PRESSURE, THREAT, AND FEAR IN THE CLASSROOM: PUPILS' AND TEACHERS' PERCEPTIONS OF SOFT FAILURE IN AN 11+ CONTEXT

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Abstract

This thesis concerns both pupils' and teachers' perceptions and reactions to soft failure. Whilst there is widespread agreement that errors and impasses in the classroom can be pedagogically useful, pupils do not always respond positively to soft failure, potentially limiting their learning. Teachers, whilst keen to support pupils experiencing temporary academic setbacks, can unintentionally cement perceptions that errors should be avoided, leading to a co-construction between teacher and pupil of a classroom climate that is unfriendly to error making. In taking a bio-ecological and interdisciplinary approach, this thesis addresses a gap in error climate studies through examining the intersection of sociocultural and psychological factors that impact perceptions of, and reactions to, soft failure. This thesis argues that pupils' reactions to soft failure are imprinted, not only with immediate classroom proximal processes, but also from processes within the home, wider values, and ideologies. Drawing upon the case study genre and bound by the entry and exit points of a selective education system, findings from observations and interviews with Y7 and Y5 pupils suggest the facilitation of classroom peer ecologies orientated towards performance and demonstrating success. Through conceptualising gender as heteroglossic, Y7 grammar school girls were seen to enact masculine, highly competitive performances which reinforced a pressured climate where negative evaluation and soft failure was feared. However, these findings are complicated by pupils' divergent and fluctuating responses and reactions to soft failure, situated and contextualised by teachers' error handling, classroom organisation and school processes. Therefore, to establish when soft failure matters for pupils, this thesis explores the interplay of competing values, goals, and interactions. In doing so, the antecedents of soft failure adaptivity are identified, with the perceived threat to pupils' dignity – which I reason must be understood in an adolescent context - argued as the fulcrum on which soft failure appraisals are made.

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Glossary

Error – an unintended deviation from accuracy or intended outcome (Keith and Frese, 2008).

Mistake – a decision making error, where an incorrect choice is made (Reason, 1990).

Impasse – where progress is not possible and the learner is unsure how to proceed (van Lenh *et al.*, 2003).

Low stakes failure – minimal consequences to failure and setbacks, such as a poor grade that does not have long term impact.

Productive failure –an intentionally planned failure opportunity to ensure learners reach an impasse before the teacher begins scaffolding activities (Kapur, 2008).

Soft Failure – a temporary setback with no penalty attached once the setback has been resolved (Laughlin and Marchuk, 2005).

Classroom error climate – the perception and evaluation of errors in the classroom as an integral aspect of learning (Steuer and Dresel, 2015).

Negative knowledge – knowledge about incorrect information or procedures that contributes to understanding the boundaries of knowledge (Minsky, 1994).

Embarrassment – a temporary and situation specific shortfall in meeting expectations and norms that threaten the presentation of the self (Goodman, 2017).

Shame - An all pervading, long lasting, and painful emotion, signalled by a failure to meet expectations and norms due to a self-perception of personal inadequacy (Tangney, 2015).

Fear of failure – a motivation to avoid failure, associated with a fear of shame, after a detection of threat or consequences to failing (Conroy and Elliot, 2007).

Chapter 1: Introduction to the thesis

1.1   Introduction

In 2018, the UK's performance in international PISA assessments stole headlines for high rankings in an index of dubious honour: British girls' fear of failure (McInerney, 2019), where the UK came within the top 5 of 79 countries[1]. Failure anxiety may present in different ways, with the spectrum running from overstriving to self-protection[2], indicating that the presence of fear of failure may not always lead to poor academic outcomes. However, unpredictability characterises the academic journey of those who fear failure, and often manifests itself in troubling ways. Pupils can be vulnerable to setbacks which may trigger anxiety, leaving students prone to varying emotional states (Martin and Marsh, 2003), depleting self-efficacy and resilience, and affecting rates of learning and performance (Lerche, Neubauer and Voss, 2018). Within a cross-national schooling context, Borgonovi and Han (2021), report that adolescents who fear failure are more likely to report lower social and emotional wellbeing. This position is supported in the international literature. The 2018 results of PISA's 'Test for Schools' establishes a negative association between fear of failure and life satisfaction for nearly all participating countries (*PISA Vol.3*, 2019). Therefore, fear of failure can induce effects that reach far beyond academic outcomes. Low life satisfaction is associated with lower social and emotional wellbeing with the possibility of learners experiencing lower intrapersonal functioning, increased social stress and clinical levels of psychological symptoms (Gilman and Huebner, 2006). Moreover, in the classroom, anxious learners may be become demotivated and disengaged (England *et al.*, 2019).

Within the classroom, fear can become a debilitating experience for pupils (Bledsoe and Baskin, 2014a). Learners who fear failure and negative evaluation may have increased

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[1] OECD, PISA 2018 Database, Tables III.B1.13.1 and III.B1.13.2. http://dx.doi.org/10.1787/888934030591

[2] Covington and Müeller, 2001; Martin and Marsh, 2003

levels of anxiety, which is thought to affect cognitive functioning and ability to concentrate (Robinson *et al.*, 2013a). This is thought to drive a negative spiral that damages self-efficacy (Griggs *et al.*, 2013), supresses academic risk taking (Cox, 2009) and reduces academic buoyancy (Martin and Marsh, 2003a). In a desire to protect themselves from their feelings of fear, learners can adopt maladaptive self-protection strategies that can lead to the sabotage of success, such as procrastination (Bartels and Herman, 2011) self-handicapping (Ferradás *et al.*, 2016) and learned helplessness (de Castella, Byrne and Covington, 2013). In other words, fear and anxiety in educational settings may lead to multidimensional effects upon the learner that include cognitive (Robinson *et al.*, 2013b), social (Blöte *et al.*, 2015), emotional (Pekrun et al., 2002), and mental health (Rodway et al., 2016) consequences, as well as lead to tangible ramifications for academic performance (Lerche, Neubauer and Voss, 2018). However, surprisingly little attention has been given in the educational literature to fear, including academic fear (Lacoe, 2020; Jackson, 2013)[3]. With the consequences of fear of failure potentially profound and far-reaching, it is imperative that we understand more about this phenomenon and its antecedents.

