicit planning time to higher-order questions throughout the project and feeling that “my oral expression of questions has improved in line with the conscious choice to pause for thought” (O'Donnell, 'Reflective Journal,' 11th March 2025), 32% of the children in the class still regarded my delivery of tougher questions to be 'poor,' in a final survey.

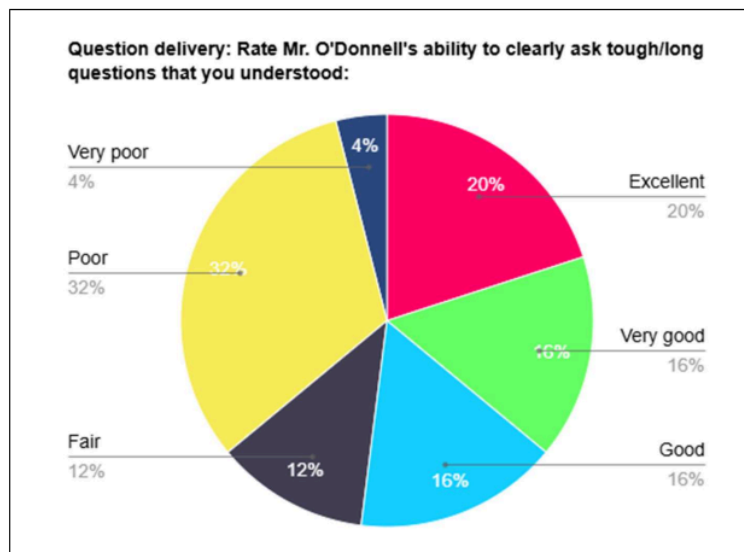


Figure 4.11: A post-intervention pie chart depicting the children’s feelings on my ability to ask longer questions

Source: Pie chart maker (2025) [online].

However, a noted improvement in my questioning was that I began to make clarifications to questions, a key concept in teacher questioning, according to Flutter & Ruddock (2004). To this end, Noel noted that my questions in Gaeilge had improved as “sometimes Mr. O'Donnell picks out the key words and explains them to us after he asks a question” (Noel, 22nd March 2025). Nine pupils noted in their reflective journals that they liked how I began to explain or clarify parts of higher-order questions, after asking for understanding of the original question, with six others feeling benefit from questions being posed on the board in written form, particularly during *ITITA*. This development of my ability to express and clarify questions offers future hope in my teaching in this regard.

4.4.2 Time for brainstorming and thought

Positive attitudes towards brainstorming emerged as a common finding amongst the class. Although both Megan and I recognise the advantages of brainstorms, such as building confidence and motivation (Wright, 2011), promoting oral language skills (Williams, 2014) and encouraging collaborative learning (Topping, 2015) we both held reservations, giving that they often rely on well-structured classroom management routines and accurate timing estimations.

However, pupil sentiment towards them contrasted completely with our thoughts. Higher-order and debate-based questions occurred regularly during *ITITA* and the two variants of *Table Arrangements*. During these times, 32% (eight of 25) pupils noted, unprompted, that brainstorming helped them in answering questions that required longer answers, as it enabled them to gather opinions from those around them, identify the most relevant answers, or combine answers. During a follow-up survey, pupils did acknowledge that some unproductive talk occurs during brainstorming time, but this was usually managed by a defined and clearly stated amount of brainstorming time for each question. Research from Mercer & Lyn (2008) aligns with my finding that providing clear structures and expectations are embedded into the classroom culture, the potential increased use of brainstorming opportunities presents positive grounds for further exploration.

4.4.3 Barriers to effective questions

Aligning with relevant literature, two potential barriers to effective questioning in primary school classrooms developed, namely time (Cameron, 2012; Williams, 2014) and allowing the discussion direction to deviate from the intended direction (William, 2011; Barr, 2017), both of which will be discussed below.

(Nollmeyer, et al., 2017) detail a lack of time for effective classroom discussion periods as a barrier to questioning, mirroring the sentiment of Sadhbh, who noted that she “sometimes (has) a really good answer but I don’t get my turn, because Mr. O’Donnell takes the first answer he gets” (Sadhbh, 16th January 2025). In reality, this selective ignoring of some pupils’ raised hands, or accepting the first answer deemed to be correct, is a necessary evil to move the discussion onwards (Mercer & Littleton, 2007; Cameron, 2012). It is clear that striking a balance between valuing and varying pupil contributions, and maintaining lesson progression, is crucial during questioning.

Allowing conversations to travel in a tangential direction to their intended one also hampers questioning. On one hand, topics require thorough exploration during classroom conversations (Dillon, 1983; Cotton, 1988; McElvain & Smith, 2016), even if that exploration deviates. On the other hand, pupils like Thomas state they dislike questions where “Mr. O’Donnell or someone goes on a big rant about an answer to (it)” (Thomas, 16th January 2025). This has been a common theme in my own reflections, where I am between two stools on the matter:

“I have begun to plan higher-order questions to keep myself on track. Often, it is best to stick to them and keep the lesson flow on track, but sometimes conversations take on a life of their own, and the odd time, that can be worthwhile” (O’Donnell, ‘Reflective Journal,’ 3rd March 2025).

Leaving the striking of the balance to individual teachers is ultimately the sole solution to this dilemma, with the direction of classroom discussions being to their discretion.

4.4.4 Varying question types and fostering debate

Variety also emerged as an important feature of stimulating conversation and productive questioning during this project. Both the Professional Development Service for Teachers (PDST) (2020) and NCCA (2015) advise the use of a number of questioning strategies in a primary school setting, to foster an inclusive environment,

create unpredictability in questioning and to foster debate. This mirrored the feelings of the children, with 18 of 23 children showing a preference for a combination of the trialled strategies during a lesson, compared to just one, when asked to reflect on two SESE lessons of each type. Mark summed up this reasoning for his preference well, writing that “there are different types of answers, so Mr. O'Donnell used different types of questions” (Mark, 30th January 2025). My own reflections have identified that a combination of strategies should be limited to two at most and were most productive when they were used at different stages of lessons, as opposed to mixing and matching during a five-minute period.

An important feature of varying questioning types was the fostering of debate-based questions. Although literature on the area of being “a little bit correct” (O'Donnell, 'Reflective Journal,' 12th February 2025) is sparse, this concept is supported by Baines, et al. (2023), who promote the use of debate-based questioning strategies, as they encourage unwilling children to participate due to the safety net of regularly feeling some degree of correctness in their answers. When asked which type of questions they prefer answering the most, the majority of children (see *Figure 4.12*) not only stated that they learned the most from debate-based questions, but that they preferred them the most because there was always a chance that even if their answer wasn't the best one, there was always potential for their answer to hold similar components to the best one.

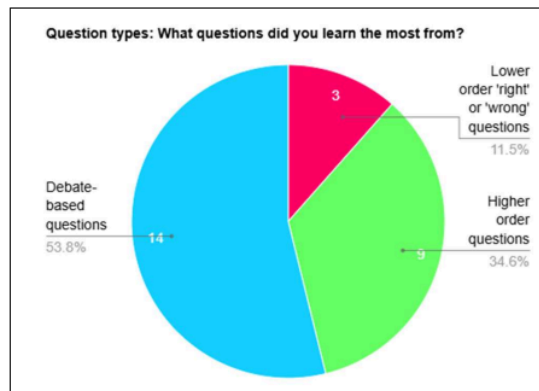


Figure 4.12: A pie chart of the questions that the children learn the most from

Source: Pie chart maker (2025) [online].

This is summed up best by Meadhbh, writing that she enjoys debate-based questions during *PPPB* because “even if I got it wrong, but the right answer was a little bit like mine, I was technically still kind of right” (Meadhbh, 30th January 2025). Contradicting my initial assumption that children viewed their answers as right or wrong, this interesting finding makes a strong case for the inclusion of more debate in classroom discussions.

4.5 Key finding three: questioning strategies to support equity in the classroom

Identifying findings that align with the research objectives of this project was crucial to ensure that the evidence collected directly addresses the research question at hand. This addressing of the research question enables the establishment of valid, reliable conclusions, as well as identifying a focus for the study (Cresswell & Cresswell, 2018). For each sub-finding, the two most effective questioning strategies aligning with that objective will be discussed. These objectives underpin an equitable approach to teaching and learning, and were the sharing of question distribution, appropriately challenging pupils and developing practical questioning strategies.

