Introduction: A context for research

A wealth of evidence has accumulated over the last one hundred years demonstrating that feedback has the potential to impact positively on learning and teaching. As the research evidence has expanded to explore new nuance, feedback as an educational concept has become increasingly complex. As a result of this complexity, some teachers do not maximise on feedbacks' potential. Thus, in the reality of classroom practice, feedback is often "differentially effective" (Hattie & Timperley, 2007, p. 81). For the potential gains to be consistently realised, teachers must be implementing *effective* feedback practice, and schools must direct the professional development of their teachers towards this. Directed professional development (DPD) is particularly important if the school is making substantial changes to their feedback approach, which is the context of the following research. This introduction will provide a clear rationale for the subsequent research project: grounding it within the wider context of educational feedback reform, and apply it to the context of one specific school.

Over the last five years, many primary schools in England have made substantial changes to their feedback approach. The catalyst for this change was a crisis concerning teachers' workload. The Department for Education (DfE, 2015a) explored this crisis and found written marking was a large contributor to the workload problem. This was in spite of warnings that "marking has little impact on pupil progress" (Clarke, 2014, p. 145). Subsequently, the Independent Teacher Workload Review Group (ITWRG) was established (DfE, 2015b) and concluded "providing written feedback on pupils work has become disproportionately valued by schools and has become unnecessarily burdensome" (ITWRG, 2016, p. 5).

The burdensome practice of written marking was leading some teachers to reportedly spend the equivalent of one entire working day on written marking each week (Ward, 2016). This significantly contributed to a workload crisis, within which almost half of young teachers considered leaving the profession (National Union of Teachers, 2017). The Education Endowment Foundation (EEF) explored this further in a national survey of marking practices (Elliott et. al., 2016), which found the majority of primary school teachers wrote praise comments and 'even better if' targets in most or all of their marking, and around half additionally wrote descriptive comments. The EEF consequently questioned "whether the benefits of such approaches justify the time invested" (Elliott et. al., 2016, p. 5).

There are various explanations for schools' reliance on written feedback, despite there being a lack of convincing evidence of proportional benefit (Elliott et. al., 2016). It is possibly a misunderstanding of the DfE's teaching standard that requires teachers to "give pupils regular feedback, both orally and through accurate marking" (DfE, 2011, p. 12). Alternatively, the ITWRG (2016) argue Ofsted's praise of particular written approaches may have encouraged the spread of burdensome practices. However, both the DfE and Ofsted in recent years have clarified their expectations. Ofsted now state they "do not expect to see any specific frequency, type or volume of marking and feedback" (Ofsted, 2018, p.2; Harford, 2018). Additionally, the DfE has advised teachers that "not all feedback has to be written" (DfE, 2018a, p. 5), and have provided example feedback policies with a focus on verbal feedback (DfE, 2018b).

As a result, schools found themselves in a position of choice. This created the educational context of feedback reform (within which schools were able to explore alternatives to written marking, knowing no specific approach was favoured by Ofsted and the DfE). Many schools in England consequently reformed their feedback practice: moving away from written marking as feedback (WF), towards verbal feedback (VF) approaches. Some school leaders have written about the positive impact of these changes in articles for the Chartered College of Teaching (Anonymous, 2017; Jones & Essery, 2018; Moor, 2017). The following research operates within this wider context of feedback reform, but also within the specific context of one school.

The school in which I work is one of many that have been making feedback changes. After exploring assessment for learning (Black, 2003; Black & Wiliams, 1998; Wiliams, 2011b) and formative assessment practice (Black & Wiliams, 2009; Clarke, 2003; Clarke, 2005; Clarke, 2014; Wiliams, 2011a), the leadership team made the decision to move away from WF in 2017. Through book scrutiny, observations and staff reflection, we felt the initial change had a positive impact on teaching, learning, and on workload. In previous research I explored our learners' perspectives on the changes made because "students are the receivers of feedback, and they are the ones who decide whether or not to use it" (Gamlem & Smith, 2013, p. 116). My exploration into learners' perspectives found that some learners had concerns about VF (learners were concerned their work was not being read if it did not have WF and at times they felt uncomfortable receiving VF). Although the majority of learners did prefer VF because: they felt it was clearer; that they could ask follow up questions; it was easier to remember; more quickly delivered; and helped them to self-regulate their feedback. The school wanted to continue developing its VF approach, but in doing so, wanted to ensure they were developing an effective practice to maximise on feedback's potential learning gains. Therefore, the purpose of the following research is to explore how teachers can work together to implement more

effective verbal feedback. This research began with a review of the relevant research literature that holds recommendations for effective feedback practice, as well as considering the research recommendations for DPD. Within the overarching research question, the literature review sought to investigate the following three questions:

How can one school work together to implement more effective verbal feedback?

1. What is feedback?
2. What is effective feedback?
3. How can a school implement effective feedback?

It is important to note that the trajectory of this research was unavoidably altered by the COVID-19 partial closure of schools. The impact this had on the research will be discussed in the methodology section.

Literature review: Exploring effective feedback

What is feedback?

Over the last one hundred years, a wealth of evidence has accumulated which demonstrates that feedback in education has the potential to impact positively on learning and teaching (Natriello, 1987; Crooks, 1988; Bangert-Downs, Kulik, Kulik & Morgan, 1991; Butler & Winne, 1995; Kluger & Denisi, 1996; Black & Wiliams, 1998a; Hattie & Timperley, 2007; Shute, 2008). Black & Wiliam's review of evidence places feedback's potential gains as "amongst the largest ever reported in educational intervention" (1988, p. 61), and Hattie's later synthesises found feedback to be one of the top five influences on pupils' achievement (with twice the effect size of other learning factors) (Hattie, 1999). The EEF agrees "studies tend to show a very high effect on learning", and more specifically suggest the impact could equate to eight months of progress. This puts feedback's potential for progress above any other intervention in their teaching and learning toolkit (EEF, 2019).

However, the same cumulative evidence also reveals the negative potential of feedback (EEF, 2018a). Kluger & Denisi's (1996) meta-analysis shows feedback can result in zero impact on learners, or even decrease their attainment. In some cases, even the positive impacts recorded were only short-lived and did not result in long-term learning gains. The wealth of evidence is inconsistent and varied (Shute, 2008): revealing potential positive and negative outcomes. Hattie & Timperley, in their review of feedback research, thus describe feedback as "differentially effective" (2007, p. 81). It is likely that the difference in effectiveness is due to the concept of feedback becoming increasingly complex and varied. The variety of feedback is evident in Tunstall & Gipps' observations of feedback in Key Stage 1 classrooms. They noted categories such as "verbal and non-verbal; distinctly positive or negative; process or product related; feedback which was based on the use or non-use of explicit criteria; feedback to individual children; feedback as part of classroom management" amongst others (1996, p. 391). This ever-expanding (Gamlem & Smith, 2013) typology evidences the complexity of feedback as an educational concept. Feedback's complexity can be understood by examining the development and definitions of feedback in education.

Feedback development

Feedback is a relatively modern word, and its application to education even more recent. First used in the 1920s, feedback was a technical term describing a process within electronic circuits whereby information was provided to alter the relationship between the (desired) level, and the (actual) level

(Ramaprasad, 1983). It was later adopted by communication theorists to refer to a signal which tells the communicator if a message has been received (Wallace & Kirkman, 2017). Although the word was not adopted into education until the 1950s, the educational ideas underpinning feedback began decades before.

In the early twentieth century, feedback ideas surfaced within psychological behaviourism. Studies started to explore the impact of 'knowledge of results': the psychological term for informing learners whether their response was correct or incorrect. Early studies demonstrated its potential impact Pressey (1926), and later studies broadened the concept (Trowbridge & Carson, 1932). Many of these initial studies are compiled in Ammons (1956) review, but have since been criticised for their methodological choices (Kluger & Denisi's, 1996; Brookhart, 2008). It is arguable they depended too heavily on psychological influences (Thorndike, 1913), which are "too broad to explain the complexities" (Kluger & Denisi, 1996, p. 259). Understanding feedback as simple reinforcement is like trying to "fit the round peg of feedback into the square hole of reinforcement" (Kulhavy, 1977, p. 213). Although limited, the ideas established through these preliminary studies were the building blocks of subsequent research.

The term feedback was later adopted into educational discourse in the 1960s under broader umbrella terms such as 'formative evaluation'. This was part of Bloom's learning for masters approach (Bloom, Hastings & Madaus, 1971). Reviews of this approach indicate improved achievement (Block & Burn, 1976; Gusky & Gates, 1986; Kulik, Kulik & Bangert-Drowns, 1990), but it is unclear if this is due specifically to feedback (Guskey & Pigott, 1998; Black & Wiliams, 1998). Through Bloom's work, the educational concept of feedback became more than just reinforcements or corrective information; the term broadened and became increasingly complex.

Feedback subsequently became integral to the development of Assessment for Learning (Black & Wiliams, 1998; Wiliams, 2011a). Assessment for learning (AfL), later linked to formative assessment (Clarke, 2014), promotes learners to take "responsibility for directing and regulating their own learning" (Swaffield, 2011, p. 435). To do so, it had four strategies: success criteria, questioning, feedback, peer- and self-assessment (Hargreaves et. al., 2014; Clarke, 2005; Black, 2003; Wiliams, 2011b). Each of these strategies are valuable and intertwined, but feedback is arguably the most powerful and vital for progress (Clarke, 2003; Tunstall & Gipps, 1996). The principles of AfL and formative assessment were widely implemented in schools, but government involvement confused their ideas (Hendrick, Macpherson & Caviglioli, 2017), and instead promoted assessments *of* learning.

This wide implementation made schools more aware of their feedback practice. The government's intervention (Hendrick, Macpherson & Caviglioli, 2017), alongside emerging research promoting WF (Elwar & Corno, 1985), encouraged many schools to focus on providing detailed WF. Clarke explains at this time there was a "strong requirement for teachers to annotate childrens' work in some way - for accountability purposes mainly" (2014, p. 132). The accountability driving WF may have come from Ofsted's praise of particular WF methods, or from the DfE promoted 'marking' in their teaching standards (ITWRG, 2016; DfE, 2011). However, it is also possible the focus on WF was driven partly by changes in the expectations of our educational tasks. Sadler (2010) suggests education generally has moved away from memorising rights or wrongs, which can be addressed with corrective feedback, towards more conceptual understanding of concepts that requires expanded feedback.

Since then, Wallace & Kirkman summarise that "the reduction of feedback in recent times into multi-coloured pen marking and verbal feedback stamps used in tokenistic ways has been a terrible diversion from the real purpose of feedback: to improve students' outcomes" (2017, p. 143). As demonstrated in the introduction to this review, WF has played "a crucial role in teachers' work" (Elliot et. al.'s, 2016, p. 4), but its value has more recently been questioned.

Feedback definition

As the most basic level, feedback is "any of the numerous procedures that are used to tell a learner if an instructional response is right or wrong" (Kulhavy, 1977, p. 211). Feedback's initial definitions outside of education referred to altering the gap between the actual level and the desired level (Ramaprasad, 1983, p. 4). Educationally, feedback is the information provided in order to alter that gap, either through adjusting the desired level, or by helping the learner to reach it (Kluger & Denisi, 1996). As Black & Wiliams (2009) suggest in their definition, feedback should act as a moment of contingency: a moment where learning takes a different path depending on feedback. Furthermore, Hattie & Timperley propose "feedback is information provided by an agent (e.g., teacher, peer, book, parent, experience) regarding aspects of one's performance or understanding. It occurs typically after instruction that seeks to provide knowledge and skills or to develop particular attitudes" (2007, p.81). Finally, the EEF adds in their definition that the information provided should be specific and "relative to learning goals or outcomes" (EEF, 2018a, p.1).

In light of these various definitions, feedback could be defined as:

> Specific information about the gap between the learners' performance (actual level) and the agreed outcomes of the learning event (desired level), which guides subsequent learning and teaching in an attempt to alter that gap.

This examination of the development and definitions of feedback has demonstrated its increasing complexity and revealed it to be board and nuanced. This complexity results in differentially effective outcomes. Thus, it is important for schools to consider how they ensure their feedback is effective. It is therefore important to question: what is 'effective' feedback?

What makes 'effective' feedback?

Whilst it is arguably "difficult and perhaps impossible" to measure the effectiveness of feedback (Price et. al., 2010, p. 287), some suggest the key to tangibly measuring feedback effectiveness is defining its purpose (Buckley, 2012). Effective feedback is that which successfully produces the agreed, desired result. Within the definition of feedback established in this review, the purpose of effective feedback could be generally defined as altering the learning gap between the desired and actual learning levels. To identify what makes effective feedback this review will look at both the general principles emerging from the major reviews of relevant research literature, and some specific principles of effective feedback more closely.

General Principles

There are a number of renowned reviews of literature, which hold recommendations for effective feedback: Bangert-Downs, Kulik, Kulik & Morgan (1991); Black & Wiliams (1998); Butler & Winne (1995); Crooks (1988); Hattie & Timperley (2007); Klunger & Denisi (1996); Natrello (1987); and Shute (2008). Each of these reviews builds on the one that chronologically predates it, whilst reviewing more recent research to inform their recommendations. Natriello (1987), is the oldest of these reviews and has the broadest scope, looking at 'classroom evaluation'. Crooks (1988) builds on Natiella's review with a sharper focus on feedback. Together these pieces recommend that effective feedback should be focused on personal progress, encouraging of effort, avoiding comparison and taking place whilst still relevant to the learner. Kluger & DeNisi (1996) later reviewed studies focusing on specific feedback effects. They propose a hybrid of theories called feedback intervention theory and discuss feedback that attenuates or augments. Their recommendations suggest effective feedback (that augments) are task focused and related to goal setting, and ineffective feedback (that attenuate) focuses on praise or threatens self esteem. The Black & Wiliams' (1998) review takes a broader focus on classroom formative assessment, but has suggestions for teachers' effective feedback. Black & Wiliams' (1998) suggest effective feedback comes through clear goal setting, deliberate task design and teachers taking opportunities to "guide the learning trajectory of students" (p. 61), whilst importantly involving learners in the process of feedback and assessment. This approach requires teachers to view feedback as a two way dialogue, and to be open to feedback from learners. Teachers, as well as giving feedback, must always be aware of the feedback they are receiving from their class, and how that can be used to alter learning gaps.