This thesis explores pupils' and teachers' experience of soft failure in the classroom, the temporary setbacks that are characterised by the mistakes, errors, and impasses that are experienced in everyday school life. Through examining pupils' and teachers' perceptions of, and responses to, soft failure, the presence or absence of fear of academic failure will be established. This will facilitate an analysis of the factors that may lead to adaptive or non-adaptive pupil responses to soft failure in the classroom. This is of critical importance: as we will see in Chapter 2, soft failure, within a constructivist framework, can be considered a catalyst to learning (Gartmeier et al., 2008). Errors and mistakes are regarded as cognitively[4] important, with a 'mistake-rich' (Zull, 2011 p.73) learning environment considered valuable in developing conceptual models of understanding (Keith, Horvath and Klamar, 2020a) through the provision of negative

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[3] Recent research on academic fear in the classroom includes: Martin, 2010; Hargreaves, 2015; Jackson, 2017; Hargreaves and Affouneh, 2017; Mete and Subasi, 2021. Studies in an undergraduate context include, Bledsoe and Baskin, 2014; Putwain, Remedios and Symes, 2014; Downing et al., 2020.
[4] VanLenh, 1987, 1988; Jones and VanLenh, 1994; VanLenh et al., 2003; Bjork and Bjork, 2004

feedback to a learner (Rausch, Seifried and Harteis, 2017). With the potential to set in motion reflective processes that may lead to learning (Minsky, 1994), errors become informative: misconceptions and ineffective strategies may be identified, facilitating the direction of the learner to a more efficacious path, and reducing the likelihood that the error will be repeated. Therefore, it is essential that barriers to using soft failure for learning, such as fear of failure, is reduced.

Unlike high-stakes failure experiences, the experience of soft failure is universal. The process of learning is not linear but is one where we may make great strides one day, only for the progress to seemingly erode on another. Early understanding is often poorly rooted, with gaps of time revealing that what was once known has evaporated or is no longer accessible. In our subsequent encounters with concepts, divergent questions may leave us with flaking confidence; complexity rerouting us from our straight path to learning, and multiple contexts exposing the flimsy grasp we have on understanding. Due to the confluence of the pedagogic importance of soft failure, the ubiquity of soft failure experiences and the potential for soft failure to be feared, understanding how pupils perceive soft failure in the classroom is an issue for all teachers, everywhere.

1.2 Part 1: The context of this study

The 11+ context

Recently, there has been an increased focus on the environmental factors that affect pupils' responses to soft failure[5]. Studies have predominantly centred on teacher error handling and the 'error climate' of the classroom[6] with Steuer and Dresel (2013 p.263) describing the classroom error climate as comprising, "the quality and quantity of verbal and non-verbal interactions in a classroom context". Whilst it is uncontroversial to view the construction of the error climate as predominately about classroom processes,

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[5] Studies predominate in German, Swiss and Italian contexts.
[6] E.g., Tulis et al., 2013; Grassinger et al., 2018; Pan et al., 2020; Steuer et al., 2021

dynamics, and interactivity, it would be a mistake not to recognise that these in turn have antecedents, often influenced by distal and macro factors. These have rarely been considered in the literature on soft failure and fear of failure. However, Bronfenbrenner's (1979; 2005) Bioecological Systems Theory reminds us that the interactions of the classroom are rooted in multiple environments, steeped in their histories, and related to each other in a complex manner, widening from the microsystems of the classroom and home to macroscopic societal influences.

The impact of wider influences upon the interactions and processes of the classroom that are involved in the construction and sustenance of the error climate is particularly critical to this study, which is situated in a distinctive local educational context. Although the local education authority (LEA) where both schools are situated is in England - a country that, whilst diverse in its manifestations of schooling, is still largely comprehensive in intake[7] – this LEA has opted to retain a wholly selective education system[8]. Understanding both pupil perceptions of the error climate in schools within this LEA, and the implications of a selective education positioning upon teachers, pupils, parents, and policy makers, is imperative as it may be assumed that wholly selective policies have a profound effect of the future educational path of primary-aged children. At 11 years of age, these learners will be siphoned into two separate educational tracks via the 11+ examination. Roughly, 25% of pupils educated within the Local Education Authority of this study, are 'selected' for faster-paced grammar school education[9]. 75% of their Year 6 peers are 'not selected' and attend 'all-inclusive' schools, albeit with the top band of achievers in the cohort creamed off. Pupils are likely to experience the fallout of such policies both directly (when they become part of the system from years 5-7), and indirectly through the impact of educational policies upon teachers, parents, and peers. The focus on pupils' perceptions of soft failure with an 11+ context contributes to

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[7] 95% of pupils in England attend comprehensive schools

[8] In England, a few local education authorities resisted the comprehensivisation of secondary education that occurred the 1960s and 1970s and opted to retain selective examinations at the age of 10 or 11 that would determine whether pupils within the LEA attend grammar schools with the top 25-30% of test-takers, or attend all-ability schools.

[9] https://www.kent.gov.uk/__data/assets/pdf_file/0009/58680/Grammar-Schools-and-Social-Mobility-June-2016.pdf

understanding how environmental factors' impact pupils' responses to errors. It also contributes to the very small, and predominantly historic, literature body on academically selective schools in England. The recent renewal of government interest in increasing the reach of grammar school education suggests that research in this area would be prudent.