4.5.1 Sharing question distribution

Although *Exit Post-it's* and cold calling during *PPPB* equitably distributed questioning to a certain extent, providing *Wait Time* and allowing opportunities for brainstorming in *Table Arrangements* were most productive in this regard. A fundamental feature of making classroom questioning equitable is maximising opportunities for children to answer questions and distributing them equitably. Increasing equity in questioning distribution has implications for classroom inclusivity, higher-order thinking and pupil engagement (Alexander, 2006; Tomlinson & Tomlinson, 2019), making it a necessity in any teacher's questioning toolkit.

Wait Time appeared to be the most effective measure for encouraging pupil-led equity in the distribution of questions in the class. While the downsides of *Wait Time* have been mentioned earlier in this section, both with the PDST (2020) and Tait (2024) posit that *Wait Time* increases pupil participation and enhances pupil responses. Four pupils of note; Noel, Chloe, John and Ailbhe, who anecdotally, do not commonly volunteer to answer questions, and who answered fewer questions than the class average during question mapping, stood out during lessons involving *Wait Time*.

Not only were these pupils raising their hand more confidently answering questions, but they reflected similar feelings after *Wait Time* lessons. John stated that “when we used *Wait Time*, I felt calm and had more time to think of a good answer” (John, 23rd January 2025), while Ailbhe noted that “people like me who need more time to get an answer got a chance” (Ailbhe, 23rd January 2025). These findings make *Wait Time* a practical, equitable and easily-implemented questioning strategy.

Experimentation with *Table Arrangements* had an interesting impact on the equitable maximisation of responses from children, namely through brainstorming. Brainstorming fosters critical thinking, turn-taking and disseminating information into its most valuable parts (Corbett, 2011; Villavicencio, 2011; Tooze, 2018), fostering debate and the determining of important information.

However, what is not a common theme in the relevant literature but one that developed in this study is that brainstorming in small groups gives children who are reluctant to contribute to classroom conversation, an opportunity to contribute to answers given in class. After an SESE lesson when the children were grouped in threes whilst seated in a large rectangle, Chloe reflected that “there was a bit of my answer in the answer my group gave, but I didn’t have to speak” (Chloe, 5th March 2025). Valentine went one step further: “I gave my group the answer but Annmarie spoke for us” (Valentine, 5th March 2025). However, there were varying results when the children were seated in two large groups, with a number of pupils noting that they felt they did not have a chance to contribute to the conversation. This is reflected in research from Webb (2009) and Kutnick and Blatchford (2014), stating that group work should be limited from three to five pupils per group.

4.5.2 Appropriately challenging pupils through differentiation of questions

Exit Post-it's and *PPPB*, for differing reasons, were established as the most effective questioning strategies when differentiating questions during data analysis. Differentiating questions for children appropriately challenges them at various cognitive levels, accommodates varying levels of prior knowledge on topics and increases pupil participation (Marzano & Pickering, 2007; Webb, 2009), meaning that any framework to accommodate this is much-needed for both teacher and pupils.

Exit Post-it's turned the typical classroom questioning model of teacher to pupil on its head, with children generating their own questions on topics. Given that

the scope for questions generated by *Exit Post-it's* is wide (Marshall, 2018; Basco, 2021; Jones, 2021), pupils were enabled to ask questions revising the content covered during the lesson that day, or to generate prompt questions of curiosity about other elements of the topic that I had not covered. Vera noted that a positive of *Exit Post-it's* were that "we can ask any question we want" (Vera, 21st March 2025). Many of these questions created a stimulus for the following lesson which was beneficial. I noted this following a financial Maths lesson:

"The children's questions have given me a clear direction for where the next lesson has to go. I can't move on from here with the number of children that are concerned and unsure about how to find the percentage loss on a product. This needs revision" (O'Donnell, 'Reflective Journal,' 20th March 2025).

However, it should be noted that the differentiation of questions generated by children required significant amounts of intrinsic motivation, allowing between four and eight children per lesson using *Exit Post-it's* to check out while they should have been writing questions, as their post-it notes were returned blank. Despite this, the benefits of pupil-directed learning outweighs the drawbacks.

ITITA proved to very effectively differentiate the challenging of pupils with questions. An interesting feature of *ITITA* is that it draws pupils into the conversation (Marzano & Pickering, 2007, Berkowitz, 2015), because when one or two words are presented to a child as an answer, they can generate any number of questions that could match it. A notable statistic was that of the five *ITITA* answers put on the whiteboard at the beginning of an SESE lesson:

"The following number of hands were raised: eight, ten, ten, eleven, thirteen. Although these questions ranged between revision and unfamiliar terms, those numbers of hands are higher than the class average when I simply pose questions as normal" (O'Donnell, 'Reflective Journal,' 10th February 2025).

The license given to the children to generate their own questions, where they can all potentially be correct, is an undeniable strength of *ITITA's* differentiation qualities.

4.5.3 Development of practical strategies

Given that research was carried out on the practicality of the strategies implemented during this research project, it should be acknowledges that all five of the strategies were effective in this regard. However, the two most practical, which developed from data analysis, were *Wait Time* and *PPPB*. Questioning "must be purposeful, with a

clear goal of determining student understanding, rather than simply engaging in prolonged questioning" (NCCA, 2007b, p. 9). With this in mind, a practical strategy will be defined as one that is easy to implement by the teacher and comfortable to optimally engage with by pupils.

Wait Time required little explanation, occupied minimal classroom time and needed no change in classroom management techniques. Straightforward questioning strategies using a novel approach to a traditional hands-up method encourage participation and foster confidence in children (Cotton, 1986; Chin, 2006). "*Wait Time* took ten seconds per question. Simple" (O'Donnell, 'Reflective Journal,' 23rd January 2025). When multiplied by six or seven questions in the discussion period of a lesson, spending just over a minute on a differentiation tool seemed sensible. Although some pupils viewed the ten seconds of silence as slightly "awkward" (Maureen, 23rd January 2025), pupils' reflective observations on *Wait Time* noted that it was fair, gave time to think, allowed time for note-taking on mini whiteboards and gave a wider variety of pupils the opportunity to answer questions. Although teachers might misuse *Wait Time*, devoting it to lower, rather than higher-level questioning, when used properly, it is an extremely practical tool.

PPPB, once well-established, appropriately challenged the pupils. *PPPB* is a difficult strategy to implement at first, but once familiarity has been built with it, structures classroom debates well (Webb, 2009; Berkowitz, 2015). I experienced both sides of this research note, as my failure to correctly use *PPPB* at first led to me failing to appropriately differentiate for pupils. David noted about such questions that "Sometimes they are too easy and sometimes they are too hard. We learned about equity so that's probably what Mr. O'Donnell is trying to do, but I don't think mine were easy enough" (David, 27th January 2025).

However, when followed correctly, the four-step approach of posing, pausing, pouncing and bouncing questions enabled me to establish rules for debate discussions and distribute questions accordingly. Pupils ranked it as both the most enjoyable (see *Figure 4.13*) and most challenging questioning strategy to engage with (see *Figure 4.18*) when compared to other strategies.

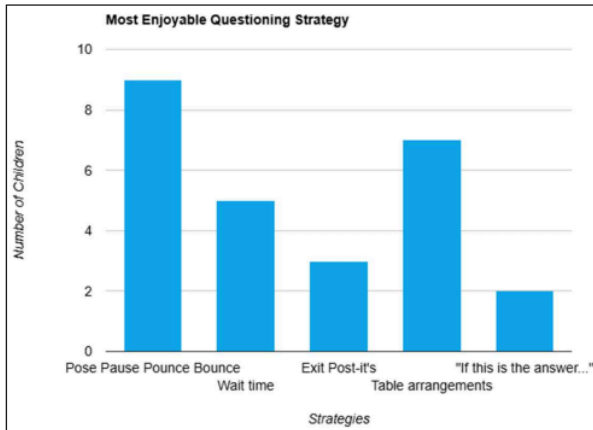


Figure 4.13: A bar chart depicting the most enjoyable questioning strategies

Source: Pie chart maker (2025) [online].



Figure 4.14: A bar chart depicting the most challenging questioning strategies

Source: Pie chart maker (2025) [online].

From gathering common trends in their reflective journals, a key element to their enjoying it seemed to be that they were given the opportunity to hear opinions and thoughts of a number of other pupils in the class, fostering child-centred discourse. Despite early mistakes in the use of *PPPB*, it established itself as an extremely practical questioning tool, in particular for debate-based conversations.

4.6 Chapter summary

Chapter 4 presents the key findings of a self-study action research project exploring how equitable teacher questioning can enhance classroom discussion in a primary school setting. Three central findings developed: the importance of an accessible and inclusive classroom environment, effective questioning practices for teaching and learning, and questioning strategies to support equity in the classroom. The physical layout, pupil orientation, and use of anonymity were shown to impact participation, while deliberate question delivery, *Wait Time*, and varied question types supported deeper thinking and inclusivity. Finally, practical strategies such as *Wait Time*, *PPPB*, *Exit Post-its*, and *ITITA* were found to effectively promote equity and cognitive challenge. Chapter 5 will now draw conclusions from these findings and present recommendations for future practice.