Finally, Hattie & Timperley's (2007) review looks at more recent research evidence through the lens of Black & Wiliams' (1998) formative assessment. Their recommendations suggest effective feedback should be clear, meaningful, low-thread, and low-complexity. They also note the importance of classroom climate in effective feedback and point out that effective feedback can only be achieved when both the teacher and the learner are skilled in feedback. They suggest three questions that effective feedback must address: where am I going (Feed Up)? how am I going (Feed Back)? where to next (Feed Forward)? These questions build from Black & Wiliams' (1998) recommendations and overlap with Sadler's (1989) three conditions for effective feedback: the concept of a goal; comparison of performance against that goal; and action leading to closure of the identified gap. These questions and feedback levels are useful when exploring effective feedback, as are the recommendations from the ITWRG, whose conclusions suggest schools' feedback practice should be *meaningful, manageable and motivational* (ITWRG, 2016).

From these reviews emerges a set of suggestions for effective feedback. Shute (2008) warns not to see these as a quick recipe for effective feedback, as no such recipe exists. The research recommendations should instead be viewed as guiding principles, which can inform teachers' feedback decisions. Many authors attempt to collate and summarise these general principles (Brookhart, 2008; Sadler, 2010), and this review will make its own attempt to do so after some of the specific principles of feedback are explored in more detail. This exploration will be guided by Gamlem & Smith's "Analytical model of classroom feedback" (2013, p. 159), which was created by Gamlem & Smith after they set out to expand Tunstall & Gipp's (1996) typology of feedback. This analytical model (Figure *1*) highlights some of the specific principles of classroom feedback and will be used as a framework to review relevant literature regarding these nuances.

Figure *1*. Analytical model of classroom feedback.
Based on Gamlem & Smith (2013, p. 159).
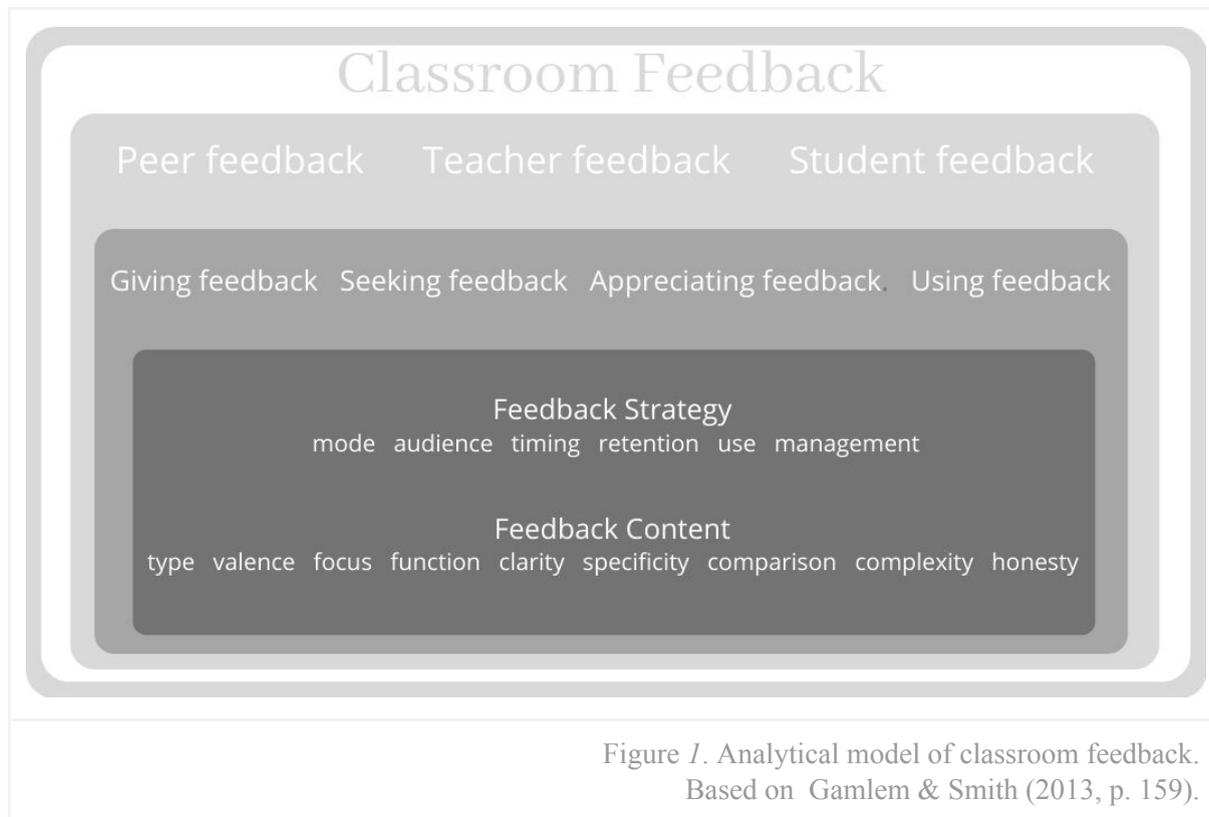
The analytical model shown in Figure *1* is tiered and the categories in the centre of the model provide the specific principles to be reviewed in detail. However, the higher tiers are also important. The first tier identifies three broad categories: teacher feedback, peer-feedback and student-feedback. Teachers' feedback is vital and can act as a model for student- and peer-feedback (Clarke, 2005). If fully effective, this would eventually lighten the requirement for detailed teacher feedback (Sadler, 2010). However, learners are often negatively critical in their feedback (Leenknecht & Prins, 2018), and some find it difficult to provide peer-feedback without their personal relationships interfering (Gamlem & Smith, 2013). Despite these challenges, there is much evidence of the value of peer or student feedback (Boon, 2016; Clarke, 2014; Wiliams, 2011b). Black & Wiliams' argue that when shaping feedback practice, "any such plan should be committed to involve students in the process of self- and -peer assessment" (1988a, p. 61). Whilst all three are important, they cannot be explored in their entirety within the bounds of this review, the context of which is focused on improving the effectiveness of *teachers' feedback* practice.

The next tier identifies giving feedback, seeking feedback, appreciating feedback and using feedback. These are vital and can be developed through building classroom cultures that value feedback (Clarke,

2014). Gamlem & Smith suggest teachers need to provide "knowledge, skills and climates where feedback is not simply like messages thrown out in bottles, but where the teacher can be relatively certain that the feedback message reaches and can be used by the intended recipient" (2013, p. 169). These issues will be touched upon, whilst examining the specific nuances identified in the central tier.

The central tier has two categories: feedback strategy and feedback content. Within these categories sit the complexities of feedback, which can be thought of as "various components of a kit of parts that can be assembled" (Black & Wiliams, 1998a, p. 38). In order to assemble an effective feedback 'kit', these complexities must be examined to reveal the specific principles of effective feedback practice.

Feedback Strategy

In reviewing research regarding feedback strategy, it is useful to reference the general principles from the ITWRG that effective feedback strategy should be meaningful, motivational and manageable (2016).

Mode & Retention

Although there are innumerable 'modes' of feedback, within the context of this review, it is the written or verbal distinction which is most relevant to critique.

The introduction to this review suggested why WF became popular practice, despite the lack of supporting evidence (Elliot et. al., 2016). However, there is some evidence of WF effectiveness (Bitchener & Knock, 2008), when the context is right (Nicol, 2010), and some research suggests learners prefer WF to VF (Buckley's, 2012). One perceived benefit of WF is it can be revisited - thus removing reliance on the learners' retention. However, there are only marginal differences in retention between WF and VF (Buckley, 2012).

WF is limited as it can be incomprehensible (Brookhart, 2008), there is a lack of congruence between WF and learners' understanding of it (Van Der Schaff et al., 2013), and evidence suggests learners do not find teacher's WF as useful as the teacher believes it to be (Careless, 2006). This limitation could be challenged with a dialogical mode of WF (Nicol, 2010), which can lead to learners valuing teacher feedback more (Van Der Schaff et. al., 2013). Examples of dialogic WF modes are historically evident in primary education: such as "dialogic marking, triple marking and quality marking" (ITWRG, 2016, p. 6). These practices, whilst potentially effective, are time consuming (Canvas,

2016), and burdensome for teachers (ITWRG, 2016; Elliot et. al., 2015). It is therefore arguable "a written dialogue instead of a conversation" is disproportional marking (ITWRG, 2016, p. 8).

Alternatively, teachers could utilise a combined feedback mode (Clarke, 2005; Hargreaves et. al., 2014). These individual discussions between learners and teachers can improve understanding of WF (Orsmand & Merry, 2011). However, Clarke argues that stand alone VF "is potentially the most effective form of feedback" (2003, p.61). It has the benefit of being delivered instantly (Kulik & Kulik, 1988), and serving as a model for self-evaluating (Clarke, 2005). Thus making the most of a "teachable moment" (2008, p. 16): sharing in a quick conversation, which might take a long time to write down. Otherwise known as "mid-learning stops" (Clarke, 2014, p. 145).

There is evidence that both modes can be motivational. With concerns around congruence and understanding, it is arguable VF may be more meaningful for the learner. Furthermore, the teacher workload crisis is evidence that WF can be unmanageable. Against the three ITWRG (2016) recommendations, VF appears to be most effective. Some school leaders have written about their VF practice and argue it "has helped to reduce workload" (DfE, 2018b, p.1), resulting in excellent progression levels (Anonymous, 2017), increasingly effective teaching (Moor, 2017), and the general "quality of feedback and pupil responses have improved" (Jones & Essery, 2018). Although there is a limited pool of research into this distinction (particularly in primary classrooms). Whilst WF may hold some value, VF modes are meaningful, motivational and manageable and therefore arguably more effective.

Audience

The audience of a teacher's feedback is important to consider as all feedback is "filtered through the student's perceptions" (Brookhart, 2008, p. 3). Different audiences will receive and use feedback in different ways. Therefore, "like all communication, feedback works best when it has a strong and appropriate sense of audience" (Brookhart, 2008, p. 17).

The audience of teachers' feedback can be individual, group, or whole class (Gamlem & Smith, 2013). There are circumstances where each of these may be most effective (Brookhart, 2008). Whole class and group approaches generally include reading all work, making notes, identifying groups, and giving feedback to the whole class or identified groups (Sherrington, 2017). This can "significantly speed up the giving of bespoke feedback, while simultaneously helping the learner to feel part of a mini supportive community" (Wallace & Kirkman, 2017, p. 43). One challenge of flexible audience approaches is that learners become audiences to each other's feedback, which can impact learners'

perceptions of each other's ability (Simpson, 1981). This problem could be more effectively overcome by building a classroom culture where feedback is valued and used by all learners (Brookhart, 2008; Clarke, 2014; Wallace & Kirkman, 2017). This must be encouraged every day so learners see feedback can help them improve (Hendrick, Macpherson & Caviglioli, 2017), and begin to feel comfortable receiving it (Wallace & Kirkman, 2017).

Furthermore, the prior performance of the feedback audience should be considered. Higher-achieving learners may actively seek feedback, whereas others may not (Zimmerman & Pons, 1986). Shute (2008) suggests providing delayed, facilitative feedback for higher performing learners (prompts), and immediate, elaborative feedback for lower performing learners (scaffolding).

Finally, teachers must consider their audience carefully to ensure feedback is meaningful and motivational because all learners receive feedback differently and for some, it may impact them emotionally (Hargreaves, 2013). Thus, teachers must create classroom cultures of growth, full of learners that value and know how to use feedback. They should then consider their audience carefully and be flexible in their chosen feedback approach.

Timing

The literature regarding feedback timing is conflicted, and gravitates around two options: delayed feedback and immediate feedback (Shute, 2008). It is therefore intertwined with the mode, as VF will commonly be instant, whereas WF is innately delayed.

Some research suggests immediate feedback is more effective, and the sooner feedback is provided, the more likely learners are to retain and use it (Phye & Andre, 1989). Evidence suggests immediate, corrective feedback can prevent misconceptions or basic errors from becoming retained in memory (Kulhavy & Anderson, 1972), and teach learners basic skills errors are unacceptable (Brookhart, 2008). Furthermore, Clarke argues "feedback at its best is much more immediate, with lots of oral interaction" (2014, p. 132), which she supports with evidence that learners prefer to receive feedback this way. One challenge to consider in immediate feedback is the interruption of learning flow. It is important feedback does not interrupt task engagement (Corno & Snow, 1986; Shute, 2008). Additionally, constant immediate feedback may result in learners relying on feedback to drive learning (Shute, 2008; Hendrick, Macpherson & Caviglioli, 2017).

Alternative research suggests delayed feedback may be more effective and lead to better retention (Kippel, 1973). Often these arguments fall under the interference perseveration hypothesis: the idea in

the moment errors are likely to be forgotten rather than retained into memory (Kulhavy & Anderson,1972). In their review, Hattie & Timperley (2007) found delayed feedback had an effect size of 0.34, whereas immediate feedback measured at 0.24. Furthermore, delayed feedback can promote independence and meta-cognition, although this may impact negatively on the motivation of lower achieving learners (Shute, 2008).

An explanation for this disparity of evidence is offered by Kulik & Kulik's (1988) meta-analysis explores effective feedback timing. They conclude "delayed feedback appears to help learners only in special experimental situations and, more typically, to delay feedback is to hinder learning" (1989, p. 94). This suggests in real classroom settings, immediate feedback is the most effective strategy. Another explanation for the disparity is that the research into effective feedback timing is often ignorant to the different purposes of feedback, and how they relate to effective timing (Hattie & Timperley, 2007). Different timing may be more effective for different purposes (Clariana, Wagner & Roher Murphy, 2000). With immediate feedback being more effective in concept tasks, and delayed feedback more effective for procedural tasks (Shute, 2008).