A unique cohort of learners

The contextual focus on 'selective'[10] secondary education is ground in my earlier professional experience as a schoolteacher. I taught both in London, as a secondary school Head of Religious Education and Classics, and subsequently, as a teacher educator in an 'all-through' girls' school in New Zealand. Here, I taught philosophy from nursery though to Sixth Form and held responsibility for the gifted education programme. Alongside this appointment, I taught in a 'one-day-a-week' programme for 'gifted' Y4-6 pupils in low decile areas. It was through these experiences that I began to appreciate that many high-achieving pupils were challenged by soft failure in comparison to other pupils, leading me eventually to this study.

The desire to understand the phenomenon of soft failure in a selective context led to a purposive sampling strategy. The entry and exit points of the 11+ admissions process binds this case: Y5 in Burcastle Primary School (an oversubscribed comprehensive, mixed primary) and a very high-achieving cohort of Year 7 grammar school pupils. Anbury Grammar School[11], the case study school from which the Y7 pupil participants and their teachers are drawn, is rare in the LEA for admitting the top scoring girls on the 11+. Referred to as a 'super-selective' school by local parents, it regularly turns down around 150 grammar-eligible girls who apply each year. Its cohort, therefore, may be considered unique with respect to its intake of very high-performing pupils. Whilst it may be argued (and to which I am in agreement), that all school cohorts are unique, I wish to briefly draw attention to the cohort at Anbury Grammar at the outset of this

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[10] The 11+ examination results in a 'selective' [for grammar school] or 'non-selective' judgement.
[11] All names in this study are pseudonyms.

study in terms of how the profile of these learners should be regarded. For whether pupils are considered 'high achievers', 'more able', or 'gifted' will have implications for the selection of the literature, which may, in turn, affect analysis. However, the waters are muddied by the lack of consensus on the operational definitions of terms, such as 'gifted', across the international literature.

Are the terms, 'gifted', 'more able' and 'high achieving' synonymous?

Within an English context, as deterministic terminology has faded over the past decade, an assortment of terms for top performing pupils have found favour instead. These include: 'able children' (NACE, 2022), 'most able students' (Ofsted, 2013a) 'high learning potential' (Potential Plus UK, 2022) 'highly able students' (Montacute, 2018), and 'more able and talented children' (Loft and Danechi, 2020), I will use the term 'previously high attainers' in recognition that I understand ability as contingent, rather than wholly determined, and in consideration of common benchmarks of performance in English schools. However, given that the term 'gifted' is still in widespread use in international research, where the literature speaks of 'giftedness' I will not alter the term.

However, the term 'gifted' is problematic on several counts. In common usage, the term is steeped in deterministic conceptions of ability, invoking connotations of genetic intelligence inheritance. Moreover, with no established consensus from the fields that utilise the term, generalisability from research is impossible and transferability to other contexts is problematic: it is largely recognised that the field of Gifted Studies does not speak in one language (Lo and Porath, 2017), with internally contested definitions and identification criteria hampering progress towards a united field (Tassel-Baska, 2010; Moltzen, 2011). This fragmentation presents a problem when synthesising the literature: it is difficult to ascertain to whom the literature pertains without the transparent use of terminology and research methods. In other words, it is difficult to know whether previously high attainers are within the same population of 'gifted' pupils who may struggle more with mistakes.

Although drawing fuzzy conclusions may be the inevitable result of a fractured field of research, comparing identification criteria for each term may help determine whether previous high attainers may be considered within multiple categories, such as 'giftedness'. The identification of previously high attainers in England differs slightly with paradigm, terminology, and identification criteria, and so, a comparison of terms and criteria for referencing higher performing learners is provided in Appendix F. Given that the 11+ assessment includes tests of reasoning ability and fluid thinking typical of those in traditional IQ tests (Warne, 2016), there is reason to assume a sufficient overlap between constructs of high ability within super-selective grammar school populations and giftedness. Moreover, giftedness is often discussed in relation to advanced academic progress in relation to age (Pfeiffer, 2015). Therefore, I consider pupils of previous high attainment who attend super-selective schools to involve roughly the same learner population as many of those identified as gifted, and to exhibit similar profiles, although not necessarily where 'giftedness' is defined as an outlier within a cohort of high-functioning individuals, whose performance eventually leads to eminence[12].

The backdrop to this case study

The local education system straddles community, local, and national, contextual borders. The political contexts of this case are bound to community contexts in several dimensions, with the lack of school places, and parental choice, significant issues for the community. The educational/political interface concerning the lack of grammar school places[13] resulted in a community backlash, and vocal, politicised, parental lobbying[14]. Although I had no access to parents at the case study schools, as a parent of primary aged children in the locality, I was aware of the influential voices that carried into the school playground at pick-up time, feeding parental concerns for their children's future steps into secondary school. Prior to the fieldwork, the impending crisis of school places that had been felt by parents at primary level was at the point of reaching secondary schools (ACE, 2013). A combination of factors led to a swelling of the local population by over 10% (ONS, 2021, 2022). The anticipated rise of pupil numbers that occurred

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[12] Subotnik, Olszewski-Kubilius and Worrell, 2011
[13] Millar, 2014; Coughlan, 2015; Walton, 2016; Jeffreys, 2017; King, 2018
[14] Cassidy, 2015; Hurst, 2015; ITV Meridian, 2015; Shilling, 2022

simultaneously with the reduction of available school funds, and lack of planning for future school places[15] contributed to the creation of a parental climate of concern over school places in the LEA. This local worry was exacerbated by the selective school system, where 'super-selective' grammar schools (McVeigh, 2012), admitting pupils from up to 50 miles away, reduced the available places for local children. Most grammar schools in the area, were oversubscribed, with grammar eligible pupils regularly failing to gain a grammar school place due to place shortages. These combined factors led to a significant parental demand for grammar school places, further propping up the selective school system. However, it is uncertain as to whether these factors fully capture the magnetism of grammar schools for local parents. One local secondary headteacher refers to the local perception of grammar school education as akin to "something very magical" (Walker, 2015, para 4), indicating how ingrained the system is within the psyche of local middle-class parents and their desire to secure a school place for their child.