Chapter 5: Conclusion and Recommendations

“How can I, as a primary school teacher, make use of more equitable teacher questioning as a tool for effective discussion in my classroom?”

5.1 Introduction

This chapter brings together the key learnings and outcomes from the research process, offering a critical reflection on its journey and providing practical suggestions for future practice and study. Grounded in the initial review of literature, which highlighted both the importance and complexity of teacher questioning, this research aims to explore and enhance classroom questioning strategies through a self-study action research framework. This chapter presents a summary of the research, discuss its limitations and outcomes, and offers concrete recommendations for educators, before concluding with suggestions for future research and final reflections.

5.2 Research summary

The research process for this action research project was comprised of a literature review, qualitative data collection and identification of findings through the use of TA.

The comprehensive examination of literature based on both action research and questioning equipped me with the necessary knowledge and skills to undertake this research. The literature review focused primarily on the themes of the foundation of teacher questioning, question types and techniques, the impact of questioning on pupil learning and challenges and influences on questioning. Prominent theorists arose, including those focusing on the wider concepts of equity, fairness and inclusivity such as Hargreaves (2005), Paul & Elder (2006) and Noddings (2012), as well as the more focused concept of classroom questioning, such as Hadfield (1992), Mercer (2006), and Chin (2007). While engaging with the literature, gaps appeared,

with the most notable being the lack of inclusivity in questioning for a diverse pupil body.

Self-study action research was chosen as a suitable methodology, as it enabled me to autonomously conduct my research within the day-to-day life of my work environment, whilst simultaneously examining and critically reflecting upon my practice with a view to improving it. Throughout the process, I was also able to position my values centrally within it. During the intervention itself, strategies used were *Wait Time*, *Exit Post-it's*, *ITITA*, *PPPB*, *Lesson Plan Question Cards* and *Table Arrangement* alterations. Data was collected and distilled through the use of Braun and Clarke's (2021) RTA framework. Three central findings developed, which were:

1. The importance of an accessible and inclusive classroom environment
2. Effective questioning practices for teaching and learning
3. Questioning strategies to support equity in the classroom

From these, a living theory was established, aligning with Whitehead (2009), acknowledging that classroom questioning is a necessity to enhance teaching and learning, requiring the development and implementation of effective questioning strategies.

5.3 Limitations to the study

This study had some limitations, namely pupil inexperience with reflective practice and time constraints, and the subjective nature and bias of qualitative research.

Firstly, my underestimation of the amount of time devoted to the teaching of reflective practice to the children, hindered this study. Young teenagers require significant amounts of scaffolding and explicit teaching to effectively journal reflectively (Dyment & O'Connell, 2010), a realisation that I came to following the commencement of data collection. Devoting three lessons to the teaching of reflective journaling, although worthwhile in the longer term, stunted the depth of the strategies explored during the intervention, with one other questioning strategy that had been planned, being cut from the intervention stage. Moreover, the overall ten-week period

for data collection brought with it significant time constraints. A longer period of time for data collection would have provided opportunities for a wider range of questioning strategies to be explored at a deeper level, as I was forced to make conscious choices as to importance of some strategies over others.

Secondly, the inherently interpretive nature of qualitative research brings with it the potential for subjectivity and bias in both data collection and analysis. As the sole researcher and class teacher, my dual role introduced an unavoidable level of influence over the classroom environment, pupil responses, and the interpretation of emerging themes and subsequent findings. While every effort was made to maintain reflexivity and transparency, including the use of journaling and triangulation of data, the potential for researcher bias cannot be fully eliminated. As Braun and Clarke (2013) point out, qualitative analysis is always shaped by the researcher's theoretical positioning and personal lens, which inevitably frames how data are understood and reported. This subjectivity, while a strength in terms of offering depth and contextual insight, also presents a limitation in terms of objectivity and the replicability of findings.

5.4 Recommendations

Following the conclusion of this research project and the analysis of its findings, a number of recommendations can be made, primarily in the areas of practice, policy and further research.

5.4.1 Practice

Given that this investigation aimed to aid primarily in the practical implementation of questioning strategies in the classroom, the majority of recommendations for this study will focus on this area. These include planning questions appropriately, properly using questioning strategies, providing children with ways to ask their own questions and encouraging any degree of correctness in children's answers.

Firstly, planning questions must be done. However, it must also be done efficiently. Spending 10 minutes of question planning for each lesson is impractical (Chin, 2007; Joseph, 2018) and, more importantly, unsustainable. Therefore, I suggest the targeting of key terms relevant to each topic, forming questions around these

terms. In addition to this, where possible, the use of curricular or relevant content teacher's books prove beneficial in providing pre-prepared questions for teachers. In strategically planning questions, ensure that they are differentiated. Teachers should, if possible, avoid randomly selecting pupils for questions, unless they can ensure that they are differentiating and providing *Wait Time*, or prompts, to assist them in answering.

Secondly, providing that effective planning methods are in place, the next connected piece of the questioning puzzle is delivery. A bank of questioning strategies is only useful if actually implemented. From experimenting with them, would be beneficial to have a list of potential questioning strategies as a permanent fixture on either a display poster in the class, or on the teacher's desk, as a prompt for use. Additionally, a clear identification of their contextual use, such as *PPPB*'s debate-based nature, is advisable. These simple classroom additions, particularly in the early stages of questioning implementation, provides both teachers and pupils with reminders as to the suitability of each strategy.

Thirdly, providing children with opportunities to critically analyse their own learning, generate questions based on it, and ask those questions in a variety of ways, rather than asking the class, "Does anyone have any questions?" would be of benefit to both teachers and pupils. An investigated strategy during this project was *Exit Post-it's*, which were a time-efficient, practical and implementable method of assessing children's learning, fostering the voice of the child and planning for future teaching and learning. Strategies like these also communicate to the pupils that their questions and voices matter in classroom discourse.

Finally, fostering a classroom culture when children are comfortable speaking out in front of their peers, making mistakes and trying again, is a fundamental feature of improving classroom questioning. This can be done by encouraging contributions to conversations and praising any element of correctness in answers, prompting pupils to build on them and showing them that their answer helped to progress the discussion at hand. Debate-based strategies are useful in this regard, as conflicting opinions on a topic will usually share some degree of similarity, meaning that pupils can see a part of their answer in the 'right' answer.

5.4.2 Policy

Given the existence of a gap between policy and practice in regard to questioning in classrooms discussed in Chapter 1, recommendations for practice cannot be made while ignoring the need for those in the context of policy, namely the re-framing of the importance of questioning in curricula, the provision of CPD explicitly for questioning and the support of schools in the development of equitable questioning practices.

Firstly, questioning should be given greater prominence in national curriculum policy, particularly through more explicit inclusion in curriculum documentation and teacher support materials. While the *Primary Language Curriculum* (NCCA, 2019) and subject guidelines reference questioning as a teaching tool, it is often integrated implicitly within broader learning outcomes. Clearer curriculum guidance on the types, purposes, and progression of questioning across class levels would support teachers in developing and applying a more structured approach. For example, open-ended, analytical questioning strategies may be more suited to upper primary, whereas simpler, recall-based questioning might be more appropriate in junior classes. Braun and Clarke (2013) argue that well-structured pedagogical frameworks help embed reflective and dialogic practice in schools, particularly when they align closely with curriculum goals. A revision of curriculum documents to include questioning exemplars and their developmental application would help teachers apply these strategies more consistently and confidently.

Secondly, to complement curricular improvements, a national policy focus on questioning should include dedicated PD opportunities. Questioning is a learned pedagogical skill, and without focused training, many teachers default to lower-order, rapid-fire questioning that limits pupil engagement and critical thinking (Walsh & Sattes, 2011). A policy-backed initiative to include questioning-specific modules within PDST offerings and the *Droichead* process would enhance both early-career and experienced teachers' ability to implement a range of questioning strategies. These PD sessions should explore the strategies implemented in this project, scaffolding, and the use of questioning prompts, with practical classroom applications tailored to subject and age level. Timperley et al. (2007) note that sustained, subject-specific professional learning has a measurable impact on student outcomes when aligned with classroom practice. National policy must therefore provide structured,

accessible PD in questioning techniques as part of Ireland's commitment to high-quality teaching and learning.