These explanations of the contradictory evidence suggest immediate feedback may be more commonly effective in classroom learning. Crooks (1988) review agrees that immediate feedback is more beneficial than delayed feedback in most classroom situations, although the timing may not be as vital as long as the learner is still motivated to do well on the task. What is vital with either strategy is that the feedback is provided whilst still relevant to the learner, and whilst they see the goal of the learning as still achievable (Brookhart, 2008; Crooks, 1988; Shute, 2008). This relevance of feedback is key to it remaining meaningful and motivational for the learner.

Use and Management

Teachers' feedback can only be effective if the learner can manage and use the feedback. Learners must therefore be skilled in managing and using feedback (Sadler, 2010). Wiliams suggests feedback should "be more work for the recipient than for the donor" (Wiliams, 2011, p. 146), and recommends framing feedback like detective with a clear task to complete (Wallance & Kirkman, 2017). It is also important that teachers build classroom cultures where learners appreciate, manage, and use feedback (Brookhart, 2008; Clarke, 2014; Cowie, 2005; Gamlem & Smith 2013; Hattie & Timperley, 2007; Wallace & Kirkman, 2017). An important part of this will be embedding a growth mindset culture (Dweck, 2006) to underpin all feedback (Clarke; 2014; Wallace & Kirkman, 2017). A classroom culture of growth, which embodies growth mindsets, and values feedback leads to feedback being more meaningful, motivational and manageable for the learner. Teachers must show learners how to

effectively manage feedback so they create tacit knowledge or personal knowledge (Polanyi, 1962) of how to use feedback effectively.

The issue of use and management is neatly summarised by Gamlem & Smith: "Researchers point out that feedback leads to learning gains only when it includes guidance about how to improve, when students have opportunities to apply the feedback, understand how to use it and are willing to dedicate effort" (2013, p. 152).

Feedback Content

When focusing on feedback content, it remains important to consider how feedback is meaningful, motivational, and manageable (ITWRG, 2016). It is also important to consider how feedback content addresses Hattie & Timperley's (2007) three questions: where am I going (Feed Up)? how am I going (Feed Back)? where to next (Feed Forward)?

Type and Focus & Function

Effective feedback content, focus and function may vary based on feedback type. Butler & Winne (1995) note older feedback research ignored the various types of feedback, but more contemporary literature seeks to explore different feedback types. Hattie & Timperley (2007) suggest four different feedback types: task feedback (FT), process feedback (FP), self-regulatory feedback (FR), and self feedback (FS). Of these levels, FS is least effective. Research suggests task type feedback is more effective than feedback which focuses on learners themselves (Sierro & VanOudenhoven, 1995; Shute, 2008; Butler, 1987; Kluger & Denisi, 1996), as "feedback effectiveness decreases as attention moves up the hierarchy closer to the self and away from the task." (Gamlem & Smith, 2013, p. 153).

FT is effective for improving learning and should be focused, discussing only a few elements at once (Bitchener & Knock, 2008), and ensuring these are made "relative to learning goals and outcomes" (EEF, 2018a, p. 1), without referencing the learner (Shute, 2008; Butler, 1987; Kluger & Denisi, 1996). Thus keeping the focused attention on improving performance (Kluger & Denisi, 1996; Butler, 1987). Nicol's (2010) suggests this may include being selective, specific, contextualising and forward looking. It is possible to use grades as part of task based feedback, although the effectiveness of grading in primary school learners is dependent on their ability and gender (Klapp, 2015), and evidence suggests descriptive feedback is more effective when provided without grading (Lipnevich et. al., 2009). Therefore, FT content should focus on telling the learner the desired outcome, describing their performance against that outcome, and informing them of what they need to do to

move forward. This answers each of Hattie & Timperley's (2007) effective feedback questions, and is therefore more likely to be meaningful and motivational (ITWRG, 2016).

Other contexts may call for process or self-regulatory type feedback. FR and FP are effective for mastering the process of a task. This feedback type can increase learner engagement and motivation (O'Rouke et. al., 2014), but should be focused on learning behaviours rather than on the task outcomes (Dweck, 2015). The praising of learning behaviours within a process can serve a motivational purpose, but only if used sparingly and perceived as sincere (Henderlong & Lepper, 2002). Praise alone does not constitute effective feedback (Hattie & Timperley, 2007), and evidence suggests effective teachers use praise less often (Good & Grouws, 1975), and its effectiveness varies with the age of the learner (Meyer et. al., 1979). When used, praise should focus on the process or specific learning behaviours rather than the person, as person focused praise could lead to learners attributing failure to themselves and impact negatively on self-esteem (Brummelman et. al., 2014). In other words: "Praise related to self is found to preclude learning, while praise related to task [process] and effort might raise motivation, effort and then performance" (Gamlem & Smith, 2013, p. 152). It is important that praise, when used, contains useful learning information (Hattie; 1999; Hattie & Timperley, 2007). Thus, FP / FR types should focus on learning behaviours, using praise of process and learning behaviours sparingly to avoid damaging self-esteem, and to maximise on the motivational potential. The focus of effective process feedback is on feeding back and answering the question: how am I going? (Hattie & Timperley, 2007).

Effective feedback type will commonly be task related, although some contexts may require effective process or self-regulatory type feedback. Teachers should select the type of feedback according to the context of the task, and make research informed choices around the focus and function of that feedback as a result.

Clarity, Specificity, Comparison and Honesty

With any feedback strategy, or type, the feedback must be selective, specific and clear (Nicol, 2010; Gamlem & Smith, 2013; Butler & Winne, 1995). Feedback should specifically focus on a few elements of learning (Bitchener & Knock, 2008), which are clearly "relative to learning goals and outcomes" (EEF, 2018, p. 1). More precisely, teachers' feedback should address learners' faulty thinking. Addressing correct answers with feedback makes little difference to later learning (Pashler et. al., 2005), and complete misunderstandings would be better addressed through re-teaching (Hattie & Timperley, 2007). Having specificity and clarity will ensure feedback is effectively meaningful for the learner. Teachers' feedback must have clarity and specificity in relation to Hattie & Timperley's

(2007) final question: where to next? This clarity is more easily achieved if it is based on a clear criteria (relating to the key question: where am I going?), outlined before the task (Sadler, 2010). Mali, in Wallace & Kirkman (2017), uses the term 'feedfront' to refer to teachers telling learners exactly what the learning goals are and how to achieve them, and suggests using other learners' work as good examples to help 'feedfront' (feed up). However, effective feedback content should focus on personal progress, encourage individual effort, and avoid direct comparisons with others (Crooks, 1988). Also, sincerity of feedback appears to be important in providing motivation for learners (Henderlong & Lepper, 2002). Teacher's language is important, and Professor Bill Lucas recommends using 'you may like to' rather than 'you must' language (Wallace & Kirkman, 2017). This gives the learner agency in their own work and allows them to accept or reject feedback.

Effective feedback: a summary of complexity.

This review has looked at the general principles emerging from five major research reviews in the field and explored some specific principles of effective feedback in further detail. From this exploration emerges a set of research recommendations that could inform the development of a school's effective feedback practice. Below (Figure *2*) is an attempt to summarise these research recommendations. Although it is useful to summarise for the purposes of this review, it is important not to view this as an easy recipe for effective feedback, as no such thing exists (Shute, 2008). Each element explored in this review is complex, interwoven and variable depending on context. Black & Wiliams' conclude their exploration of formative assessment with a quote that is also a relevant summary here:

> "there does not emerge, from this present review, any one optimal model on which such a policy might be based. What does emerge is a set of guided principles, with the general caveat that the changes in classroom practice that are needed are central rather than marginal, and have to be incorporated by each teacher into his or her practice in his or her own way."
>
> (1988a, p. 62).

Thus, developing effective feedback must be flexible and "draw on teachers' professionalism" (ITWRG, 2016, p. 8). It is complex and can only be achieved when teachers have an awareness of these research recommendations and apply this flexibly within the specific contexts of their classroom. Only then can a teacher deploy a multitude of feedback strategies and content to achieve as effective feedback as is possible in their classroom.

Feedback Strategy	Feedback Content
General principles for effective feedback strategy suggest that feedback should be: - ***Meaningful*** - ***Motivational*** - ***Manageable.*** (Independent Teacher Workload Review Group, 2016)	General principles for effective feedback content suggests that feedback should address: - **Where am I going? (Feed Up)** - **How am I going? (Feed Back)** - **Where to next? (Feed Forward)** (Hattie & Timperley, 2007)

Effective feedback strategy should be ***meaningful***:

- by involving learners in the process (Black & Wiliams, 1988): including a clear sharing (or group generating) criteria (Black & Wiliams, 1988; Brookhart, 2008; Gamlem & Smith, 2013) and providing opportunities for peer- and self- feedback (Black & Wiliams, 1988; Boon, 2016; Wiliams, 2011) modelled by teacher's feedback(Clarke, 2005).

- by providing feedback in the moment when possible (Kulik & Kulik, 1989; Phye & Andre, 1989), whilst not interrupting the flow of work (Corno & Snow, 1986; Shute, 2008). If delayed, feedback will remain meaningful so long as it is provided whilst still relevant to the learners (Crooks, 1998; Natriello, 1987) and given as soon as possible (Kulik & Kulik, 1989; Phye & Andre, 1989).

- by often being verbal, part of a dialogue and used to make the most of a 'teachable moment' (Clarke, 2003; Brookhart, 2008; ITWRG, 2016; Kulik & Kulik, 1989). When written, feedback must be clear and understandable (Careless, 2006; Van Der Schaff et al., 2013), ideally paired with dialogue (Nicol, 2010; Van Der Schaff et al., 2013), and considered alongside teacher workload to remain manageable (Elliott et. al, 2016; ITWRG, 2015).

Effective feedback strategy should be ***motivational***:

- by encouraging effort (Brookhart, 2008; Crooks, 1998; Hattie & Timperley, 2007; Natriello, 1987).

- by being provided with time to act on the feedback (Gamlem & Smith, 2013).

- by being provided within a classroom climate where learners are encouraged to value feedback, and are trained in using it (Brookhart, 2008; Cowie; 2005; Dweck 1986; Dweck 2006; Dweck, 2015; Hattie & Timperley, 2007; Sadler, 2010; Wispoel & Austin 1995).

Effective feedback strategy should be made ***manageable***:

- by teachers being encouraged to be flexible and adapt their practice accordingly to the context and the audience of the feedback. Including using individual, group or whole class approaches (Brookhart, 2008; Gamlem & Smith, 2013; Sherrington, 2017).

- by considering all feedback approaches alongside the larger workload of a teacher (Elliott et. al., 2016; ITWRG, 2015).

Effective feedback content should ***feed up***:

- by contextualising the feedback (Nicol, 2010,) and making links to a clear sharing (or group generating) criteria (Black & Wiliams, 1988; Brookhart, 2008; Gamlem & Smith, 2013), and remind learners of their goals, and making any feedback relative to those learning goals (Black & Wiliams, 1988; EEF, 2018a; Kluger & DeNisi, 1996;).

Effective feedback content should ***feed back***:

- by being focused on the task, not the individual (Butler, 1987; Kluger & DeNisi, 1996; Shute, 2008; Sierro & VanOudenhoven, 1995). Although in some contexts it may be appropriate to feedback on the process and self-regulation by focusing on learning behaviours (Dweck, 2015; O'Rouke et. al., 2014).

- by describing (rather than judging) the learner's success and personal progress (Brookhart, 2008; Crooks, 1998; Natriello, 1987). In a selective (Bitchener & Knock, 2008), and clear (Butler & Winne, 1995; Gamlem & Smith, 2013; Hattie & Timperley, 2007; Nicol, 2010) way.

- by being constructive and supportive (Sadler, 2010); avoiding comparisons (Crooks, 1998; Natriello, 1987), and consciously choosing language to avoid threatening self-esteem (Brummelman et. al., 2014; Kluger & DeNisi, 1996). Being cautious of the emotional impact of feedback (Hargreaves, 2013).

- by avoiding grading in primary classrooms (Klapp, 2015; Lipnevich et. al., 2009), and being cautious with the use of praise (Good & Gouws, 1975; Henderlong & Lepper, 2002; Kluger & DeNisi, 1996; Meyer et. al.,1979).

- by being flexible with teachers' choice of feedback content, based on learners previous performance (Shute, 2008). Higher prior performance may only require facilitative prompts, whereas lower prior performance may require more directive elaborative feedback. Feedback is also most effective when addressing faulty understanding, not complete lack of understanding (Hattie & Timperley, 2007). Teachers should consider re-teaching rather than feedback in the case of the latter.

Effective feedback content should ***feed forward***:

- by being forward looking (Nicol, 2010) and providing learners with the cognitive information they need to close the gap (Brookhart, 2008).

Figure *2*. A summary of the general principles and recommendations for effective teachers classroom feedback practice.

How can a school implement effective feedback?

This review has explored what feedback is, what makes it effective, the general principles, specific principles, and research recommendations for effective feedback (Figure *2*). In its final section, this review will consider how a school can use this information to improve classroom feedback practice through collaborative DPD.

The field of DPD has been widely researched since the end of the twentieth century, which saw a push in developing teacher effectiveness (Reeves, 2002). The DfE, in their guidance for teachers' professional development (2016), are clear that DPD can lead to improved teacher practice, and in turn, improved learning outcomes. Wallace & Kirkman agree that DPD on feedback is vital for improving practice but warn that it requires "careful planning and the right system in place" (2017, p. 143). Before looking at a model for effective DPD, it is useful to theorise the type of teaching practice change which is desirable in this context. Hatch's (1997) suggests three categories of change: absorption, accommodation and revolution. Absorption level DPD would be ineffective as teachers take in new information but do not use it to change practice. The effective DPD occurs in the other two categories: where teachers start to accommodate new ideas and potentially revolutionise their practice as a result. Additionally, Argyris & Schön's (1978) suggests two types of learning improvement: single-loop improvement and double-loop improvement. Single-loop improvement is focused on teachers improving to achieve a predetermined set of objectives or standards, whereas double-loop improvement involves becoming informed, responding to change, and becoming flexible in their approach (Reeves, 2002). It is double-loop improvement which is more conducive to long lasting practice changes, but organisations too often focus on single-loop improvement (Cuban, 1983; Garvin, 1993). In the context of this review, it is double-loop improvements (Argyris & Schön, 1978), achieved through accommodating levels of change (Hatch, 1997), which is desirable.