The local surrounding area is notable for the recent parental action taken to remedy the lack of grammar school places, reaching the national press. A campaign spearheaded by local parents to increase grammar school provision[16], secured 1000 signatures within 18 days, warranting a county council debate on providing a new 'satellite' grammar provision. Whilst the parental body has been undoubtedly active and determined, this has been made easier by local and national political support for increased grammar provision. The campaign was successful, with the satellite grammar approved in 2015, this becoming a national landmark case. Despite the media storm around the decision to allow grammar expansions on different sites, local MPs have supported other such applications which gained approval.

The Grammar Annexe case, whilst important nationally[17], is extremely significant for the local community, and indeed the context of this case study, where, following Bronfenbrenner (2005), I argue that wider contextual factors exert influence upon the proximal processes between children, parents, and teachers, and ultimately may affect

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[15] McVeigh, 2012; Scape Group, 2016; Wainwright, 2016; KCC, 2017; Read, 2017; TES, 2017; Williams and Grayson, 2018

[16] Kent County Council, 2012; Millar, 2014; Hurst, 2015; ITV Meridian, 2015; SGSC, 2016; King, 2018; Shilling, 2022

[17] E.g., Millar, 2015; S. Cassidy, 2015; Walker, 2015; Adams, 2017; BBC, 2017, 2020

pupils' responses to success and failure. The level of parental commitment to increasing grammar school places may be considered influential within the framework of an ecological system: the effects of the campaign, and the power held by parents, may not only radiate to local educational changes (exosystem) and government legislation (macrosystem) but can indirectly impact culture within the neighbourhood (microsystem), and the operation of parent and child interactions. Whether or not parents participated in the campaign, the awareness of its success is likely to impact parental values regarding selective education, interactions with other parents, teachers, family members and children, and 11+ decision making processes. Therefore, developing understanding of the context may be significant in understanding pupils' responses to soft failure in the classroom. The impact of the wider context shall be considered in Chapters 6 and 9.

1.3 Part 2: The Theoretical Framework

In this section, I lay out the foundations of this thesis' theoretical framework which takes a bio-ecological approach, whilst also incorporating several complementary theories. Settling on a theory broad enough to support the aims of the research was initially problematic. Whilst the individual who makes an error commission, or faces an impasse, feels the consequences of this alone, soft failure within the school context is considered a social, as much as an individual, event (Billett, 2012). It is argued that wider factors, such as the contexts or the interactions through which soft failure has been perceived, may also become antecedents for how the individual deals with soft failure (Steuer and Dresel, 2015) – the interplay between the personal characteristics and the environment driving reactions to soft failure (Grassinger et al., 2018). In developing a theoretical framework to inform this study, two factors levels therefore needed to be taken into consideration:

1) Factors specific to the individual learner, including biological predispositions, abilities and psychological factors that moderate experiences and interactions.

2) An understanding of how social interactions shape an individuals' reaction to errors.

Within the literature on the scholastic error climate and learning from errors, context has largely been understood in a narrow way, pertaining to the classroom or school environment. For example, Steuer et al., (2013), have recognised the multidimensionality of the construct in their error climate measurement instrument, although they assess limited dimensions, such as classroom contextual features (e.g., error tolerance by the teacher and classroom goals) and personal factors (e.g., personal achievement motivation and academic self-concept). However, studies addressing cultural differences in error handling[18] demonstrate that error reactions are embedded within a cultural framework, and so advance understanding of the range of antecedents that are involved in the construction of the error climate. Although, these too have been limited in their scope to broad-brush cultural orientations. Rudasill and colleagues (2018 p.2), in discussing a similar construct to the classroom climate – the school climate - identify a conceptual confusion that might be applied to many studies of the error climate: "school climate is described as a complex construct … yet is often measured as a unidimensional factor". The range of influences that bear on an individual's reaction to errors are likely to be multitudinous encompassing both immediate and distal factors, from the influence of close family members, through to socio-economic status (Eugene, 2019), ethnicity (Parris, Neves and la Salle, 2018), gender (Koth, Bradshaw and Leaf, 2008), zeitgeist (Samier, 2017) etc.

Therefore, a third factor level needs to be considered for the framework which includes the impact of more 'macro' influences.

3) A recognition of the wider sociocultural factors that impact the learner's experience and contribute to the error climate.

It is argued that the classroom environmental, cultural and climate research is (explicitly or implicitly) situated within Bronfenbrenner's Bio-ecological Systems Theory of Human Development (Rudasill et al., 2018b). This systems model, which has

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[18] Santagata and Barbieri, 2009; Hu, Son and Hodge, 2016; Keith, Horvath and Klamar, 2020b; Soncini, Matteucci and Butera, 2021

wide usage (Lewthwaite, 2011) across fields such as social work (e.g., Ungar, 2002; Fearnley, 2019), mental health[19], education[20], and inclusion[21], stresses the reciprocal effects of the individual and the layered environmental contexts within which they interact. However, to the best of my knowledge, the model has not yet been applied in furthering understanding teacher and pupils' perceptions of soft failure.

Bronfenbrenner's (1998, 2005) Process- Person-Context -Time model

The Process- Person-Context -Time model marks a shift in Bronfenbrenner's thinking from an emphasis on the impact the ecology has upon the individual, towards one where the individual plays a more agentic role. The *Process-Person-Context-Time model* (Bronfenbrenner and Morris, 1998; Bronfenbrenner, 2005) identifies proximal processes (interactions) as the mechanisms for development interacting with three interrelated concepts: person, context, and time.