Finally, national policy should promote the equitable use of questioning in classrooms to ensure that all pupils have a fair opportunity to engage. Research shows that classroom questioning often unintentionally favours more confident or verbal students, leading to a cycle of participation that excludes others (Alexander, 2008a). Policies should encourage the use of inclusive questioning strategies as part of a universal design for learning (UDL) approach. Additionally, policy could recommend that schools include inclusive questioning techniques in their School Self-Evaluation (SSE) frameworks, promoting school-wide reflection on pupil voice and participation. Florian and Black-Hawkins (2011) argue that inclusive pedagogies are most successful when embedded in policy expectations, rather than left to individual teacher discretion. Embedding questioning within a broader inclusion agenda would ensure that no pupil is systematically overlooked in classroom discourse.

5.4.3 Research

During this action research project, certain restrictions hindered its potential, namely the amount of time available for its completion as well as its subject- and class-specificity. Despite this, findings such as those illustrating the potential that the experimentation of new questioning strategies has, present a number of further research opportunities that exist in a similar space, such as:

- ✓ Further investigations into the effectiveness of the experimented strategies at all primary school class levels, as well as the expansion of the number of researched strategies and their effectiveness
- ✓ Longitudinal research on teachers' attitudes towards, and comfort in using, a range of questioning strategies in their primary school classrooms
- ✓ Further research to identify a questioning toolkit that can effectively differentiate for a wide range of pupil developmental levels within primary school classes
- ✓ Six-month or yearly follow-up investigations to examine whether children who engaged with the research project are more willing to participate in classroom conversations as they transition through secondary school

- ✓ Longitudinal investigations into the influence of the physical classroom environment on questioning, discussions, debates and pupil voice in the classroom
- ✓ Further investigations into children's attitudes towards questions at all primary school age levels, given the varying levels of pupil self-consciousness and social awareness at different ages.

5.5 Contribution

This study makes a meaningful contribution to the field of primary education by offering a nuanced, practice-based exploration of equitable teacher questioning within the context of a Sixth-Class classroom. While questioning is widely acknowledged as a core pedagogical strategy, its equitable implementation, especially in relation to voice, distribution, and inclusion, remains under-theorised and under-explored in both Irish research and teacher education. In line with Whetten's (1989) framework on theoretical contribution, this research addresses the dimensions of *what* is important, *how* change can be enacted, and *why* this work matters. By engaging in a self-study action research approach and drawing from real classroom interventions, this study bridges the gap between theory and practice in a way that is both academically grounded and practically applicable.

5.5.1 What it contributes

This study contributes to the existing literature on primary education by identifying *what* matters in the effective and equitable use of questioning in classroom practice. Through a detailed exploration of questioning in a Sixth-Class setting, it offers new insight into the core elements that underpin equitable questioning, namely, relationality, pupil voice, equitable distribution and differentiation. Although previous research has examined questioning more broadly, such as that from Cotton (1988), Chin (2006) or Alexander (2008), there remains a noticeable gap in empirical studies that focus on the lived experience of questioning within primary schools. By highlighting specific factors such as the phrasing of questions, classroom layout, and the promotion of pupil comfort, this research presents a clearer understanding of the circumstances under which questioning supports inclusion and participation.

5.5.2 *How it contributes*

The study also offers a valuable methodological contribution by demonstrating *how* equitable questioning strategies may be implemented within a real-world classroom through practitioner-led enquiry. By employing a self-study action research approach (McNiff & Whitehead, 2011) alongside RTA (Braun & Clarke, 2021), the research documents the iterative design, application, and evaluation of the strategies of *Wait Time*, *Exit Post-it's*, *PPPB*, *ITITA*, *Table Arrangements*, and *Lesson Plan Question Cards*. Unlike more theoretical accounts of questioning, this study provides a practical approach for other educators seeking to improve classroom questioning. The reflective and participatory nature of action research ensured that changes were both responsive to context and critically examined.

5.5.3 *Why it contributes*

This study also addresses *why* questioning deserves focused attention in both pedagogical discourse and policy. In an educational landscape where inclusion, pupil voice, and differentiated learning are increasingly valued (DES, 2011; NCCA, 2023), this study illustrates how questioning can act as a meaningful tool for promoting equity. The findings show that without careful planning, questioning may unintentionally reinforce inequality, privileging confident pupils while silencing others. However, when applied strategically, questioning fosters engagement, autonomy, and critical thought across diverse groups of pupils. In this way, the study contributes not only practical insights but also a compelling rationale for prioritising equitable questioning in teacher education and curriculum development.

5.6 Final remarks

Prior to the commencement of this research, I was unsure as to the extent of the impact that this investigation would have on my professional practice. However, following the conclusion of this research, my understanding of a range of my professional facets has grown, namely reflective practice, valuing my pupils' voices, my questioning practices, the importance of a classroom environment and the embodiment of my values.

Firstly, my improved and more consistent engagement with reflective practice enabled me to critically analyse and alter how I taught.

“God forbid I have to look back on, never mind thinking critically, about my teaching,” (O'Donnell, 'Reflective Journal,' 13th September 2024).

This was an early remark of mine. I genuinely feared the prospect of having to break down my teaching into its various parts, picking apart and re-hashing scenarios, whether that be through the written or spoken work. However, through both structured, cyclical reflective practice such as Rolfe's (2001) Reflective Model, or simply through scribbling down my own thoughts and observations, I have fostered skills to understand my teaching, as well as how to observe and impact long-term improvement in my practice, offering hope for the future.

Secondly, I can acknowledge the value of pupils' voices, by having 25 co-researchers in my classroom, who are not simply vessels that I must teach. The children and I shared journeys in both engagement with reflective practice and the undertaking of a ten-week research project. "When children are treated as competent researchers rather than passive subjects, they can offer unique insights and actively shape the research process in ways that challenge adult assumptions" (Kellert, 2010, p. 198). Not only did the children provide observations, feedback and data for the research, but they were quite active in shaping the direction of the project as it moved through each cycle. Upon the conclusion of this project, I realise that the children in my care shape my teaching, just as much as I shape their learning.

Thirdly, the development of a practical questioning toolkit has, and will, continue to be a positive change for my practice. I look forward to continuing the transition away from the comfort of a hands-up or random-name questioning environment in my classroom, that does not cater for each pupil appropriately. This change has enabled me to share question distribution more equitably around the classroom, appropriately challenge pupils with questioning and make for a more dynamic and diverse classroom when it comes to questioning. In addition to this, I have engaged with techniques to increase pupil voice in my classroom regarding questioning, with pupils not only answering my questions, but challenging and assessing their own knowledge by generating their own.

Next, I have come to recognise the power that the environment has on the goings-on of the classroom. Regarding the physical state of the classroom, I have come to acknowledge the importance of arranging the classroom to generate conversation, foster debate and value the asking and answering of questions. By both consciously and unconsciously creating and caring for a safe classroom culture, a psychologically safe space for questioning and discussion can be fostered, leading to more productive, equitable and challenging learning for pupils in my care.

Finally, I believe that I have begun to transition away from existing as a living contradiction (Whitehead, 1989) in my professional life. Previously, I viewed myself as a fair teacher, who had created an equitable classroom culture that was inclusive and emphasised relationships in which children felt valued. In reality, I liked the sentiment, engaging with it with intermittently. I have been forced to forgo my predictable classroom routines, trust and value my pupils' voices and views more and be willing to accept my professional imperfections. These have been important parts of the transition away from my previous engagement with my values. Now, I view classroom questioning as an activity for all, in various ways, which can only be conducted effectively in a safe environment, where pupils feel that what they say and do matters, as part of a community.

As this action research project comes to a close, I feel energised and curious to learn more. Despite my investigation to this point bringing me closer to understanding the potential and necessity for effective questioning, I remain concerned about the use of questioning within a broader teaching and learning context. Research in the area in both Irish and international contexts is scarce and for the large part, more than 15 years old. In addition to this, a lack of studies in the discipline of questioning has resulted in it being perceived as an afterthought in modern curricula, especially in an Irish primary setting. The rollout of a set of new curricula is imminent and questioning's role within it, as well as the associated CPD, should be given an enhanced status. Given this, I finish this research project with hope, as opposed to expectation, regarding the degree to which importance will be placed on questioning in Irish primary schools in the future.