If double-loop improvement, through accommodating change, is desirable then this should inform the DPD approach taken. The Teacher Development Trust (TDT) suggests one possible DPD model in the conclusions of Wallace & Kirkman's (2017) feedback book, which consists of five stages: diagnose, theorise, enquire, repeat and refine, present. This model mirrors Scribner et. al.'s (1999) recommendations for creating professional learning communities (PLC's) in schools, which argues PLC's should be "informed by experience and relevant literature" and should "question underlying assumptions that guide practice" (Scribner et. al., 1999). The following will now outline each of the TDT five stages (Wallace & Kirkman, 2017), with reference to the steps recommended by Scribner et. al. (1999). It will also outline what an introduction to this model of DPD might look like. Other key

documents will also be references, including: the review of international evidence on effective professional development (Cordingley et. al., 2015); and England's standard for teachers' professional development (DfE, 2016).

Introduction

Before embarking on the TDT's model of DPD, leaders must introduce the initiative to those who are expected to engage with it. This introduction is vital as the key to "successful professional development is generating buy-in" from all those participating (Cordingley et. al., 2015, p. 25). Thus, leaders of the DPD should avoid taking a top-down approach: whereby the leader pushes the DPD, with predetermined standards onto those participating. Reeves argues heavy control mechanisms and pressure from DPD leaders results in short term practice tweaks, which they call "essentially non-development" (2002, p. 2). This is supported by Cordingley et. al.'s (2015) review of international evidence, which concludes that a didactic model does not support effective DPD. Instead, leaders should adopt a bottom-up approach, which involves the participants in the process. This approach empowers participants to make change, rather than having changes pushed onto them (Wood & Bennett, 2000). Those participating feel they are working *on* whole school improvement, rather than working *in* a school which is trying to make them improve. It gives participants a voice in the change and approaches DPD by constructing a PLC, where participants have agency. Although focused on departmental improvements rather than the whole school, Ainscow, Barrs & Martin (1998) conclude powerful practice changes come from developing collegiality. Their findings recognise the importance of individual reflective practice (Wood & Bennett, 2000), but also the importance of a collaborative approach to improvement. Specialists in the field of collaborative school improvement are clear that "success is dependent on establishing a culture of continuous improvement, collaboration, and autonomy" (Rees, 2018). The leader introducing the DPD should be "creating a shared sense of purpose" (Cordingley et. al., 2015, p. 16), and making sure those involved have autonomy in the process and see the relevance of the DPD to their own teaching.

Diagnose

The first stage of the TDT's model is to diagnose. This involves looking at the current practice in a school to "ensure that the whole process is rooted in real classroom issues - something that increases the likelihood of impact and success" (Wallace & Kirkman, 2017, p. 147). This is mirrored in Scribner et. al.'s (1999) first step, which requires schools to embrace all of the career experiences of the professional community. The same approach is also recommended in Cordingley et. al.'s (2015) review of international evidence on effective professional development. They argue it is important at this stage for participants to share their own theories of effective practice and discuss them.

Theorise

The next stage in the TDT's model is to theorise: to read research, explore varying opinions, develop critique, and to begin to use this information to "examine current school practice" (Wallace & Kirkman, 2017, p. 148). Again, this is mirrored by Scribner et. al.'s (1999) recommendations for teachers to become informed by literature. Specific time must be dedicated for conversations around the information coming from literature which "challenge teachers' beliefs and expectations about teaching and how children learn" (DfE, 2016, p. 8).

Enquire

Once all members of the PLC have shared their collective experience, and learnt about the research recommendations, the next stage in the TDT's model requires them to consider how their practice may be improved in light of their knowledge of both theory and practice. Participants should be encouraged to develop "practice and theory together" (2016, p. 8), and begin to make double-loop improvements Argyris & Schön's (1978), achieved through an accommodating level of change (Hatch, 1997). In this stage teachers are encouraged to "draw in support and challenge from expert practitioners, research and colleagues with various perspectives" (Wallace & Kirkman, 2017, p. 149), in order to "continuously question the basic premises governing behaviour" (Scribner et. al., 1999, p. 134). As the PLC questions the basis of their practice and investigates the values that guide it (Rait, 1995), they can begin to see where their practice may need to change. The participants are to "critically engage with the knowledge base, and balance this with opportunities to implement and apply practice" (Cordingley et. al., 2015, p. 15).

This is the part of the process that may be difficult for those involved as it will involve elements of habit deconstruction. "As established practitioners, many of the learners will already have invested heavily in pursuing certain values and in establishing habits of practice they rely on" (Reeves, 2002, p. 58). Unpicking these may cause discomfort and unease. Teachers can be initially anxious but become more excited when they begin to see change happening (Anonymous, 2017). In order to accommodate their new knowledge, participants should be given time to discuss and challenge practice, but this must come with peer collaborative support (Cordingley et. al., 2015; DfE, 2016).

Refine & Repeat

The TDT suggests this process should be repeated, as feedback practice becomes increasingly refined and more effective. The DfE (2016) guidance is clear that the most effective DPD is iterative, which is important because it provides participants with the "opportunity for experimentation, reflection,

feedback and evolution" of practice (DfE, 2016, p. 10). This entire process should take up to two terms (Cordingley et. al., 2015) and will require dedicated time for reflective discussions (Cordingley et. al., 2015; DfE, 2016).

Present

Finally, the TDT suggests ways in which the outcomes of this process of DPD can be shared within a PLC

Research Questions

The purpose of this research, as identified in the introduction, was to investigate how teachers can work together to implement more effective verbal feedback. This literature review began by outlining the development of feedback in education and defining it within the context of this review. It then explored the research recommendations for effective classroom feedback. Finally, this review examined a model by which a school could use these recommendations to improve the effectiveness of their feedback practice. After that the necessary processes required when designing research questions were considered (Andrews, 2003; Leong et. al., 2012). To be able to explore the overarching research question, three measurable research sub-questions were designed. These examine the school's feedback practice prior to, during, and after the intervention of implementing more effective feedback.

How can teachers work together to implement more effective verbal feedback?
1. What was the school's feedback practice prior to the intervention?
2. What changes happened to the school's feedback practice during the intervention?
3. What was the school's feedback practice after the intervention?

Methodology: Implementing effective feedback

The following research and development project is most accurately described as a 'practitioner enquiry' (Menter et. al., 2010), as I am a "teacher engaged in a small-scale enquiry into an aspect of his/her 'occupational context' in order to improve both teaching and learning" (Thompson, 2007, p. 44). The small-scale enquiry took place in the primary school in which I work. The school is a voluntary academy serving approximately 200 children, aged 5-11, in the north west of England. The practitioner enquiry could also be characterised as an instrumental case study (Stake, 2005), as it is "examining a particular case in order to gain insight into an issue" (Cohen, Manion & Morrison, 2018, p. 378). This characterisation is fitting because the practitioner research meets most of the case study hallmarks set out by Hitchcock & Hutches (1995), although comprehensive definitions of case studies are contested (Cohen, Manion & Morrison, 2018). It is a singular, in-depth study, within the natural setting of one school, where multiple data were intended to be collected (Cohen, Manion & Morrison, 2018). It aimed to gain insight into the impact of an intervention, involving teachers working together to implement effective verbal feedback. The specific details of the interventions design will be provided throughout this section. Briefly, it involved establishing a PLC, which would meet regularly to collaborate and engage in DPD regarding effective feedback, as outlined in the TDT's model. The overarching research question remained the same, and three measurable sub-questions were designed:

How can teachers work together to implement more effective verbal feedback?
1. What was the school's feedback practice prior to the intervention?
2. What changes happened to the school's feedback practice during the intervention?
3. What was the school's feedback practice after the intervention?

The structure of the sub-questions divides the research into three parts: feedback practice prior to the intervention (past); changes to practice during the intervention(present); and feedback practice after the intervention (future). The research was designed to collect data in a practicable way (Cohen, Manion & Morrison, 2018) at each of these three stages - using a mixed methods approach. This approach was chosen to allow the tracking of "an intervention and the changes in participants over time" (Cohen, Manion & Morrison, 2018, p. 42). Defining mixed methods research can be complex (Tashakkori & Teddie, 2003; Johnson & Onwuebuzie, 2004), but broadly it is any research which "combines various elements of both quantitative and qualitative approaches" (Creswell & Plano Clark, 2011, p. 4). The majority of data intended to be collected was qualitative, but some quantitative data strategies were chosen for easily comparative analysis. This mixed-methods approach reflects the reality of educational spaces (Cohen, Manion & Morrison, 2018), and can build a deeper

understanding of educational issues (Day & Simmons, 2008). Creswell's (2014) seven steps for planning and conducting mixed methods research were considered, along with Cohen, Manion & Morrision's (2018) matric framework for planning mixed methods research. The following section will outline the research design (Figure *3*). To support this explanation a research timeline has been provided, which shows the synchronous timeline of the intervention (Figure *4*).

The research was unavoidably altered by the COVID-19 partial closure of all schools. The following outlines the research as it was initially planned, and changes required as a result of the COVID-19 interruption are discussed subsequently.

Research Part One: Prior to the intervention What was the school's feedback practice prior to the intervention?	
Research Part Two: The intervention What changes happened to the school's feedback practice during the intervention?	Intervention Stage 1: Diagnose
	Intervention Stage 2: Theorise
	Intervention Stage 3: Enquire
	Intervention Stage 4: Repeat & Refine
	Intervention Stage 5: Present
Research Part Three: After the intervention What was the school's feedback practice after the intervention?	

Figure *3*. The Research Design

Research Timeline — **Intervention Timeline**

Research Part One
What was the school's feedback practice prior to the intervention?

Data Collection 1: Prior to intervention
- Qualitative data on current practice.
- Questionnaire about current practice and understanding of research recomendations.

Research Part Two
How did the school's feedback practice change during the intervention?

Research Part Three
What effect did the intervention have on the school's feedback practice?

Data Collection 2: During intervention
- Qualitative data on new practice and new policy.

Data Collection 3: After the intervention
- Closing questionnaire on change to practice.
- Interviews on change to practice
- Classsoom observations of feedback

Spring 1 - Week 1
Spring 1 - Week 2 — Intervention Stage 1: Diagnose
Spring 1 - Week 3 — Reflection
Spring 1 - Week 4 — Intervention Stage 2: Theorise
Spring 1 - Week 5 — Reflection
Spring 1 - Week 6 — Intervention Stage 2: Theorise
Spring 1 - Half Term — Reflection
Spring 2 - Week 1 — Intervention Stage 3: Enquire
Spring 2 - Week 2 — Reflection
Spring 2 - Week 3 — Intervention Stage 4: Refine
Spring 2 - Week 4 — Reflection
Spring 2 - Week 5 — Intervention Stage 4: Refine
Spring 2 - Week 6 — Reflection
Spring 2 - Week 7 — Intervention Stage 4: Present
Easter Break
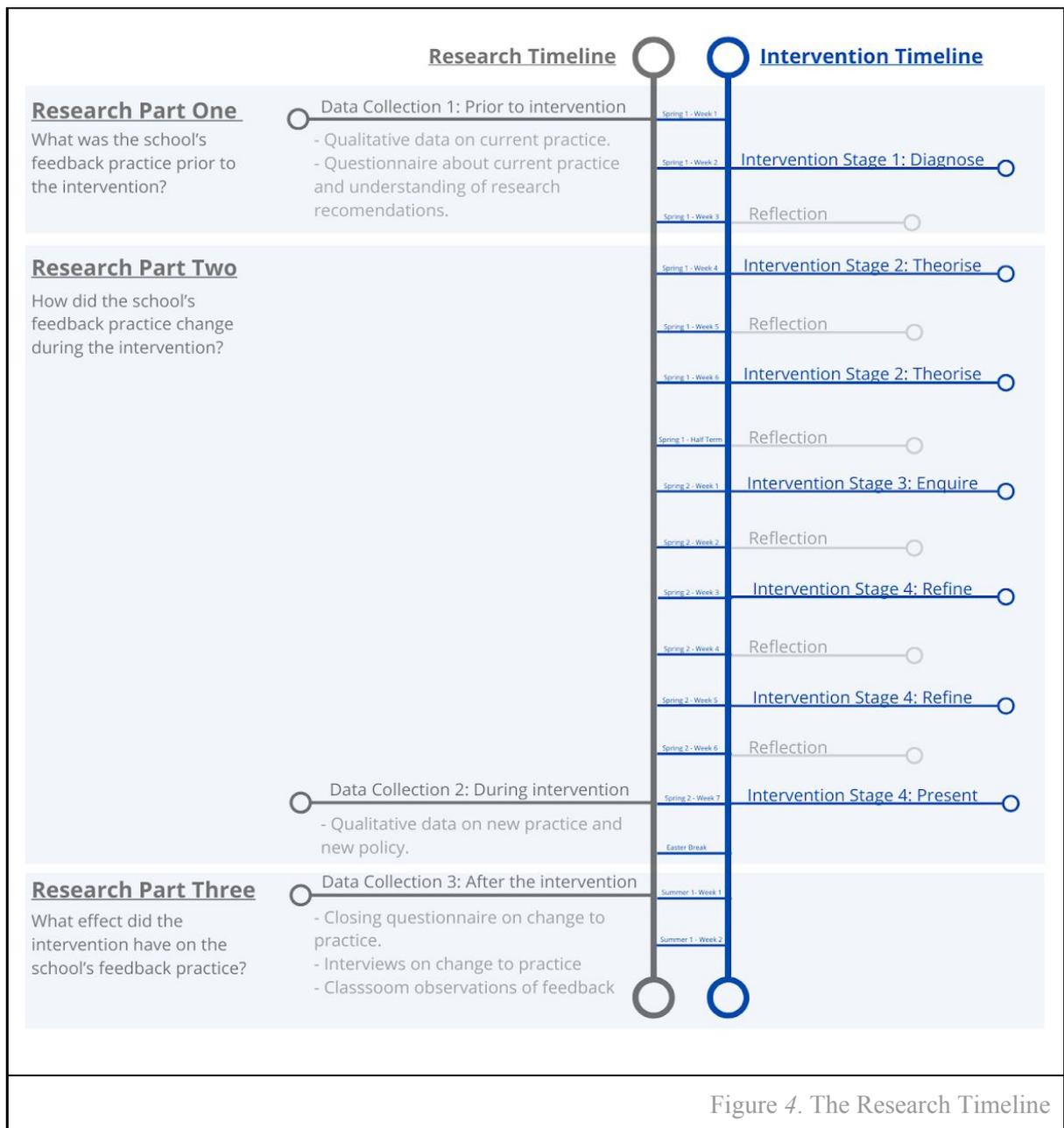Summer 1 - Week 1
Summer 1 - Week 2