Person

For Bronfenbrenner (Bronfenbrenner and Morris, 2006), multifarious manifestations of personal characteristics (e.g., sex, gender, age, temperament, personality traits and physical characteristics) lead to a complex fusion that intersect with proximal and distal environments (Bronfenbrenner and Morris, 2006) shaping their overall development and behaviour (Bronfenbrenner, 2005). In terms of this study, personal characteristics help explain the differing reactions to errors and teachers' error handling. In recognition that a person's presentation to the social world affects its reciprocation, Bronfenbrenner described three types of personal characteristics that come to bear upon interactions and reactions of others: *demand*, *resource* and *force* characteristics. *Demand* characteristics are the immediate markers of identity which stimulate expectations from others, such as age, gender and ethnicity (Bronfenbrenner and Morris, 2006). The second two characteristics are less explicitly visible (Tudge *et al.*, 2009) and affect how the individual negotiates situations. *Resource* characteristics shape the individuals'

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[19] E.g., Erikkson, Ghazinour and Hammarström, 2018; Currie and Morgan, 2020
[20] E.g., Hayes, Hirsch and Mathews, 2008; Feriver et al., 2020
[21] E.g., Anderson, Boyle and Deppeler, 2014; Kamenopoulou, 2016

interactions in social situations through the differing mental, emotional, cognitive, and material resources to which they have access. Material resources refer to the broader access an individual has to the basic human needs (Maslow, 1943) of education, nutrition, housing, and caring relationships. Internal, mental resources are also key in how an individual cognitively frames their world (Houston, 2017). These include the person's current possession of knowledge, abilities, experience, and skills (Bronfenbrenner and Morris, 2006). Finally, *force* characteristics refer to the individual's differences of temperament and dispositions which moderate the effective use of the available resources. These include habits of mind such as persistence, impulsivity, resilience, and so on. Force and resource characteristics are particularly relevant to this study: children with varying levels of persistence, for example, are likely to respond to soft failure situations differentially, or those with a shy disposition may be more susceptible than others to embarrassment.

Process

Proximal processes, for Bronfenbrenner, are the "engines of development" (Bronfenbrenner and Evans, 2000 p.118), exerting the largest influence on the development of the individual (Bronfenbrenner and Morris, 2006). These refer to the enduring reciprocal interactions, over time, between the individual and people, objects, and symbols in the immediate environment (Bronfenbrenner and Morris, 1998). Over time, regular interactions are thought to evolve in their complexity, leading to the development of the individual (Bronfenbrenner and Morris, 1998, 2006).

For Bronfenbrenner and Morris (1998), proximal processes always orientate towards progress over time. However, Merçon-Vargas et al., (2020), in their development of Bronfenbrenner's model, offer examples in their critique that demonstrate how proximal processes within the family may become more complex, yet negative. Such is the situation for children at risk of abuse from family members. Within schooling, they offer the example of a 'low tracked' child (p.328), whose motivation and skill becomes dulled through constant diet of low expectations. This theoretical advancement of the role of proximal processes holds significance for the emergence of an error climate of

the classroom, where proximal processes over a period, may facilitate or impede adaptive responses to soft failure. For example, typical sensitive error handling by a teacher may lessen the threat posed by the error and lead to pupils' adaptive responses. Conversely, where the teacher shows intolerance of errors and soft failure, a pupil may learn that errors invite criticism or ridicule, impacting their self-efficacy and affecting future error responses.

Context

The social systems that affect the individual's development and the proximal processes of which they are a part, Bronfenbrenner, (1977; 2005) outlines in a nested model. Five bands of influence interlock and interact with each other, radiating from the individual in terms of proximity. Bidirectionality of influence characterises the relationships between the first four systems.

The first system that Brofenbrenner (1979 p.22) describes is the *microsystem*, encompassing those aspects with which the child is in direct contact with, such as close family, school, and the neighbourhood. The bidirectional interactions between the relationships of the microsystems comprise the *mesosystem*. Here, the interaction of two or more micro-systems exerts an indirect influence upon the child. An example of mesosystem activity relevant to this study is the parent's consultation at Burcastle Primary, where parents are advised whether to enter children for the 11+ exam. Discussions between teachers and parents during a consultation are likely to bear influence on future selective education decisions and subsequent parental interactions with the child. Bearing indirect influence upon the child, is the *exosystem* where the system impacts the individual who interacts with the child. The selective education system itself may influence parenting choices, where parent-child interactions may be influenced by the parentally perceived pressure of gaining a grammar school place.
These first three systems work within the broader zeitgeist, norms, and culture of the wider environment, known as the *macrosystem*. This fourth system, accounts for the influence of the ideological positioning of a culture, social class, and society; a grand influencer of influences within the other systems. The child will be steeped within the

macrosystem with real effects, although some of this invisible operation may only be covertly felt by the individual. Below is a diagrammatic representation of Bronfenbrenner's bioecological model.

This model is based on Bronfenbrenner, 2005 with the diagram adapted from Siraj-Blatchford et al., 2010:4. As the theory implies complexity at every stage, a 2D model, such as the one below, represents a compromise between the preservation of the clarity a diagram demands with the inherent complexity of the system it represents. I have chosen to champion simplicity so that the main tenets of the theory can be clearly seen. However, what is lost in this representation is the richness of directionality between all systems and the individual. In particular, the changes over time that occur in the chronosystem, have been challenging to capture.