Fortunately, though, I have been challenged to question, evaluate and adjust my practice in the classroom in a diverse number of ways throughout the various

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stages of this process. By reflecting, I picked apart my teaching, before slowly piecing it back together. While researching alongside the children in my class, I have come to appreciate them more as co-constructors of learning. My horizons have been broadened by the expansion of my teaching toolkit, particularly in the area of questioning. Finally, I have been enabled to consider, identify, analyse and begin to embody my values of fairness, equity, inclusivity and feeling valued. I intend to continue this journey, leaving my persona as a 'living contradiction' firmly in the past. By placing the spotlight on a particular element of my teaching, I have realised that I have so much to learn. Questioning is one of many strategies in any teacher's toolkit, and I intend to continue to investigate other facets of my practice, in a bid to improve it gradually. I am curious to consider other aspects of the education process and look forward to uncovering further findings that will shape and enrich teaching and learning in my classroom.

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Appendices

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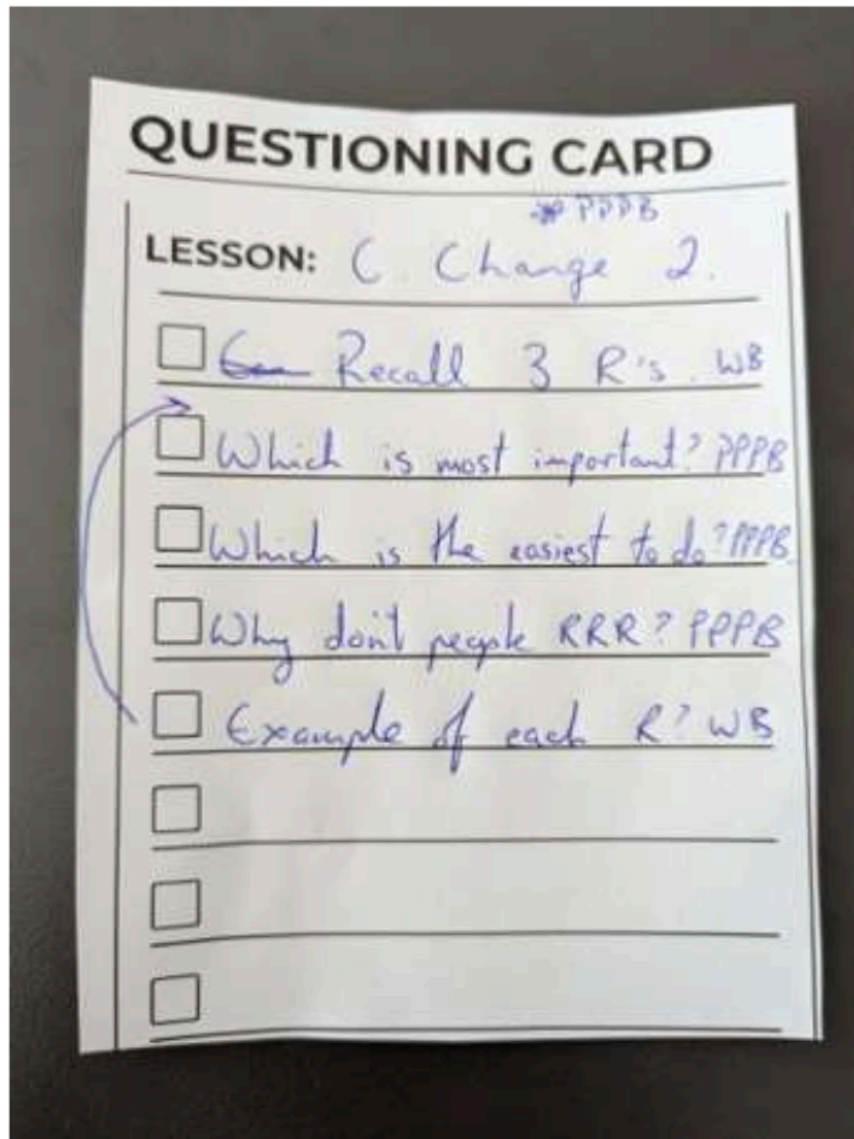
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Appendix A. Lesson Plan Question Card



Appendix B. Wait Time Poster

WAIT TIME

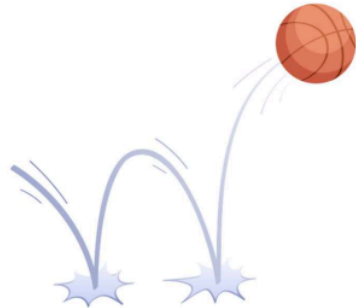


HOW IT WORKS:

- **COD ASKS A QUESTION**
- **WAIT WHEN HIS HAND IS IN THE AIR**
- **ANSWER AFTER A PAUSE**

Appendix C. Pose, Pause, Pounce, Bounce Poster

POSE, PAUSE, POUNCE, BOUNCE



HOW IT WORKS:

- **COD POSES A QUESTION**
- **EVERYONE PAUSES AND THINKS**
- **SOMEONE IS ASKED**
- **OTHERS ARE ASKED**

Appendix D. "If this is the answer, what is the question?" Poster

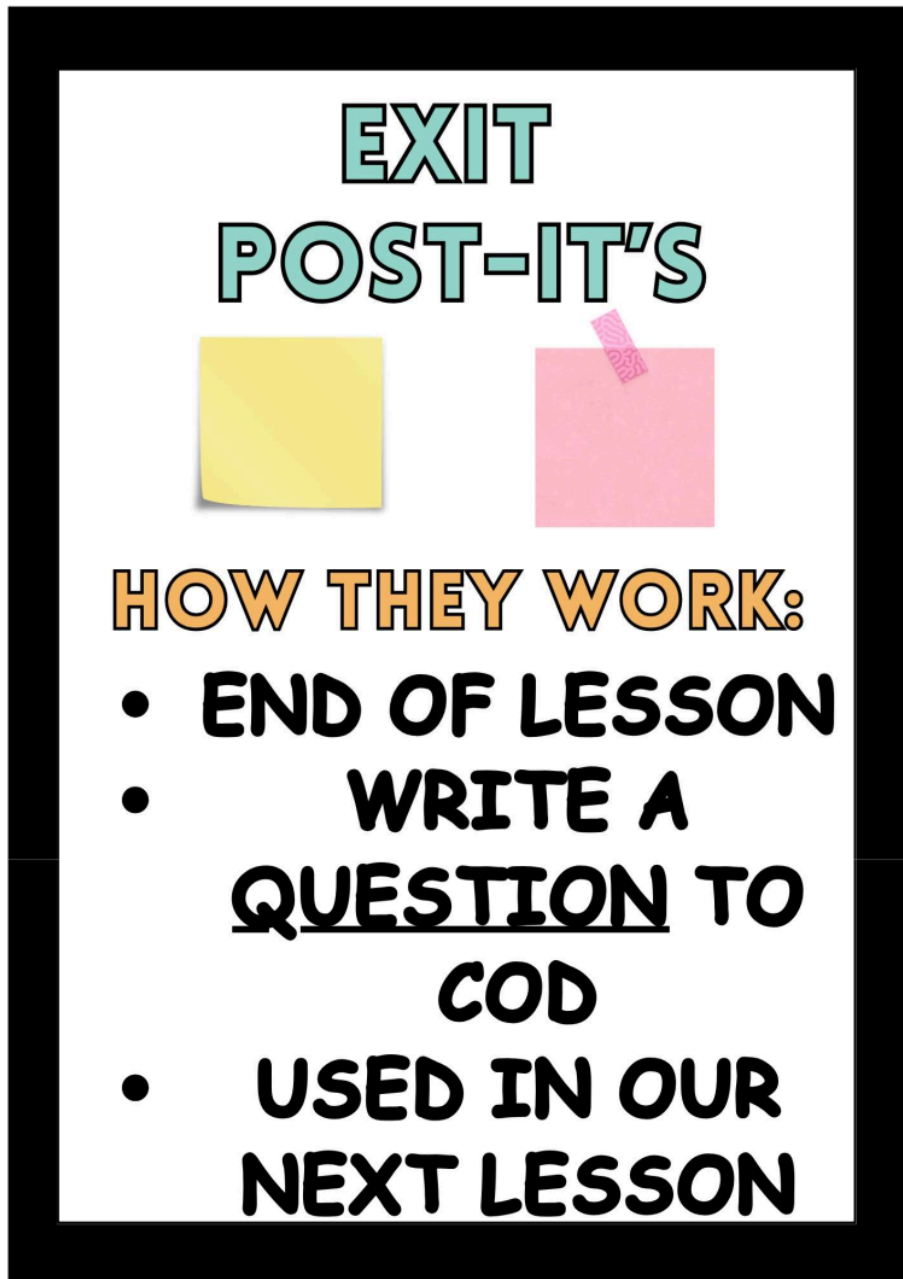
**IF THIS IS THE
ANSWER...**



HOW IT WORKS:

- **FIGURE OUT
POSSIBLE
QUESTIONS IF
"GERMANY" IS
THE ANSWER**

Appendix E. Exit Post-it's Poster



The poster features a thick black border. At the top, the words "EXIT" and "POST-IT'S" are written in large, light blue, outlined letters. Below the text are two sticky notes: a yellow one on the left and a pink one on the right with a small pink tab sticking out. Underneath the sticky notes, the text "HOW THEY WORK:" is written in orange, outlined letters. This is followed by a bulleted list of three items in bold black text: "• END OF LESSON", "• WRITE A QUESTION TO COD", and "• USED IN OUR NEXT LESSON".