Figure *4*. The Research Timeline

Research Part One: Prior to the intervention

The research and related intervention were detailed in a letter sent to the Head of School, who gave informed, written consent for the research to take place, and for all staff to participate. As well as being an ethical necessity, this was important because the success of a PLC can be improved when participants see the school's leadership supports the intervention (Reeves, 2002; Scribner et. al., 1999). The head of school and I agreed on the research timeline (Figure *4*). Although effective DPD would ideally span two school terms (Cordingley et. al., 2015), it was only possible within the bounds of school timetables to run the intervention over the spring term. Although shorter than desirable, this still provided dedicated time for participants to "discuss and collaborate on the improvement of feedback" (Wallace & Kirkman, 2017, p. 145), which is important for successful DPD (Ainscow, Barrs, & Martin, 1998; Cordingley et. al., 2015; DfE, 2016; Wallace & Kirkman, 2017). The school could only meet fortnightly, so periods of reflection were planned between intervention meetings. It was also hoped this would allow participants time to consider their classroom practice. As the TDT's advise: "Teachers develop best when they pay close attention to the impact they are having on pupils… This needs to be woven together with deep, professional thinking" (Wallace & Kirkman, 2017, p. 144).

With consent from the head of school, an introductory meeting was organised with all possible participants. It is advisable to have as large a sample as possible when working with mixed methods research (Cohen, Manion & Morrison, 2018), so participation was open to all class based members of staff (including: teachers, teaching assistants, and class based leaders). The introductory presentation served an ethical purpose of informing participants but was also an opportunity to begin "generating buy-in" from participants (Cordingley et. al., 2015, p. 25). Following the presentation, all staff gave their informed, verbal consent to participate. There were twenty three participants in total, consisting of eleven teachers (including class teachers, and leaders with teaching responsibilities), and twelve teaching assistants. The EEF defines teaching assistants as "adults who support teachers in the classroom" (2018b, p. 1). In the context of this school that includes class teaching assistants, and teaching assistants who give one-to-one learning support.

The data collected in part one aimed to answer the first sub-question: what was the school's feedback practice prior to the intervention? Based on the review of literature, this included: exploring current classroom feedback practice; exploring collective, professional experience of effective feedback; exploring confidence and effectiveness of practice; and exploring current understanding of the

research recommendations for effective feedback practice. Two sets of data were collected to support answering this question.

Current practice questionnaire

During the introductory meeting, all participants were asked to fill in an online questionnaire. It is important if using questionnaires to be clear on their purpose (Cohen, Manion & Morrison, 2018). The purpose of this questionnaire was to get a general idea of feedback practice prior to the intervention. This would serve as a baseline from which changes over time could be measured (Cohen, Manion & Morrison, 2018). This baseline could also be used to inform the content of the intervention itself. The questionnaire was designed with data analyses in mind, and the sequential steps for questionnaire planning were considered (Cohen, Manion & Morrison, 2018). Some of these steps were not required, but a pilot questionnaire was trialled with a smaller sample. This revealed participants did not understand the key terms 'teacher-learner feedback', an assumption which Cohen, Manion & Morrison (2018) warn against. The concern raised by the pilot was overcome by delivering a short script prior to the questionnaire which defined key terms and provided instructions for completion. The final questionnaire consisted of four questions:

Q1: How effective do you feel the teacher-learner feedback is in our school? (1-5 rating scale ranging from not effective to very effective).
Q2: How confident do you feel providing effective teacher-learner feedback? (1-5 rating scale ranging from not confident to very confident).
Q3: How aware are you of the research recommendations for effective teacher-learner feedback? (1-5 rating scale ranging from not aware to very aware).
Q4: What do you think constitutes effective teacher-learner feedback? (open question with sentence completion guide and a space to respond).

Questions 1-3 are closed questions, whereas question 4 is open-ended. This mixed approach was designed to reveal more than a partial understanding of current practice (Cohn, Manion & Morrison, 2018). Closed questions with rating scales were used as they "combine the opportunity for flexible response with...forms of qualitative analysis" (Cohn, Manion & Morrison, 2018, p. 481). These questions are accessible for participants (Cohen, Manion & Morrison, 2018), and generated easily analysable data (Bayley, 1994), which would allow comparisons (Oppenheim, 1992). They were designed to create ordinal data through rating scales, which are good for accessing attitudes, opinions, or perspectives (Cohn, Manion & Morrison, 2018). It was planned to use Likert scales, as their

specifically labelled categories are preferred by participants (Krosnick & Presser, 2010). However, none of the commonly used Likert categories (Cohn, Manion & Morrison, 2018) were applicable to the required questions. Instead, semantic differential scales (Osgood et. al., 1957) were chosen as an alternative rating scale system. With two words on either end of the scale, leaving the labels in between to participants interpretation. It is possible this may influence the reliability of the data (Champagne, 2014), and that closed questions would elicit thoughtless responses (Krosnick & Presser, 2010). This limitation was tackled in the final question designed to elicit more thoughtful and detailed responses. This was designed as a "window of opportunity for respondents to shed light on an issue" (Cohen, Manion & Morrison, 2018, p. 476). The question had an open space for responses, and a sentence completion guide of: 'I think effective feedback practice includes…'. This was used to guide participants in answering (Oppenheim, 1992). The mixed data gathered in this questionnaire was the first data collected. This would contribute to answering the first research sub-question and be used to inform the content of the DPD intervention.

Current practice participant notes

It was possible the format of the questionnaire may limit the participants from sharing details of their current practice. To avoid this limitation, all participants were then asked to make notes on their current feedback practice, and what in their experience was effective. All participants were invited to share their experiences, as this is the first stage of effective DPD (Cordingley et. al.'s, 2015; Wallace & Kirkman, 2017; Scribner et. al.'s, 1999). These participants notes were the second data collected and were analysed to contribute to the first research sub-question. The tools used to analyse both of these data sets are later outlined in a specific section.

At the end of the introductory meeting, participants were invited to meet as a PLC the following week and begin the DPD of their effective feedback practice.

Research Part Two: The intervention

The intervention established a PLC, which met regularly to collaborate and engage in DPD. The intervention design follows the five stages model by the TDT (Wallace & Kirkman, 2017), which is outlined fully in the literature review. The interventions design was also informed by: Scribner et. al.'s (1999) recommendations for creating professional learning communities in schools; the DfE's (2016) standards for professional development; and Cordingley et. al.'s (2015) review of international evidence on effective professional development.

Each intervention stage involved participants meeting together as a PLC to collaborate and discuss, followed by a period of reflection before the next meeting. It was intended that data would be collected in the final stages of the intervention to answer the second research sub-question: how did the school's feedback practice change during the intervention? The specific details of each stage will now be outlined as they were initially planned.

Intervention Stage 1: Diagnose

Stage 1 of the intervention is the first step of the TDT's model: to diagnose. Stage 1 aimed to explore current practice and embrace the multiple career experiences of the participants (Wallace & Kirkman, 2017; Scribner et. al., 1999). The Stage 1 meeting began with a reminder of the research intentions. The analysis of the data collected in the introductory meeting was shared with all participants. This helped to facilitate a conversation around current practice and collective, professional experience of effective feedback. To conclude the Stage Two meeting, participants were invited to meet again in two weeks' time, and encouraged to use the break to reflect on their current feedback practice.

Intervention Stage 2: Theorise

Intervention Stage 2 stretched two participant meetings (as shown on the research timeline). This stage intended to inform participants of the literature. The results of the questionnaire data analysed in Part One of the research were used to inform the content of these meetings. The sessions explored the general principles of effective classroom feedback (as identified in the prior literature review), and the research recommendations for effective feedback (see summary in Figure *2*). At the end of the Stage 2 meetings, all participants were given a copy of the recommendations summarised in Figure *2* for their reference. They were invited to meet again in two weeks' time, and encouraged to use the time to reflect on the research recommendations, and their own feedback practice.

Intervention Stage 3: Enquire

Intervention Stage 3 required participants to consider how their practice may be improved by accommodating their new knowledge of research recommendations alongside their experience. In this stage participants were encouraged to develop "practice and theory together" (DfE, p. 8). Participants were reminded of our current practice (as discussed in Stage 1), and of the research recommendations for effective practice (as shared in Stage 2). Participants discussed what elements of our current practice may need to change as a result of the research recommendations. A focus was placed on working with "a range of colleagues to identify which strategies are useful to implement." (Wallace & Kirkman, 2017, p. 145). At the conclusion of the Stage 3 meeting, participants were invited to meet

again in two weeks' time and were again encouraged to use that time to implement their thoughts, and trial new ideas in practice.

Following Stage 3, and prior to the beginning of Stage 4, the research was unavoidably altered by the COVID-19 partial closure of schools. Detailed below is the planned methodology prior to this interruption.

Intervention Stage 4: Repeat & Refine

Intervention Stage 4 was intended to run for a four week period. During that time, participants would meet twice, with gaps in between meetings for reflection and practical application of ideas. It was intended these meetings would allow participants the space to reflect on their changing practice. This period would ensure the DPD was iterative and provided participants with the chance to reflect and make double-loop improvements. Researcher field notes would have been kept during this stage to contribute to answering the second research sub-question. The details and format of these meetings would have been responsive to the needs and wants of the PLC.

Intervention Stage 5: Present

During intervention Stage 5 it was planned that data would be collected to answer the second research sub-question: how did the school's feedback practice change during the intervention? Participants would have been requested to present changes to their feedback practice and to update the feedback policy, which would now be informed by both their collective, professional experience, and their increasing knowledge of the research recommendations. This would have involved two collaborative presentations.

Firstly, participants would have been asked to make participant notes on their new feedback practice, similar to those made in Part One. They would have been encouraged to reflect on what we have learnt and discussed, and to be specific and clear in their notes.

Secondly, participants in the same groups would have been given a copy of the school's current feedback policy and asked to make notes and annotate. The notes made by the teams, and their annotations, would be the fourth data collected, and analysed to contribute to answering the second identified sub-question.

Research Part Three: Evaluating the Intervention

Part Three of the research was planned to address the third research sub-question: what effect did the intervention have on the school's feedback practice? This would have allowed an insight into any lasting impact of the intervention, which is important as all practitioner enquiry should "improve both teaching and learning" (Thompson, 2007, p, 44). It was intended this part of the research would happen in the first few weeks of the summer term, and a variety of possible qualitative data collections were planned for this period.

Firstly, it was intended all participants would complete the same questionnaire that they did at the beginning of the research. This would show the intervention's impact by revealing how participants' perspectives and understanding of effective feedback practice had changed during the intervention. Secondly, a number of teachers were going to be asked to participate in short interviews to discuss their feedback practice. These interviews would be anonymous and confidential (British Educational Research Association, BERA, 2018), and expand on the points identified in the questionnaire data. They were to be recorded and transcribed. Although it is recognised that the transcription loses some of the social context such as tone, inflection, and body language (Cohen, Manion & Morrison, 2018). Finally, informal feedback observations were going to take place. This would be an additional step to support participants in developing their effective feedback practice but would allow me to make field notes on how effective the classroom feedback had become.

Impact on research of COVID-19

The research design has been outlined as initially planned. After Stage 3 of the intervention, our school was asked to prepare for an imminent partial closure as a result of COVID-19. This unavoidably altered the trajectory of the research. There was one final participant meeting scheduled before the predicted date of school closures. It was decided to remove Stage 4 of the intervention and use the final meeting to complete Stage 5: present. This decision was made because the data planned to be collected at Stage 5 would contribute to answering the second research sub-questions, and therefore allow a partial answer to the overarching research question. Missing Stage 4 was limiting because it was an important iterative stage of the research. The interruption also meant Part 3 of the research was unachievable, and the evaluative data could not be collected. Subsequently, the research could not evaluate the impact of the intervention fully or answer the third sub-question. These changes undoubtedly limited the impact of the intervention on the schools feedback practice, and the quality of

the research itself. This will be discussed in more detail when drawing conclusions from the partial data collected.