Figure 1: Bronfenbrenner's Bio-Ecological Systems Theory Model (1995)
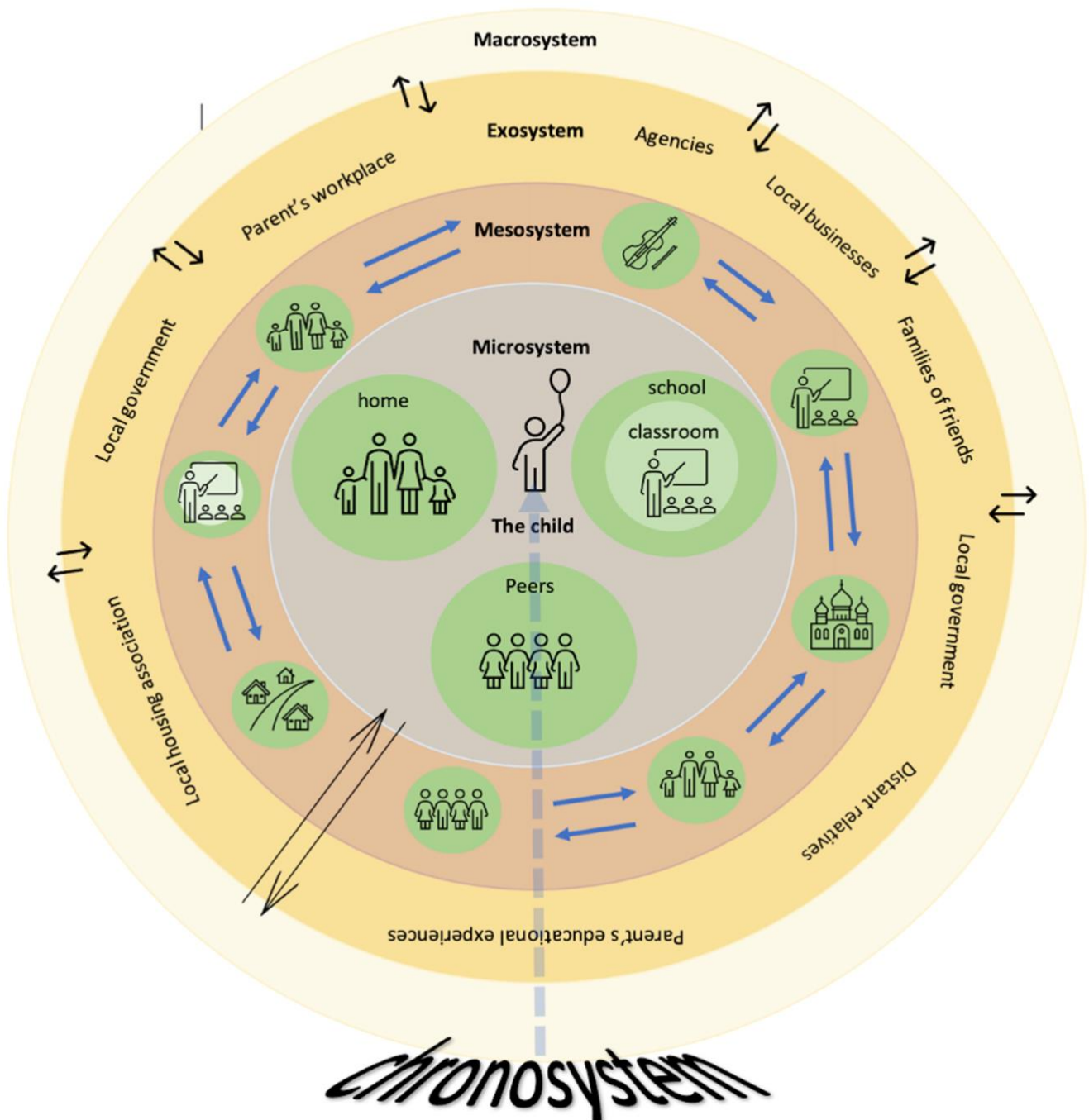
Time

The final system (also known as the chronosystem e.g., 1988), is qualitatively different from the four nested systems, referring to the cumulative, temporal, shaping of the individual. This ontogeny includes both normative (e.g., starting school) and non-normative shifts (e.g., being found non-selective in the 11+) over the course of the person's life, but importantly, also includes the powerful impact of the longer-term historical influences. Bronfenbrenner and Morris (1998; 2006), in recognition that change occurs over different rates of time, proposed that time should be considered differentially within the Bio-Ecological Systems Model, structured within three bands. *Micro-time* represents the length of proximal processes whilst in action (e.g., classroom error handing). *Meso-time* refers to the frequency of these interactive episodes over a period of development, e.g., days, weeks, or months. Finally, *macro-time* runs parallel to the macro-system, capturing generational and societal shift (e.g., the emergence of meritocracy). For Bronfenbrenner, these subfactors act synergistically, with influencing effects upon the other. For example, personal characteristics can moderate the trajectories of those living within the same period, or that the frequency of interactions may enable and expediate future proximal processes.

In concluding this section, to account for the complexity of factors impacting pupils' responses to soft failure, consideration needs to be given across the components of process, person, context, and time. In the next section, I expand on how the context of this study is enriched by the use Bronfenbrenner's research as a framework. However, within a small-scale study, constraints have meant that it has not been possible to treat each component comprehensively. Tudge and colleagues (2009), in guiding researchers to the uses and misuses of Bronfenbrenner's theory, identify features of the Process-Person-Context-Time model that are negotiable and non-negotiable within theoretical frameworks. This study meets the guidelines for 'process', 'person' and 'context': observations and interviews focus on the proximal processes in the classroom around soft failure and impasses, with a focus on age and gender (which are 'demand' personal characteristics), within the wider context of school and the 11 plus system. Ideally, the

study should also be longitudinal. However, the messiness of research in natural settings became a barrier to this aim. Therefore, I claim only to draw upon this model as a framework with broad brushstrokes, rather than use it in a completed form. There is reassurance in Tudge et al.'s (2009) indication that partial uses of the theory are possible, so long as this is declared.

Drawing upon Bronfenbrenner's model as a framework for this research

The application of the Bio-Ecological Systems model to this research serves two functions: Firstly, the nested layers of the model serve as a reminder that we cannot ignore the complexity of error climate. Existing error-climate research with quantitative methodologies does not do justice to the complexity of interactions within the ever-changing interconnected webs of systems that influence an individual, alongside their own bio-psychological make-up. Perhaps, such a task is an impossibility. Nevertheless, a recognition of the mutual interaction between and within the different layers of systems (and the bio-psychological individual) that lead to change is more likely to inform our understanding of how classroom climates develop, bringing us a step further towards facilitating the establishment of a positive error climate in the classroom. Secondly, this model provides a useful structure that helps to organise the myriad factors that influence an individual's behaviour and development. Stevenson, (1998), likens the model to "a kind of map to guide us through very confusing terrain" (p.19). Underpinning this case study in terms of Bronfenbrenner's Bio-ecological Systems Theory, will provide prompts for analysis of the contexts and interactions that may otherwise threaten to overwhelm the researcher. Even if some systems cannot be explored in any great depth within a small-scale study, the consideration of the layers of influence may help to identify some antecedents that lead to perceptions of the classroom error-climate beyond immediate relationships in the classroom.