**EXIT
POST-IT'S**

HOW THEY WORK:

- **END OF LESSON**
- **WRITE A QUESTION TO COD**
- **USED IN OUR NEXT LESSON**

Appendix F. Anonymous Pre-Intervention Survey

Beginning: Mr. O'Donnell's Classroom Questions

* Indicates required question

How do you feel about questions in the classroom? *

I love them

I like them

I think they're ok

I don't really like them

I don't like them at all

Why did you choose your answer to the question above? *

Your answer

Do you like putting up your hand to answer questions?

Yes

No

How often does your teacher ask you questions during lessons? (tick one) *

- Always
- Often
- Sometimes
- Rarely
- Never

Do you think everyone in the class gets a fair chance to answer questions in class? (tick one) *

- Yes, always
- Most of the time
- Sometimes
- Not really
- Not at all

Do you like the way questions are asked in your class by your teacher? (tick as many as you want) *

- Yes, very much
- Mostly
- It's ok
- Not really
- I don't like it at all

How challenging are the questions that your teacher asks you? (tick as many as you want) *

- Too easy
- Just right
- Sometimes too hard
- Often too hard

Do you enjoy being asked questions in class? *

1 2 3 4 5 6 7 8 9 10

I don't enjoy it at all I really enjoy it

Does the way that our tables are organised make answering questions easier?

- Yes
- No
- I'm not sure

If you could change anything about your teacher's questioning, what would it be?

Your answer _____

Appendix G. Named Pre-Intervention Survey

Beginning: Named Pupil Questionnaire Mr. O'Donnell's Questioning

Name

Your answer _____

How do you feel about questions in the classroom?

- I love them
- I like them
- I'm okay with them
- I don't like them much
- I really don't like them

Why do you feel this way?

Your answer _____

Do you like putting up your hand to answer questions?

Yes

No

Do you think questions help you learn?

Yes, a lot

Sometimes

Not really

No, not at all

Comments on the previous question

Your answer

What do you think makes a 'good' question?

Your answer

How often does your teacher ask you questions during lessons?

- Always
- Often
- Sometimes
- Rarely
- Never

Comments on the previous question

Your answer:

Do you think everyone in the class gets a fair chance to answer questions?

- Yes, always
- Most of the time
- Sometimes
- Not really
- No, not at all

If you chose 'not really' or 'no,' why do you think that happens

Your answer:

Does the way that our tables are organised make answering questions easier?

- Yes
- No
- I'm not sure

How does your teacher usually ask questions?

- Randomly picks a name
- Waits for hands to go up
- Calls on specific students
- Asks everyone to answer (thumbs up/down, writing answers on whiteboards, etc.)
- Other

If other, explain.

Your answer

Do you like the way questions are answered in class?

- Yes
 - Mostly
 - It's okay
 - Not really
 - No, I don't like it
-

What could make it better?

Your answer

How do you feel about the difficulty of questions your teacher asks?

- Too easy
- Just right
- Sometimes too hard
- Often too hard

Explain your answer

Your answer

Do you feel that the questions challenge you in a good way?

- Always
- Often
- Sometimes
- Rarely
- Never

Appendix H. Anonymous Post-Intervention Survey

End Questionnaire

Please rank, for each question, the questioning strategies we have done.

This is anonymous.

Have a look up to the board for explanations of the strategies, if you can't remember.

Easiest to participate in:

"I was able to take part in answering questions the best when _____ was used."

- Pose, Pause, Pounce, Bounce
- Wait Time
- "If this is the answer, what is the question?"
- Exit Post-it's
- Different table groupings

Most enjoyable:

"I had the most fun with ____"

- Pose, Pause, Pounce, Bounce
- Wait Time
- "If this is the answer, what is the question?"
- Exit Post-it's
- Different table groupings

Most challenging:

"I was challenged the most by questions using ____"

- Pose, Pause, Pounce, Bounce
- Wait Time
- "If this is the answer, what is the question?"
- Exit Post-it's
- Different table groupings

Most equitable:

"The most amount of people in the class were able to contribute when ____ was used by Mr. O'Donnell."

- Pose, Pause, Pounce, Bounce
- Wait Time
- "If this is the answer, what is the question?"
- Exit Post-it's
- Different table groupings

Exit Post-it's: Were they a useful strategy for asking questions?

- Yes
- No
- Unsure

Exit Post-it's: Which of these do you think were advantages of using them?

- They were anonymous
- Mr. O'Donnell used our feedback in the next lesson
- My question was answered by Mr. O'Donnell
- Other: _____

PPPB: Was it a useful strategy for asking questions?

- Yes
- No
- Unsure

"If this is the answer...": Was it a useful strategy for asking questions?

- Yes
- No
- Unsure

Table arrangements: Were they a useful strategy for asking/answering questions?

- Yes
- No
- Unsure

Wait time: Was it a useful strategy for answering questions?

- Yes
- No
- Unsure

Question delivery: Rate Mr. O'Donnell's ability to clearly ask short questions that you understood:

- Excellent
- Very good
- Good
- Fair
- Poor
- Very poor

Question delivery: Rate Mr. O'Donnell's ability to clearly ask tough/long questions that you understood:

- Excellent
- Very good
- Good
- Fair
- Poor
- Very poor

Question types: What questions did you learn the most from?

- Short, quick questions that were 'right' or 'wrong'
- Longer questions that had a couple of right answers
- Debate questions where we had discussions about them
- Longer questions where there lots of correct answers

Appendix J. Pupil Reflective Template

Reflection

No :.....
Date :.....

• **Date:**


Did you like Exit Post-its?

Whether you liked them or not, do you think they will be useful?

Is there anything COD could do differently if we used them again?

Would you have asked the same question out loud, as the one you wrote down? Why/Why not?

Drawing space:



Appendix K. Sample Pupil Reflective Questions

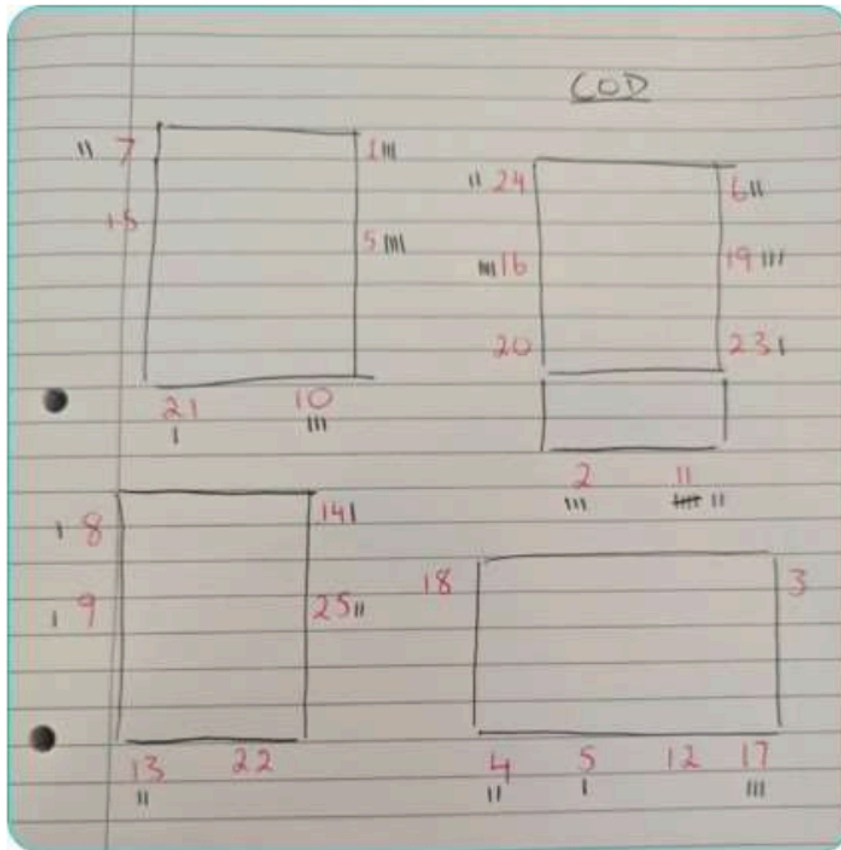
1. How do you feel when your teacher asks a question and you know the answer?
2. What thoughts go through your head when you don't know how to answer a question in class?
3. Do you prefer answering questions in front of the whole class or in smaller groups? Why?
4. Have you ever felt nervous or embarrassed when asked a question? Can you explain why?
5. When your teacher gives more time to think before asking for answers, how does that make you feel?
6. Do you feel like everyone in the class gets a fair chance to answer questions? Why or why not?
7. Are there moments when you wish your teacher had asked someone else instead? What makes you feel that way?
8. What types of questions help you learn best: short ones, tricky ones, or ones with more than one right answer?
9. How do you feel when your classmates explain their answers to questions?
10. What makes a question fun or interesting for you to answer?
11. When you see someone else being asked a question, what do you think or feel?
12. Do you feel your opinion or answer matters in class discussions? Why or why not?
13. What do you think of the 'If this is the answer, what's the question?' Did it change how you think when you're thinking of a question?
14. How did you feel about using Exit Post-it's to share your questions at the end of lessons?