Analysis of data

Although the COVID-19 interruption prevented the majority of data from being collected, four sets of data were collected prior to school closures. Most of the data is qualitative, with some quantitative elements within the questionnaire. As argued by Cohen, Manion & Morrision (2018), qualitative data analysis is an "ongoing process that takes place during the research as well as at the end of it". Therefore, the inductive process (Thomas, 2006) of analysing the data collected happened alongside the unfolding research. This section will explain the tools which were used to analyse the data which was collected, including:

1. Pre-intervention practice questionnaire
2. Pre-intervention participant notes
3. Post-intervention participant notes
4. Feedback policy annotations

Firstly, the data collected in the pre-intervention practice questionnaire included a mix of qualitative and qualitative data. These must be analysed separately, but can be "mutually informed" (Cohen, Manion & Morrison, 2018, p. 45). The quantitative rating scale questions were analysed to create comparisons. The closed question provided a wealth of qualitative data, which is complicated to aggregate and "difficult to code, classify and analyse" (Cohen, Manion & Morrison, 2018, p. 476). However, the qualitative data went through the process of data conversion (Cohen, Manion & Morrison, 2018, p. 46): taking qualitative data and coding it to be quantitative. The data was lightly coded following Strauss & Corbin (1990) sequence of coding. Initially, open coding was used to identify new categories and subcategories emerging from the data in relation to the research question. Then axial coding was used to group "related codes and subcategories into larger categories of common meaning" (Cohen, Manion & Morrison, 2018, p. 672). Subsequently, selective coding integrated core categories to form a theory or summary of the data. The data was coded, catagorised and then concluded (Cohen, Manion & Morrison, 2018). In this way, the data was analysed using conventional content analysis (Newby, 2010). This, along with the quantitative analysis, allowed for conclusions to be drawn about the current feedback practice of participants. Secondly, the data collected in both sets of participant notes (pre- and post-intervention) was coded and its content analysed in the same way described above. Finally, the annotations on the feedback policy were used to inform changes made to a new updated feedback policy.

It is true that "coding risks stripping out important context from the study" (Cohen, Manion & Morrison, 2018, p. 673), but the sequential system used allowed for conclusion to be drawn from limited data. However, it was important to check the credibility of these conclusions. In studies such as Gamlem & Smith (2013), two researchers code the data together to add further rigour to their conclusions. It was not possible within the bounds of this study to have a second researcher check the analysis of data (Cohen, Manion & Morrison, 2018). Instead the data was stakeholder and member checked: so "the credibility, transferability, dependability and confirmability of the data" was verified (Cohen, Manion & Morrison, 2018, p. 645). Each of the datas' coding, categorisation and conclusions were shared with the PLC in the subsequent meeting to see if they agreed. In every instance the categorisation was agreed by the participants.

Collaboration

The core of this research is a PLC, which all members of staff participated in. Each stage of the intervention had active collaboration of all participants to try and improve the effectiveness of the feedback in our school. Additionally, the research strategies were also enhanced through collaboration with the PLC. Each data set, which I coded individually, was shared with the PLC for feedback. Collaboration was a cornerstone of both the intervention, and the research design.

Ethical considerations

The research took active steps to be ethically sound, but there are some ethical issues to consider. Prior to initiating research, the details of the plan were shared and gained CUREC approval under the MLT Modus Operandi. Additionally, Robsons' (1993) ten questionable practices in social research were carefully considered. Informed written consent was obtained from the principle of the school, and then "voluntary informed and ongoing consent" (BERA, 2018, p. 9) from all individual staff participating in the research. However, it is possible that participants may have felt compelled to take part "by a school principal" or because they "do not wish to appear unhelpful to researchers" (Cohen, Manion & Morrison, 2018, p. 125). Although all participants were clearly given participatory choice, they may have felt pressure to participate because of the "asymmetries of power" (Cohen, Manion & Morrison, 2018, p. 137) between them and the leadership of the school, who were supporting the intervention. This ethical concern was tackled by repeatedly offering the right to self-determination (Howe & Moses, 1999), and the right to withdraw (Frankford-Nachmias & Nachmias, 1992). Participants were regularly told they could withdraw from the research (and the PLC) at any point,

and the data collected was confidential and inline with ethical guidelines (BERA, 2018). Participants were invited to each meeting, and their attendance and involvement in the research was not made mandatory by the leadership. This is important because informed consent is not a singular moment, but an ongoing research process (Wax, 1982). Additionally, for all collected data, anonymity was promised, and strategies to achieve anonymity from Frankford-Nachmias & Nachmias, (1992) implemented.

A second issue to consider is it may be uncomfortable for participants to change their practice (Reeves, 2002). However, teachers are used to participating in this type of information gatherings. Within their professional practice, teachers are exposed to a constant demand which is "placed on the education system through successive waves of reform and restructuring and the continuing need to respond to change" (Reeves, 2002, p. 2). To support participants with this challenge, we had to "identify and protect time for teachers to discuss and collaborate on the improvement of feedback" (Wallace & Kirkman, 2017, p. 145).

Furthermore, although no children participated in the study, it is important to consider the ethical impact of inconsistencies in the feedback they may have received during the intervention. This concern was considered, but the cost benefit ratio applied (Frankfert-Nachmias and Nachmias, 1992). It was decided that the children of the school possibly benefiting from improved feedback was more important than the potential disadvantages of a short window of inconsistent feedback.

Limitations

There are a number of limitations in the methodology outlined. Cohen, Manion & Morrison write that research within education is "typically a trade off between what one would like to do and what is actually possible" (2018, p. 3). Many of the limitations of this research were unavoidable and happened as a result of the educational setting in which it took place. For example, the research spanning one school term rather than the recommended two (Cordingley et. al., 2015), the PLC meetings only being timetabled once a fortnight, or the unavoidable COVID-19 impact. Other limitations have also been noted whilst detailing the methodology. Such as the possible misinterpretation of rating questions in the questionnaire, or the loss of social context when coding data. The research is also limited in its scale and is "culture and context bound" (Cohen, Manion & Morrison, 2018, p. 288). Other limitations of the research will be explored in further detail when an attempt is made later to draw conclusions from this research.

Findings & Discussion: Evaluating effective feedback

Although the research was unavoidably altered by the COVID-19 partial closures of all schools, the limited data collected does leave some findings to be discussed. As outlined in the methodology, data was collected to address the three measurable research sub-questions, and consequently contribute to answering the overarching research question. The analysis of the data collected, and its findings, will be outlined in relation to each of the three sub-questions. There will then be a discussion of how this limited data can contribute to answering the overarching research question: how can a school work together to implement more effective verbal feedback?

Findings

Research Part One: What was the school's feedback practice prior to the intervention?

Two sets of data were collected prior to the intervention, as outlined in the planned methodology. They were designed as a window into feedback practice prior to the intervention, and to answer the first research sub-question: what was the school's feedback practice prior to the intervention?

Pre-intervention practice questionnaire

The first three questions in the pre-intervention questionnaire used semantic differential scales, and their results show the general feedback practice of the school. The final question was open ended and resulted in more rich qualitative data. This question's responses were converted to quantitative data using the process of sequential coding described in the methodology. The findings of this questionnaire are presented below.

Figure 5. Questionnaire Findings: Question One
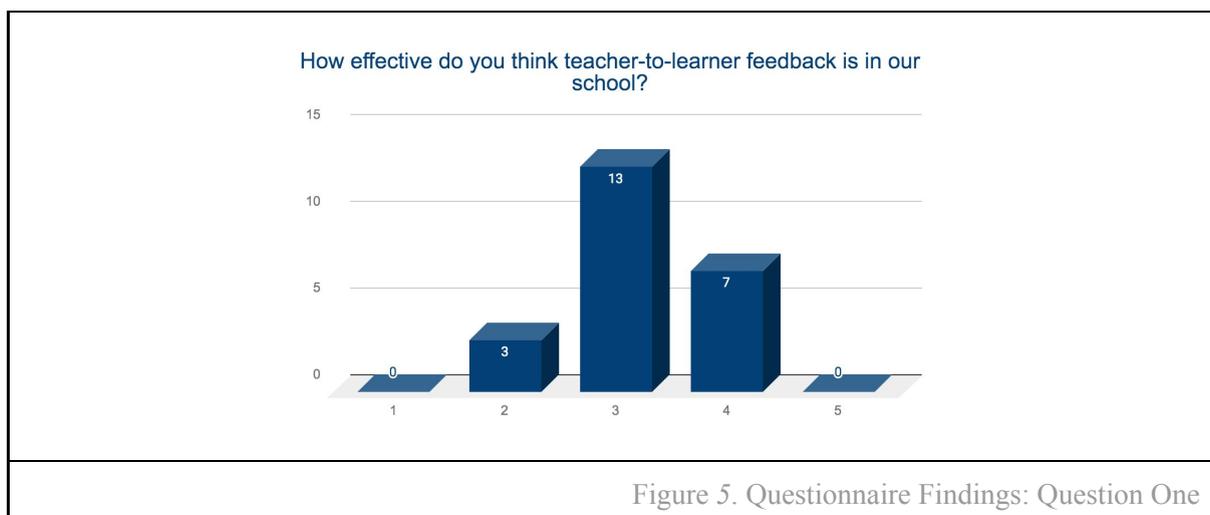
The question one response (Figure *5*) showed none of the participants felt the school's feedback practice was ineffective, or very effective. Instead, the majority of participants felt feedback practice in the school fell between those two categories. This is possibly a result of the limitations of the chosen method of data collection, as participants using systematic differential scales will rarely want to appear extreme by selecting either end of the scale (Cohen, Manion & Morrison, 2018). Although this may impact the accuracy of the data, the results show the general feel of the participants in relation to the effectiveness of the school's feedback. When participants are separated into teachers and teaching assistants, there was no significant difference in responses for this question.

Figure *6*. Questionnaire Findings: Question Two
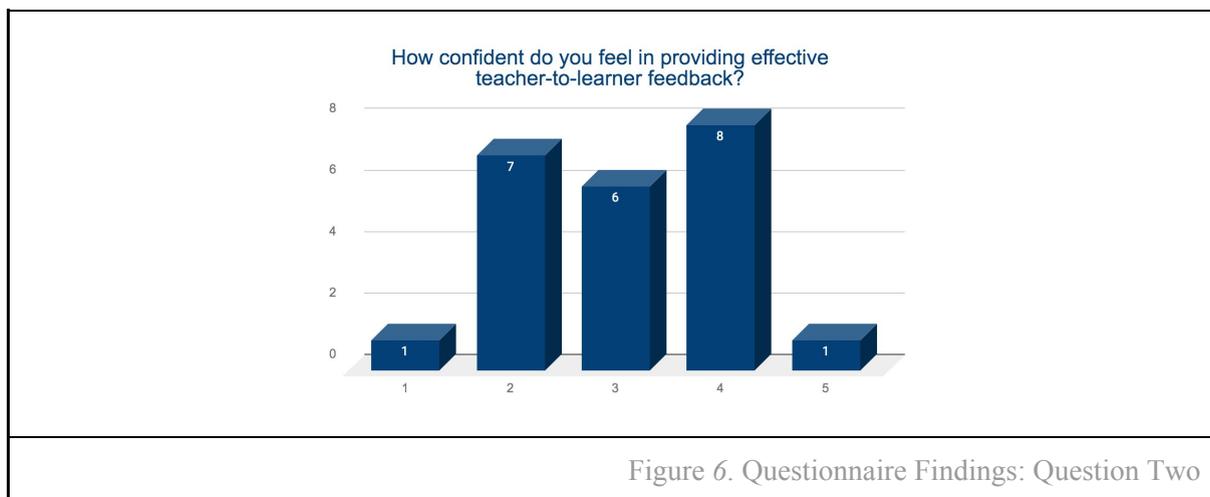
The question two response (Figure *6*) showed varying participant confidence prior to the intervention. One participant felt very confident, and another felt unconfident, but the majority fell in between these two scales. Again, this is possibly related to participants' desire to not select the end point scales. When participants were separated into teachers and teaching assistants, there was a noticeable difference in responses. The majority of teachers' selected scale point four or five, whereas the majority of teaching assistants selected one, two, or three. This question's responses suggested participants' confidence varied, and more specifically there was a disparity between the confidence of teachers and the confidence of teaching assistants.

How aware are you of the research evidence regarding effective teacher-to-learner feedback?

Figure 7. Questionnaire Findings: Question Three
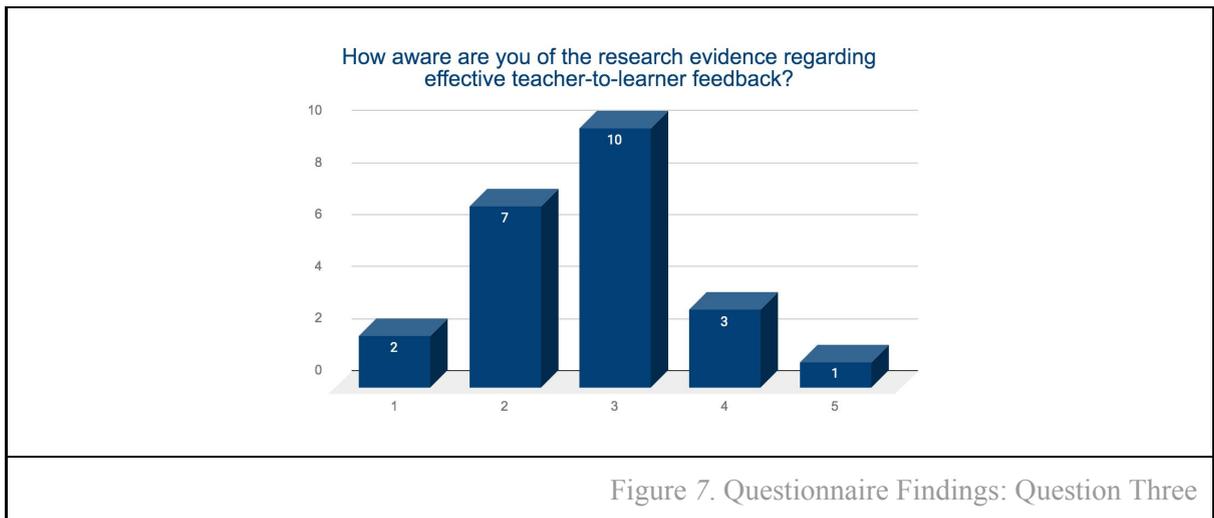
In the third question's responses (Figure 7), a minority of the participants indicated they felt aware of the research evidence regarding effective teacher-to-learning feedback. The majority of participants chose either a one (not aware), two, or three on the scale. Again, when participants are separated into teaching roles and teaching assistants there is a noticeable disparity. All the participants who selected four or five on the scale were teachers, compared to all of those selected one or two being teaching assistants.

What do you think constitutes effective teacher-to-learner feedback?