Incorporating other theoretical lenses into the framework

Criticisms of Bronfenbrenner's theory acknowledge the abstract nature of the model and the lack of empirical testing within Bronfenbrenner's own research (Xia, Li and

Tudge, 2020). The effects of processes within the theory fall short of demonstrating causation; changes within the development of an individual may be the result of interactions within or between relationships and systems, but there is no surety in assigning a cause to a particular effect. Its limitations, therefore, suggest a pairing with other theoretical constructs to lend strength to its operationalisation, bridging the gap between causes and effects within processes. I have thus drawn upon a variety of other theoretical models to enrich Bronfenbrenner's framework, (Figure 2, p.33) outlines the relationships between the theories within this study).

In aiding analysis of the school microsystem and interpretation of teachers' beliefs about soft failure, I draw upon Biesta's research on educational purpose. (Biesta, 2009, 2010, 2020), perceives three aims to which schools are orientated: *qualification aims* refer to the transmission of knowledge, dispositions and skills that allow pupils to "do something", such as a career (Biesta, 2009, p.39), a key function of schools which he argues relates to the economic functioning of society. *Socialisation aims* explicitly and implicitly inculcate what is valued in society, facilitating membership of particular "social, cultural and political 'orders" (Biesta, 2009: 40). Finally, Biesta argues that schools may contribute to processes of individuation, which he terms '*subjectification*' (p40). Becoming an autonomous person in both thoughts and actions - 'being' and 'doing' - through the promotion of freedom, provides a counterpoint to socialisation. Together, this theoretical framework supports a more nuanced understanding of how social relationships and proximal processes affect the individual's internalisation of events, and how this, in turn, affects responses to errors in the classroom, influencing whether pupils give up or persist when facing soft failure.

To unpack some of the psychological mechanisms impacting the interactions of an individual, I draw upon Weiner's Attribution Theory (Weiner, 1985a, 1985b, 2000, 2010) with this understanding applied to the school climate through the lens of Achievement Goals and Classroom Goal Structures[22]. In Chapter three, I will also refer to several models that detail the impact of personal dispositions on development, such as

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[22] E.g., Dweck, 1975; Ames and Ames, 1984; Dweck and Leggett, 1988; Ames, 1992; Grant and Dweck, 2003; Urdan, 2004; Wolters, 2004; Carol S. Dweck and Grant, 2008; Dweck and Yeager, 2019)

Mindset[23] and perfectionism[24]. These theories will be described in terms of their contribution to understanding perceptions and reactions to errors. To provide understanding of some thinking patterns that may lead to perceptions of success and failure, I shall now turn to the first of these, Attribution Theory.

Attribution theory

Any model attempting to explain reactions to errors, and subsequent learning from errors, as Tulis, Steuer and Dresel (2016 p.17) indicates, *"must address...affective and motivational reactions to errors, as well as cognitive and behavioural reactions"*. It can be argued these four reactions may be accounted for within Attribution theory (Weiner, 1986; 2010), which enhances the theoretical framework through providing greater understanding of the 'person' element in Bronfenbrenner's PPCT model, accounting for the psychological mechanisms operating when soft failure gives rise to emotional responses. The role emotions play in response to soft failure is widely acknowledged in the error climate literature, with Zhao (2011 p.436) declaring errors as "emotional events". It is argued that errors are often perceived by the learner as a *"potential threat to self-worth"*, leading to barriers that prevent learning from mistakes (Steur and Dresel, 2015 p.262). Attribution Theory suggests that success and failure perceptions are bound to emotional states (e.g., happiness, pride, disappointment, shame, embarrassment), with emotions becoming signifiers of the attributional processes that have led to them.

Fundamental to Attribution Theory is the human need to explain events and behaviours. Attribution theory proposes that individuals, acting as näive scientists to establish the cause of an outcome, ascribe explanations for the behaviours of themselves and others to construct their understanding and subsequently direct better outcomes (Weiner, 1986). When the outcome is a negative one (such as the experience of soft failure), this is especially true (Weiner, 2018). Weiner (2018) indicates that perceived internal causal explanations in scholastic settings, pivot around ability and effort

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[23] E.g., Dweck, 1999, 2006, 2016, 2017; Carol S Dweck and Grant, 2008; Dweck and Yeager, 2019; Yeager and Dweck, 2020

[24] E.g., Hewitt and Flett, 1991; Stoeber and Rambow, 2007; Stoeber and Childs, 2011; Stoeber, 2012; Luo et al., 2016

(Cooper and Burger, 1980 in Weiner, 2018). These attributions fit well with dominant discourses in schools around achievement (e.g., gender and achievement[25]). Wiener (2006) proposes that in a school setting, teachers, pupils, and parents, may attribute beliefs about achievement along three intersecting dimensions: locus of causality (whether there were dispositional (internal), or situational (external) factors that account for the behaviour or event); stability (whether the cause is likely to be permanent or temporary); and controllability (whether the situation is beyond personal control or personally preventable) (Weiner, 1985)[26]. The convergence of causal dimensions is thought to increase the significance for learners, impacting their future behaviour and achievements.

The splicing of Attribution Theory with Bronfenbrenner's Bioecological Systems Theory can aid the identification of adaptive thinking patterns and reactions that might be cultivated in a school context. The fact that attribution theory starts with a successful or unsuccessful outcome, unlike the other major theories of motivation (Graham, 1991), facilitates the analysis of this study in understanding how perceptions of success and failure have rooted within the classroom environment prior to fieldwork, enabling consideration of Bronfenbrenner's mesotime.