15. What kind of seating or table arrangements helped you feel more confident answering questions out loud?
16. Can you remember a time when a question made you feel proud of your answer? What happened?
17. When your teacher uses different types of questions from short ones, do you notice?
18. Do you ever feel left out during questioning in class? What could be done to make it fairer or more equitable?
19. What advice would you give your teacher about how to ask questions that make everyone feel included?
20. How has your opinion of classroom questioning changed since we started using new strategies?

Appendix L. Question Tally Sheet

	Date	Direct Questions (only you answer)
No	Mon 13/1/25	11
D	Tue 14/1/25	11
M	Wed 15/1/25	1
Tu	Thu 16/1/25	11
W	Fri 17/1/25	11
Th		

Appendix M. Question Mapping



Charlie O'Donnell

Student Number: 18305696

**Appendix N. Maynooth University Ethics Approval for Master of Education
(Research in Practice)**

Student name:	Charlie O'Donnell
Student Number:	18305696
Supervisor:	Aoife Titley
Programme:	Master of Education Research in Practice
Thesis title:	An exploration of equitable teacher questioning as a tool for effective discussion in the classroom
Research Question(s):	How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in my classroom?
Intended start date of data collection:	12/01/2025
Professional Ethical Codes or Guidelines used:	British Educational Research Association (BERA): Ethical Guidelines for Educational Research (fifth edition) 2024

1(a) Research Participants: Who will be involved in this research?

	TICK ALL THAT APPLY
Early years / pre-school	
Primary school pupils	√
Secondary school students	
Young people (aged 16 – 18 years)	
Adults	

My research will take place in a co-educational vertical school in the east of the Republic of Ireland, where there are three of each class, as well as two autism classes. The school is of a Catholic ethos, where fairness, inclusion and community are key principles. The primary research site will be within my mainstream classroom, a Sixth-Class of 27 pupils.

1(b) Recruitment and Participation/sampling approach:

1. Summary of Planned Research

The aim of my research question, “How can I make use of more equitable teacher questioning as a tool for effective discussion in my classroom?” is to improve the way that I plan, ask and distribute questions to the children in my class in a more equitable manner. My chosen methodology will be research in practice through self-study educational action research (EAR). EAR is an investigative approach aimed at improving educational practices through reflective, iterative cycles of planning, acting, observing, and reflecting (Carr & Kemmis, 1986). EAR is particularly suitable for my research, given that it is participatory, collaborative, bridges gaps between theory and practice (Kemmis, McTaggart and Nixon, 2014) and focuses mainly on the improvement of pedagogical practice (McNiff, 2013). My methodology will be underpinned by both my epistemological and ontological values including equity, inclusion and fairness. My data will be qualitative. My data sources will involve both people i.e., the children in my class, and artefacts i.e., reflective journal entries and samples of work the children’s work and feedback. I will ensure that my research site, research participants and validation group remain anonymous. I will also ensure that data remains confidential and is stored in a safe place in compliance with Maynooth University GDPR guidance. My data collection tools will include:

I will make a verbal request to the principal of my school to carry out research. I will send a letter to the Board of Management to seek their permission to carry out my research project with my class. The children will be ongoing, active participants in the research as well as during the data collection process. The parents will be active participants in the provision of consent. I will have initial conversations with parents to inform them that I plan to do an action research project with the children in the class. I will send home a letter describing the research project, an information sheet outlining how their children would be involved in the process, and a parental consent form. The children will give informed assent by signing a child-friendly letter and consent form showing how they will take part in the research project. There will be an “opt-out” option for both parents/guardians and children throughout the research process where they will have the right to withdraw at any stage. I intend to receive input from two critical friends who will complete reflective templates based on their own questioning during teaching, as part of the data collection process.

- Semi-structured interviews,
- Critical friend perspective templates,
- Content analysis,
- Pupil surveys,
- Teacher surveys,

- Reflective journal,
- Pupils' views templates,
- Pupils' reflective journals,
- Semi-structured observations,
- Photo Voice,
- Teacher interviews.

I have chosen these data collection tools as I believe they will be the most relevant to my research topic, research methodology and will allow for triangulation of data. Data collection will commence on the 12th January 2025, with my thesis being submitted on the 12th of September 2025.

2. Ethical Considerations

There are a number of ethical considerations to make while carrying out my research. I must consider my professional values, responsibilities to the pupils in my class and their parents/guardians, responsibilities to Maynooth University and relevant legal requirements and obligations, should I decide to publicise my research. I must consult and abide by relevant school and university policies, data protection guidelines and child safeguarding policies.

With that in mind, I must gain permission from the following organisations and people:

1. Maynooth University
2. The principal of my school
3. The Board of Management of my school
4. The twenty-seven children in my class
5. The parents/guardians of the children in my class

It is vital that there is anonymity in relation to individual children, teachers, my validation group, critical friends and my school. As I am working with young children, consent may pose an ethical challenge. I will overcome this by seeking informed and voluntary consent from their parents/guardians. Informed consent is a process where participants are fully informed about the purpose, methods, and potential uses of research (British Educational Research Association (BERA), 2018). Voluntary consent requires that participation is freely chosen, without coercion or undue influence (BERA, 2018). There will be an "opt-out" option for all participants throughout the research project where they can withdraw at any stage, if they wish to do so. I will also break down my research ideas into child-friendly language and show the children how they will participate in the research, if they wish to do so. I will explain how the research is not about assessing them, but rather about them helping me to develop my practice in the classroom and become a better teacher. I will use visual cues such as research hats being put on, or a research on/off traffic light system to ensure the children are informed when data collection is taking place. If a child becomes upset/distressed during data collection I will ask a responsible and trusted adult, such as a Learning Support (LS) teacher, to look after the class while I address the situation in a quiet place.

All data collected will be relevant to my research topic. Data will be produced for my own personal use and if required by the research examiner. The data archive will be

kept safe in accordance with my ethical commitments and GDPR guidelines. Any data stored online will be saved in an encrypted folder on Google Drive. Any physical data will be eliminated of personal identifiers such as pupil's full name etc. and stored in a folder where it will be accessed by a secure number pin in a locked filing cabinet. If data needs to be transferred, it will be done using a password protected USB which will be stored in a locked drawer. Data will be stored for the time stated and destroyed in accordance with Maynooth University guidelines.

Special acknowledgement will be made to power dynamics, particularly between me, as the researcher, and the children, as co-researchers. When conducting research in educational settings, researchers must be cautious of the power dynamics between teachers and their students (BERA, 2024). I plan to overcome any power dynamics through taking a democratic approach towards my relationship with participants and colleagues. I will remain cognizant of the fact that I will be working with young, vulnerable children. I have established a safe, comfortable learning environment for the children to learn and develop which will support the children during the research process. There will be an "opt-out" option for the children where they can withdraw if they no longer feel comfortable participating in the research project. Given that data collection will take place over the course of two to three months, I will provide the children with regular opportunities to renew their assent, verbally, or through gestures. I will remind them that the project is voluntary, and they do not have to share anything if they do not wish to do so. I will reflect on my position throughout the research process in relation to my values, assumptions, research approach, research stance and the actions I have taken. I will reflect internally on my own practice and externally on the context of the research.