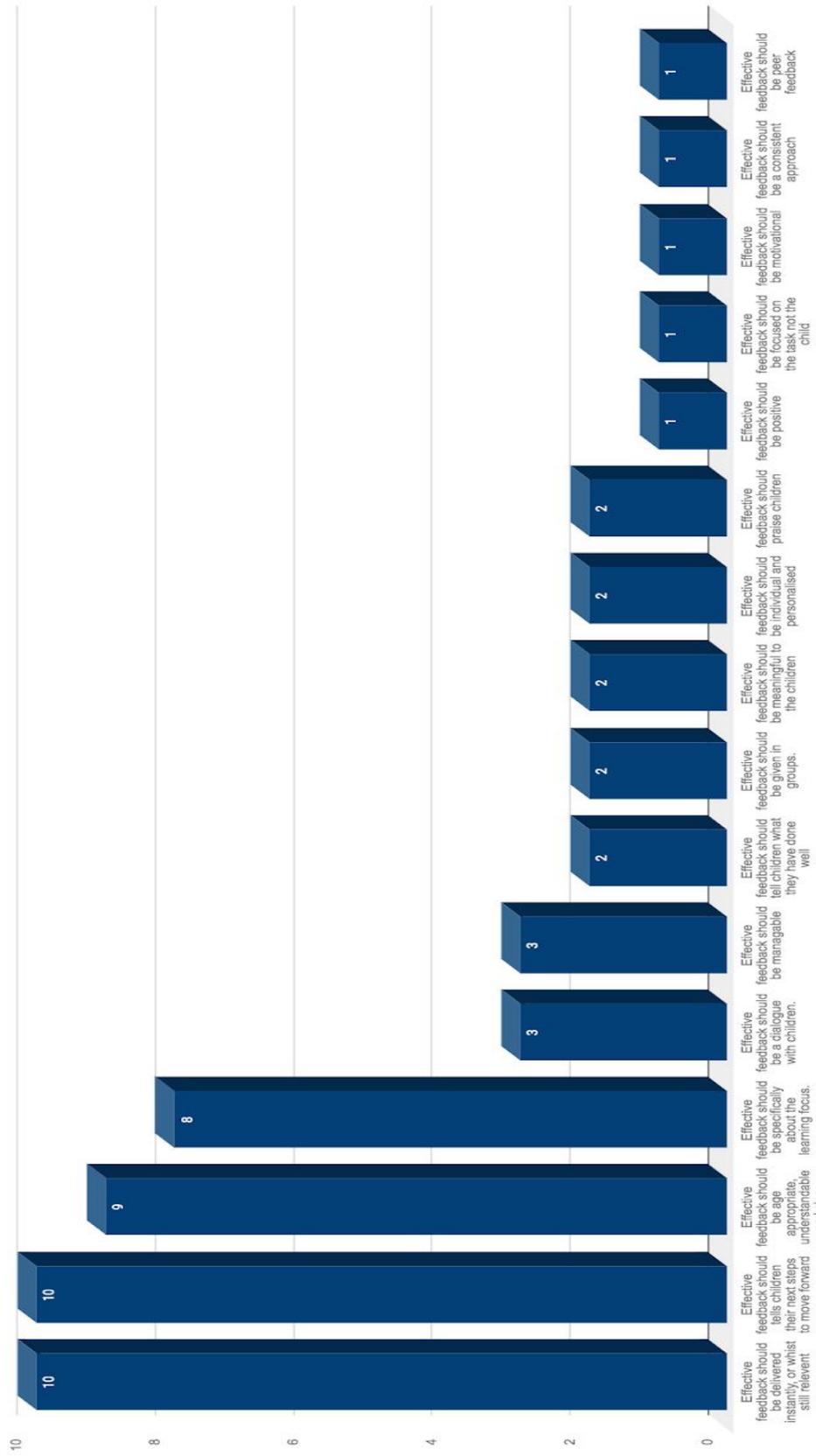| Category	Value
Effective feedback should be delivered instantly, or whist still relevent	10
Effective feedback tells children their next steps to move forward	10
Effective feedback should be age appropriate, understandible and clear.	9
Effective feedback should be specifically about the learning focus.	8
Effective feedback should be a dialogue with children.	3
Effective feedback should be managable	3
Effective feedback should tell children what they have done well	2
Effective feedback should be given in groups.	2
Effective feedback should be meaningful to the children	2
Effective feedback should be individual and personalised	2
Effective feedback should praise children	2
Effective feedback should be positive	1
Effective feedback should be focused on the task not the child	1
Effective feedback should be motivational	1
Effective feedback should be a consistent approach	1
Effective feedback should be peer feedback	1

Figure *8*. Questionnaire Findings: Question Four

The fourth question collected qualitative data, and the above (Figure *8*) shows the seventeen themes which emerged from the data analysis outlined in the methodology. They are presented in order of frequency. The emerging themes suggest participants have a generally good understanding of what effective feedback is, if judged by the research evidence outlined in the literature review. For example, many participants discuss instant feedback (Kulik & Kulik, 1988; Phye & Andre, 1989), feeding forward (Hattie & Timperley, 2007), clarity (Careless, 2006; Van Der Schaff et. al., 2013), focus (Brookhart, 2008), and manageability (ITWRG, 2016). Many of the general principles and research recommendations outlined earlier are evident in the responses of participants. Although there are some elements which are contradicted by the research evidence. For example, some participants' responses mentioned the role of praise, or consistency, both of which are contested in the research literature (Good & Gouws, 1975; Hattie & Timperley, 2007; Meyer et. al., 1979).

When participant responses were separated into teachers and teaching assistants, there was once again a notable disparity. Whilst both groups contributed responses which correlated with the research recommendations for effective feedback, the teaching assistants' responses were much more limited. Teachers generally shared more information in their responses, whereas teaching assistants suggested fewer elements of effective feedback. This suggests teachers have a greater understanding of what constitutes effective feedback, and the teaching assistants lack of understanding may be reflected in their earlier displayed lack of confidence.

Pre-intervention participants notes

A potential limitation of the questionnaire is that closed or guided questions may have elicited thoughtless responses, or limited the potential details shared by participants (Cohen, Manion & Morrison, 2018). The second set of data collected prior to the intervention was designed to allow participants to share their pre-intervention feedback practice more freely. The findings of the participant notes were coded, as described in the methodology, and resulted in the below set of emerged themes (Figure *9*). These themes mirror many of those which emerged from the questionnaire's final question. Similarly, many participant responses are in line with the research recommendations for effective feedback practice.

Verbal comments during the lesson	Identifying common errors in work
Verbal queues during the lesson	Underlining spelling errors
Telling children what they have done well	Underlining letter formation errors
Telling children their next steps	Short written comments
Giving individual feedback	Ticks or dots to indicate correct answers
Giving Grouped feedback	Interventions with teaching assistants
Praising good work	Reteaching
Sharing good work	Self assessment of work
Peer feedback during the lesson	Reading all work after the lesson

Figure *9*. Table of categories, subcategories, and themes (Pre- intervention).

Research Part Two: What changes happened to the school's feedback practice during the intervention?

The data collected during the intervention was altered and limited by the COVID-19 interruption, as detailed in the methodology. However, two sets of data were collected, which can contribute to partially answering the second research question: what changes happened to the school's feedback practice during the intervention.

Post-intervention participants notes

The findings of the participant notes were coded, as described in the methodology, and resulted in the above set of emerged themes (Figure *10*). There is a large intersection between the themes emerging from this set of participant notes, and those which emerged from the notes made prior to the intervention. However, the themes are more consistent and less varied in this second set of notes. Themes such as praise, written comments, and ticking work were no longer present in participant responses. What was evident in the coding process is that participants were more confident in identifying their practice. The notes were more detailed now, and there was a higher level of consistency between participants.

Verbal feedback during learning	Peer feedback during learning
Verbal queues during learning	Identifying common errors in work
Telling children what they have done well	Underlining spelling errors
Telling children their next steps	Underlining letter formation errors
Giving individual feedback	Interventions with teaching assistants
Giving grouped feedback, when appropriate	Reteaching
Sharing good work	Self assessment of work
Group editing or feedback	Reading all work after the lesson

Figure *10*. Table of categories, subcategories, and themes (Post- intervention).

Feedback policy annotations

The school's previous feedback policy was annotated individually by all participants. This reflection on the written policy was seen as an important stage because "the essence of any policy is that it should reflect the current practice." (Clarke, 2014, p. 142). The annotations were used to inform a rewriting of the policy following the partial intervention. The key part of the new written policy was the agreed process of effective feedback shown above (Figure *11*). This was created by me and informed by the data collected as part of the intervention. It was shared with all participants for comments, and this agreed process is now reflective of both the collective experience of participants, and the research recommendations.

Research Part Three: What was the school's feedback practice after the intervention?

Unfortunately, due to the COVID-19 interruption to the planned research, no data was collected in part three of the research. Our school did not return at full capacity for the remainder of the academic year, meaning that it is not possible to answer the final research sub-question: what was the school's feedback practice after the intervention.
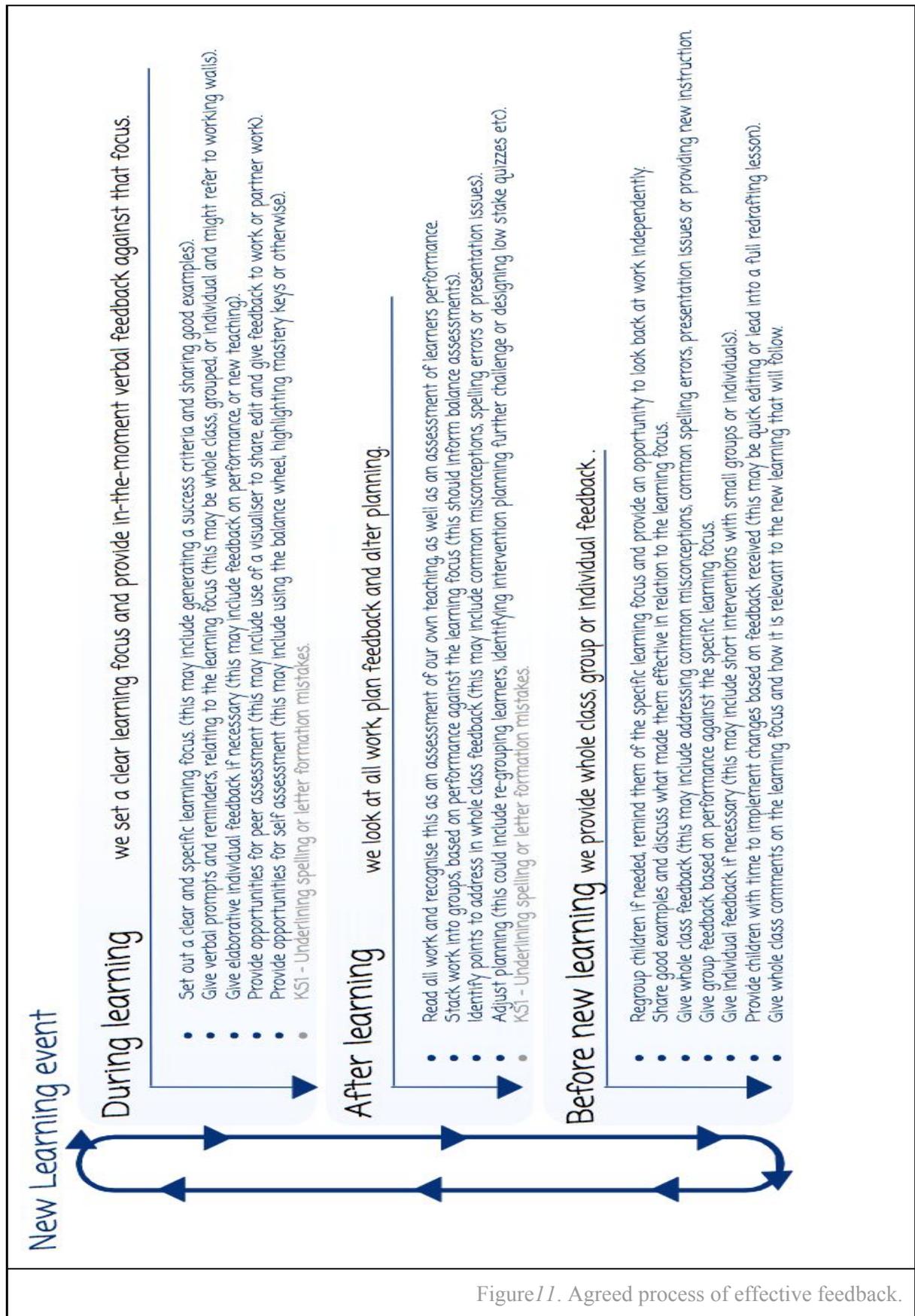
New Learning event

During learning
we set a clear learning focus and provide in-the-moment verbal feedback against that focus.

- Set out a clear and specific learning focus. (this may include generating a success criteria and sharing good examples).
- Give verbal prompts and reminders, relating to the learning focus (this may be whole class, grouped, or individual and might refer to working walls).
- Give elaborative individual feedback if necessary (this may include feedback on performance, or new teaching).
- Provide opportunities for peer assessment (this may include use of a visualiser to share edit and give feedback to work or partner work).
- Provide opportunities for self assessment (this may include using the balance wheel, highlighting mastery keys or otherwise).
- KS1 - Underlining spelling or letter formation mistakes.

After learning
we look at all work, plan feedback and alter planning.

- Read all work and recognise this as an assessment of our own teaching, as well as an assessment of learners performance.
- Stack work into groups, based on performance against the learning focus (this should inform balance assessments).
- Identify points to address in whole class feedback (this may include common misconceptions, spelling errors or presentation issues).
- Adjust planning (this could include re-grouping learners, identifying intervention planning further challenge or designing low stake quizzes etc).
- KS1 - Underlining spelling or letter formation mistakes.

Before new learning
we provide whole class, group or individual feedback.