I will also be extremely mindful of informed consent and assent for participants and guardians where appropriate. I will ensure that all consent and assent is provided voluntarily and fully informed by those involved in my EAR project. I will gain approval from the following organisations and people:

1. Maynooth University through the ethics approval document
2. The principal of my school through verbal request
3. The Board of Management of my school through an information and request letter outlining the details of my EAR project
4. The twenty-seven children in my class through child-friendly assent forms
5. The parents/guardians of the children in my class through an information letter and parent/guardian consent forms

Finally, I must also acknowledge and be aware of the sensitive nature of questioning in the classroom. At times, children can be self-conscious or worried about having questions asked of them in various forms, or in front of larger groups. The children have the right to withdraw from the process, or opt out of answering questions, if they wish to do so. I will ensure to have a responsible adult in or near to my classroom to assist in any situations where a child becomes upset, arise, while I deal with the incident in a quiet, safe space.

Charlie O'Donnell

Student Number: 18305696

Declaration

'I confirm that to the best of my knowledge this is a full description of the ethical issues that may arise in the course of undertaking this research.' If any of the conditions of this proposed research change, I confirm that I will re-negotiate ethical clearance with my supervisor.

Signed:

Date:

Attachments: Please attach information letters, consent forms and other materials that will be used to inform potential participants about this research.

Supervisor use only:

Date Considered: _____

Approved

Approved with recommendations (see below)

Referred back to applicant

Referred to Department Research and Ethics Committee

Recommendations:

Signature of supervisor: _____

Appendix P. Introductory Letter for Parents and Guardians



**Maynooth University Froebel Department of
Primary and Early Childhood Education**

**Roinn Froebel Don Bhun- agus Luath- Oideachas
Ollscoil Mhá Nuad.**

Dear Parent(s)/Guardian(s),

I am a student on the Master of Education (Research in Practice) programme with the Froebel Department of Primary Education at Maynooth University.

As part of my degree, I am doing an Educational Action Research project. The focus of my research is based on how I as a teacher can improve the planning, use, equity and distribution of the questions I ask of the children in the class during lessons and classroom discussions.

In order to do this, I intend to carry out research in the classroom by trying out different ideas for asking types of questions in various ways, as well as tracking how regularly I am asking children questions, and if they appropriately cognitively challenged by them. The data will be collected using semi-structured interviews, critical friend perspective templates, content analysis, pupil surveys, teacher surveys, reflective journal, pupils' views templates, pupils' reflective journals, semi-structured observations, Photo Voice and teacher interviews. The children will be asked their opinions and thoughts on my questioning through feedback forms, group conversations and interviews and surveys.

The child's name and the name of the school will not be included in the thesis that I will write at the end of the research. Your child will be allowed withdraw from the research process at any stage.

All information will be confidential and information will be destroyed in a stated timeframe in accordance with the University guidelines and existing GDPR policy. The research will not be carried out until approval is granted by the Froebel Department of Primary and Early Childhood Education.

I would like to invite you and your child to give permission for them to take part in this project. If you have any queries on any part of this research project, feel free to contact me by email (strictly for this purpose, keeping general school communication to Aladdin), at

████████████████████

Yours faithfully,

Appendix Q. Information Letter for Parents and Guardians



Maynooth University Froebel Department of
Primary and Early Childhood Education

Roinn Froebel Don Bhun- agus Luath- Oideachas
Ollscoil Mhá Nuad.

Who is this information sheet for?

This information sheet is for parents and guardians.

What is this Action Research Project about?

Teachers undertaking the Master of Education in the Froebel Department of Primary and Early Childhood Education at Maynooth University, are required to conduct an action research project, examining an area of their own practice as a student teacher. This project will involve an analysis of the teacher's own practice. Data will be generated using observation, reflective notes, questionnaires, surveys, photographs and analysis of work and group conversations. The teacher is then required to produce a thesis documenting this action research project.

What is the research question?

"How can I as a primary school teacher make use of more equitable teacher questioning as a tool for effective discussion in the classroom?"

What sorts of methods will be used?

Semi-structured interviews, critical friend perspective templates, content analysis, pupil surveys, teacher surveys, reflective journal, pupils' views templates, pupils' reflective journals, semi-structured observations, Photo Voice and teacher interviews will all be used.

Who else will be involved?

The study will be carried out by me as part of the Master of Education course in the Froebel Department of Primary and Early Childhood Education. The thesis will be submitted for assessment to the module leaders, Prof. Marie McLoughlin and Dr. Suzanne O'Keefe and will be examined by the Department staff. The external examiners will also access the final thesis.

What are you being asked to do?

You are being asked for your consent to permit me to undertake this study with my class. In all cases the data that is collected will be treated with the utmost confidentiality and the analysis will be reported anonymously. The data captured will only be used for the purpose of the research as part of the Master of Education in the Froebel Department, Maynooth University and will be destroyed in accordance with University guidelines.

Contact details:

Student: Charlie O'Donnell

E: [REDACTED]

Appendix R. Child-friendly Information Sheet

Appendix S. Parental/Guardian Consent Form



Maynooth University Froebel Department of
Primary and Early Childhood Education

Roinn Froebel Don Bhun- agus Luath- Oideachas
Ollscoil Mhá Nuad.

Parental/Guardian Consent Form

I have read the information provided in the attached letter and all of my questions have been answered. I voluntarily agree to the participation of my child in this study. I am aware that I will receive a copy of this consent form for my information.

Parent/Guardian Signature: _____

Parent/Guardian Signature: _____

Date: _____

Name of Child: _____

Child's Signature: _____

Date: _____

Appendix T. Children's Assent Form



Child's assent to participate

My parent/guardian has read the information sheet with me and I agree to take part in this research.

Name of child (in block capitals):

Signature: _____

Date: _____

Appendix U. 'Research On' Sign



Appendix V. Coding Frame of Data Analysis Codes

NRV: Nervousness when questioned
CNF: Confidence after answering
FEB: Fear of embarrassment
FLO: Feeling left out
EXC: Excitement when chosen
PNC: Panic when unsure
SHM: Shame from incorrect answers
REL: Relief when not chosen
ANX: Anxiety from quick pace
SAF: Emotional safety
OWC: Overwhelm in whole-class questioning
CSG: Comfort in small groups
SUR: Surprise at being asked
SAT: Satisfaction from participation
PRF: Positive reinforcement effects
STR: Stress when answers are rushed
EMP: Empowerment through voice
MCH: Mood changes during Q&A
IGR: Feeling unseen or ignored
REA: Reassurance in collaborative answers
EQA: Equal chance to answer
FAV: Teacher favouritism
VIS: Visibility in class
OVR: Being overlooked
AIR: Sharing airtime fairly
BIA: Questioning bias
GEN: Gendered selection patterns
CUL: Cultural differences in participation
ACC: Accessibility of language
INC: Inclusion of all learners
VAL: Feeling valued
QST: Voice for quiet students
HCU: Hidden curriculum of questioning
OPP: Opportunities for everyone
LAB: Label impact
RPG: Redressing participation gaps
TUR: Turn-taking fairness
SOC: Social status and visibility
EQM: Emotional equity
RES: Respecting all voices

WTT: Wait time enhances thinking
TAL: Thinking aloud
STT: Stretching thinking
HOQ: Higher-order questioning
CTP: Critical thinking prompts
LIA: Linking answers to ideas
SQN: Self-questioning
RFD: Reflection during dialogue
MET: Metacognition
PRC: Processing time
DPS: Deep vs surface answers
SLQ: Student-led questions
EXP: Exploratory talk
CLR: Clarifying confusion
MRA: Multiple right answers
BPI: Building on peer ideas
TPO: Thinking with others
CHG: Changing thinking after hearing others
SCF: Teacher scaffolding thought
VSA: Visualising answers
HDQ: Hands-down questioning
TPT: Talk partners
TBT: Table talk
TPS: Think-pair-share
EPO: Post-it reflections
MWD: Mini whiteboards
GDD: Group discussion dynamics
CCT: Circle time contributions
SIG: Silent signals
BLC: Body language cues
SPL: Seating plan influence
CNQ: Consistency in questioning
TQT: Targeted questioning
CCL: Cold calling
WUQ: Warm-up questions
UNQ: Revisiting unanswered questions
RPC: Recapping pupil thoughts
SST: Using sentence starters
GRD: Ground rules for discussion
NVP: Non-verbal participation
TTQ: Teacher tone and questioning
ENP: Encouragement and praise
AWE: Teacher awareness of emotions
LPV: Listening to pupil voice
AMS: Adjusting strategies mid-lesson
NVC: Responding to non-verbal cues
OCQ: Open vs closed questions
MGA: Modelling good answers
APP: Being approachable
CPU: Clear purpose in questioning

QCH: Adapting for quieter children
FUI: Following up on ideas
PTF: Perceived teacher fairness
TRF: Teacher reflection on impact