- Regroup children if needed, remind them of the specific learning focus and provide an opportunity to look back at work independently.
- Share good examples and discuss what made them effective in relation to the learning focus.
- Give whole class feedback (this may include addressing common misconceptions, common spelling errors, presentation issues or providing new instruction.
- Give group feedback based on performance against the specific learning focus.
- Give individual feedback if necessary (this may include short interventions with small groups or individuals).
- Provide children with time to implement changes based on feedback received (this may be quick editing or lead into a full redrafting lesson).
- Give whole class comments on the learning focus and how it is relevant to the new learning that will follow.

Figure*11*. Agreed process of effective feedback.

<u>Discussion</u>

Although the trajectory of the research was unavoidably altered by the COVID-19 interruption, there is still some capacity to have a reduced discussion around the limited findings of this research: to relate them to the relevant literature, and to attempt to draw some conclusions in relation to the overarching research question:

How can teachers work together to implement more effective verbal feedback?
The research sub-questions were designed to provide a structure with three parts: feedback prior to the intervention, during the intervention, and after the intervention. The interruption to the research meant that data was only collected in full prior to the intervention, partially during the intervention, and not at all post-intervention. This discussion will therefore be limited by the bounds of the data collected. As the data is limited, this discussion will at times lean on anecdotal evidence for support. This is empirical and not part of the planned data collection outlined in the methodology. However, it may help by adding depth to the discussion where limited data is available.

It has already been discussed that the data collected in the pre-intervention questionnaire is limited by methodological implications (Cohen, Manion & Morrison, 2018). However, both sets of data collected prior to the intervention work together to build a picture of the participants' feedback practice at that time. Loosely, this picture intersected with what the research indicates may be effective feedback practice. Participants' self-reported practice included instant feedback (Kulik & Kulik, 1988; Phye & Andre, 1989), feeding forward (Hattie & Timperley, 2007), clarity (Careless, 2006; Van Der Schaff et. al., 2013), focus (Brookhart, 2008), and manageability (ITWRG, 2016). However, they also noted elements contrary to the research such as the role of praise and consistency (Good & Gouws, 1975; Hattie & Timperley, 2007; Meyer et. al., 1979). Although this overlap with the research recommendations is promising, overall the data collected prior to the intervention revealed an inconsistent practice. There was a variety in participants' self-reported feedback effectiveness, confidence, and knowledge of the research recommendations for effective practice. This is arguably expected as feedback practice is complex and varied (Tunstall & Gipps, 1996). However, within this variety was a specific, and unexpected, disparity between the self-reported responses of participants in teaching roles and those working as teaching assistants. Teaching assistants generally reported lower levels of effectiveness, lower levels of confidence, and lower awareness of research recommendations when compared to teachers. They contributed less to initial PLC discussions and conversations, and it was evident that teachers felt more confident talking about the elements of effective feedback practice, whereas most teaching assistants shared very few details in their notes.

This unexpected finding raises questions about the role of support staff and highlights the importance of involving them in the process of implementing effective verbal feedback. Initially, the teaching assistants were involved in the research to maximize the number of participants. However, the findings of the research suggest their involvement in the PLC is important. The role and value of teaching assistants is contested. In their teaching and learning toolkit, the EEF (2019) suggest teaching assistants can add up to one month of progress and therefore offer a low impact for a high cost, although they recognise the evidence base for this is limited. However, in their further explanation the EEF note that proper training can improve the impact of teaching assistants (EEF, 2018b), and some research has explored alternative ways of improving their effectiveness (Webster, Blatchford & Russell, 2013). The findings of this research and development project suggest it may be important to include teaching assistants in a school's PLC, and in their journey to implement changes to teaching and learning. This is supported by Taylor, Walkie & Baser (2006), who argue support staff should be involved in schools' action research. Furthermore, research suggests that time for teachers and teaching assistants to meet and discuss teaching and learning can improve the effectiveness of all staff (Russel, Webster & Blatchford, 2013). Therefore, the dedicated time that teachers and teaching assistants had to discuss practice in the PLC may have been important for the implementation of effective verbal feedback.

The second set of data to discuss is that which was collected prior to the unavoidable premature ending of the intervention. This data suggest that the feedback practice of the participants, and therefore of the school, had become more consistent and in-line with the research recommendations, as a result of the PLC. Participants practice notes were more detailed, and more consistent. They increasingly reflected the research recommendations outlined in the literature review, but they also included key elements of the conversations which had emerged during the PLC. It could therefore be argued that designed intervention resulted in a school feedback practice which is more consistent, and reflective of research recommendations. The sharing of collective experience, and the collaborative development of an understanding of research recommendations, made all participants more aware of how they could implement effective verbal feedback practice in their classrooms. This led to an agreed practice which is shown in Figure *11*. However, it is important to note that this is based on self-reported data, which may not reflect the reality of classroom practice when school returns to full capacity teaching.

The data collected in this research, as well as the anecdotal observation of the intervention process, suggests that this model can successfully help to implement a more effective verbal feedback practice.

The PLC only ran for a fraction of the planned intervention timeline, but still showed signs of success. In the limited time, it appears the participants started to accommodate new information (Hatch, 1997), and to make changes to their practice. Unfortunately, the COVID-19 interruption meant that it was not possible to see if this led to double-loop improvements (Argyris & Schön's, 1978) and long-term practice change. It is possible that the intervention may not lead to improved feedback, which Reeves calls "non-development" (2002, p. 2). However, during the intervention I observed engagement from all of the participants, this was evident in their full attendance to PLC sessions despite them not being made mandatory. The model worked to create a collaborative "sense of purpose" (Cordingley et. al., 2015, p. 16). Furthermore, over the course of the meetings teaching assistants began to contribute more to the discussions, and the PLC began to ask challenging questions regarding feedback. It was initially thought that I would have to lead the PLC, but as time went on the group began to lead its own development. As we looked at the research together participants began to question the underlying ideas behind their practice, something which Scribner et. al. (1999) argues is vital. One idea that was raised by a participant in the PLC was that our feedback happens in three distinct times: during the learning, after the learning, and before the new learning. This became an integral part of the new feedback policy.

The incomplete intervention, and this discussion around the findings of the partial research, can provide a tentative answer to the overarching research question: how can a school implement effective verbal feedback practice? This partially completed research and development project suggests that a school can implement effective verbal feedback through establishing a collaborative PLC, which involves all staff who are expected to provide feedback as part of their role. The data collected and anecdotal observations highlight the importance of teaching assistants being a part of this community. The PLC should combine a developing and critical understanding of the research recommendations with the shared collective experience of the school staff, within the specific school context. Through collaboration, participants are given a platform to provide their own feedback on how verbal feedback should be implemented in the school. In this way, it is possible to collaboratively agree on a consistent verbal feedback approach, which is research informed and considerate of the specific context of the school. In summary, the PLC allowed this school to build a policy which was right for their context. Any trials with new feedback approaches "need to discover what works well, and does not work well, in your own context. It must marry up with the needs, aspirations and interests of both the students and staff in your setting, and be approached through careful experimentation, monitoring and evaluation" (Wallace & Kirkman, 2017, p. 144).

Reflections and Conclusion

The aim of this research and development project was to investigate the overarching research question: how can teachers work together to implement more effective verbal feedback? This focus is grounded within the wider context of educational feedback reform, and the more specific context of the one school in which the research took place. The wider context was outlined in the introduction as a result of the teacher workload crisis (DfE, 2015a; The National Union of Teachers, 2017; Ward, 2016), which called into question the perceived value of written feedback (Elliot et. al., 2016; ITWRG, 2016). Clarification of the expectations of Ofsted (Ofsted, 2018), and the Dfe (DfE, 2018a), left primary schools in England in a position of choice in relation to their chosen feedback approach. This meant that many primary schools in England were making substantial changes to their approach and exploring verbal feedback as an alternative to established written processes (Anonymous, 2017; Jones & Essery, 2018; Moor, 2017). Within this wider field, is the specific context of the one school where this research took place. The school had made the decision to move away from written marking because of the wider context of educational feedback reform. They explored assessment for learning (Black, 2003; Black & Wiliams, 1998; Wiliams, 2011b), and formative assessment practice (Black & Wiliams, 2009; Clarke, 2003; Clarke, 2005; Clarke, 2014; Wiliams, 2011a). Through this exploration they had already started to implement elements of verbal feedback practice. This research set out to navigate and document that journey. This began with three literature review questions, which guided an exploration of the relevant literature. The findings of that exploration then shaped the design of a specific intervention and three measurable research sub-questions, each of which would contribute to answering the overarching question. Thus, the research question was explored within the following structure:

How can teachers work together to implement more effective verbal feedback?

Literature review questions

1. *What is feedback?*
2. *What is effective feedback?*
3. *How can a school implement effective feedback?*

Research sub-questions

1. *What was the school's feedback practice prior to the intervention?*
2. *What changes happened to the school's feedback practice during the intervention?*
3. *What was the school's feedback practice after the intervention?*

The literature review first revealed the potential positive impact that feedback can have on teaching and learning (Natriello, 1987; Crooks, 1988; Bangert-Downs, Kulik & Morgan, 1991; Butler & Winne, 1995; Klunger & Denisi, 1996; Black & Wiliams, 1998; Hattie & Timperley, 2007; Shute, 2008), as well as the possible negative impact (EEF, 2018a). Thus, in reality, feedback in primary classrooms was described as "differentially effective" (Hattie & Timperley, 2007, p. 81). It was argued that this difference may be due to the complexity of feedback, which was evidenced in an exploration of its development and definitions within education. The literature review pulled on the definitions proposed by many authors (Black & Williams, 2009; Hattie & Timperley, 2007; Klunger & enisi, 1996; Kulhavy, 1977; Ramasprasad, 1983) to reach a definition of feedback within the context of this research and development project:

> Specific information about the gap between the learners' performance (actual level) and the agreed outcomes of the learning event (desired level), which guides subsequent learning and teaching in an attempt to alter that gap.

The literature review then looked at the research recommendations for effective feedback practice, including highlighting the general principles (Bangert-Downs, Kulik & Morgan, 1991; Black & Williams, 1998; Butler & Winne, 1987; Crooks, 1988; Hattie & Timperley, 2007; Natrello, 1987; Shute, 2008), as well as discussing more complex nuances in further detail. These recommendations were summarised (Figure *2*), before considering how a school can use this information to implement a more effective verbal feedback practice. Ideas were taken from Scribner et. al.'s (1999) recommendations for creating PLC's; the DfE's (2016) standards for professional development; Coringley et. al.'s (2015) review of international evidence on effective professional development, and the five-stage model suggested by the TDT (Wallace & Kirkman, 2017). Together, these shaped an intervention, which aimed to help implement effective verbal feedback by forming a PLC. It was hoped that the intervention would achieve double-loop improvements (Angyris & Schon, 1987) through accommodating levels of change (Hatch, 1997).

Informed by this exploration of literature, the intervention was designed alongside a synchronous timeline for data collection. Three measurable research sub-questions were created to structure the research: they looked at feedback practice prior to, during, and after the intervention. Unfortunately - as has been discussed extensively throughout - the trajectory of the research was unavoidably altered by the COVID-19 interruption, and the subsequent partial closure of all schools in the United Kingdom. As a result the intervention was only part completed, which limited the data collected, the discussions around the research questions, and the conclusions which could be drawn. This is an

obvious and unavoidable limitation of the research and development project, although other limitations of the methodology have also been recognised. Despite these limitations, the reduced data collected has been discussed, and some possible conclusions have been alluded to. Firstly, it is the conclusion of this research that when schools are moving away from written marking, they must structure this change to implement effective, and informed, alternative feedback approaches. To the many schools making such changes currently, this research speaks as a word of caution. This transition from established practice should not be rushed, and is best tackled collaboratively. This process of altering feedback approaches should involve all class-based members of staff. The data collected in this research highlighted a huge disparity between the confidence, consistency and effectiveness of teachers when compared with teaching assistants. All members of staff who will be expected to provide feedback as part of their role should be equally informed in their approach. To achieve this, feedback practice should be built collaboratively with all class based roles. This collaborative process should ensure the collective experiences of staff are shared, and combined with a critical understanding of the research recommendations, as well as an acknowledgement of the specific context of the school. Schools should endeavour to accommodate these elements to make double-loop improvements, which result in sustained practice changes and real improvements in teaching and learning. In this way, schools can implement effective verbal feedback in their primary classrooms and begin to work towards assessing the potential eight months of additional progress promised by when effective feedback is consistently achieved by all staff.

When research is undertaken within a specific professional context, its implications more broadly should be considered with caution. Not only are the findings of this research contextually bound, but they are also bound by time. In Elliott et. al.. (2016) review of evidence on WF, they conclude a common limitation of feedback research is its short term, which does not measure long term wider impact. This is true of this research, and thus it can "only tell us what has worked in a particular situation, not what will work in any future situation" (Biesta, 2007, p. 20). Therefore, the implications arising from this research are most relevant to the school in which it took place, and to the teachers who engaged in it at this time. Those teachers should continue the intervention as originally planned when schools reopen at full capacity. They should also consider carefully how they might use the already established PLC to help give the school staff a voice in future school changes, particularly valuing the involvement of teaching assistants.

However, Black & Wiliams (1998a, p. 9) suggest small scale research can hold "many important clues and pointers towards the difficult goals of reaching an adequate and complete understanding". Thus, more widely, it is possible that this research could support other schools who are making

changes to their feedback practice. With caution of contextual differences, the intervention set out in this research may be useful for other schools to consider as part of their transition towards a verbal feedback approach. It would also be useful for more schools to engage with researching the development of their feedback practice, and to document this journey publicly. Further research would help to identify how schools can implement effective verbal feedback, what that looks like in different contexts, and how all staff can be involved on the journey. As previously stated, this research may also serve as a word of caution to schools who are beginning their journey to implement effective verbal feedback. Implementing effective verbal feedback in primary classrooms should be done so with care; careful consideration of research and context; and deliberately constructed collaboration of all colleagues. In this way, schools can provide useful feedback on how a school should implement effective verbal feedback in primary classrooms.

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