Achievement goal theory

Achievement Goal Theory[27] contributes to this framework through furthering understanding of how classroom structures and environments impact learning and motivation at school (Steuer et al., 2013). Achievement goal theory has been described as a general framework that accounts for different interpretations and orientations towards achievement within a setting (Linnenbrink-Garcia, Patall and Pekrun, 2016). Attribution Theory and Achievement Goal Theory converge (Wolters, 2004), and are similar in their acknowledgement of social, contextual, and biological influences upon

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[25] Francis and Skelton, 2005; Jackson and Dempster, 2009; Heyder and Kessels, 2017

[26] Later authors have proposed additional dimensions, including globality (Abramson, Seligman and Teasdale, 1978) universality (Rees, Ingledew and Hardy, 2005) and intentionality (Heider, 1958)

[27] E.g., Ames and Ames, 1984; Ames, 1992; Elliot, 1999a, 1999b; Kaplan and Maehr, 2007; Maehr and Zusho, 2009

individuals' perceptions and beliefs, which impact the individual affectively, motivationally, and behaviourally. However, their interests differ, with Achievement Goal Theory concerned with the purposes learners have for engaging in tasks (Wolters et al., 2013) with the aim of either demonstrating or developing competence[28]. Contemporary writers[29] have described these personal aims as either 'performance' or 'mastery' goal orientated respectively (McGregor and Elliot, 2005), with performance goals subdivided further into avoidance (avoiding feeling incompetent) and approach goals (outperforming others, Elliot, 1999). Research over several decades has shown that adaptive motivational patterns, such as effort attributions (Weiner, 2005), are associated most with mastery goal structures (Linnenbrink-Garcia and Patall, 2016). Steuer et al., (2013) argues that goal orientation aligns with the individual's perception of errors, with individuals orientated towards mastery perceiving soft failure as a source of information for future development and reduced negative affect in response to errors. This contrasts with performance avoidance structures, which correlate with several undesirable outcomes (Bardach *et al.,* 2021) including ability attributions, a reduction of effort (Steuer et al., 2013), an increase of negative effect (Kaplan, Gheen and Midgley, 2002), self-handicapping (Midgley and Urdan, 2001); avoidance of help (Ryan, Pintrich and Midgley, 2001) and challenge (Steuer et al., 2013). The relevance of this research for teachers is significant: it is widely accepted that classroom contextual factors (goal structures) may be internalised by learners, influencing the uptake of personal achievement goals (see Bardach et al., 2020 for a meta-analysis[30]).

Teachers and peers may communicate goal-related messages, explicitly or implicitly through their practices and policies (Bardach et al., 2019), affecting the construction of the classroom error climate. Learners' perceptions of whether the climate is tolerant of mistakes; embracing of challenge; is competitive, individualistic, or cooperative in orientation; emphasises mastery or performance etc., is therefore likely to shape their responses to soft failure. The lens of Achievement Goal Theory permits an examination

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[28] E.g. Nicholls, 1984; Dweck, 1986; Elliot, 1999a; Meece and Anderman, 2006

[29] E.g., Harackiewicz et al., 2002; Senko, Hulleman and Harackiewicz, 2011

[30] Also see Roeser, Midgley and Urdan, 1996; Pintrich, Conley and Kempler, 2003; Wolters, 2004; Urdan, 2010; Pulfrey, Buchs and Butera, 2011.

of the error climate through the goal-related messages that are communicated in school, as well as achievement messages within the microsystem and wider systems. Within a wholly selective local education system, it is possible that learners may view achievement in a different way to those who experience a comprehensive education system. It might be hypothesised that the intersection of the country-wide orientation to individualism, and the competitive approach that this subsumes, alongside a focus on the outcomes of a high-stakes test may already predispose learners within this study towards performance goals. Therefore, the goal structures that inform the classroom error climate becomes salient as a potential moderator of the personal achievement goals that learners adopt.

Summary of the theoretical framework:

This section has argued that in exploring the experiences and perceptions of soft failure we need to take into consideration two important moderators: the individual's own biological and psychological characteristics (including those which are innate, epigenetically triggered and socially constructed) which play an important role in perception development, and the context. We can think about context in two ways. The error climate literature has often used context to refer to the immediate social interactions that shape perceptions, such as the error-handling activities of the teacher in the classroom. However, this needs to be broadened to allow for the wider sociocultural factors that influence perceptions and constructions of meaning. To account for these moderators of perceptions and experience within a case study influenced design, I have drawn upon Bronfenbrenner's Bio-Ecological Theory of development. This framing infuses not only the research design, but also guides the literature review to support the multidimensional scope of this research.

 The central feature of Bronfenbrenner's PPCT model - proximal processes - facilitates a careful examination of the interactions within the classroom where soft failure is experienced, and where the error climate is under construction and re-construction. In drawing upon Bronfenbrenner's model, wider social influences on the error climate, such as the wholly selective education system within the LEA, also become salient.

However, in recognition of the operational fuzziness of the proximal processes, which are key to understanding development, I have also utilised two additional lenses. Firstly, Attribution Theory has been chosen to cast light on the psychological processes that are instigated when soft failure is experienced affectively. Through retrospective accounts of mistake, error and impasse experiences, learners' attributions may reveal their constructions of ability, success, and soft failure that may lead to adaptive or maladaptive responses to soft failure in the classroom. However, Attribution Theory only takes us so far in understanding how personal perceptions impact the wider error climate of the classroom. As this study is concerned with identifying classroom buffers to mitigate a perceived negative error climate, the framework is developed further through the incorporation of Achievement Goal Theory. In primarily focusing on the proximal processes within the classroom, Achievement Goal Theory may help unpack the classroom antecedents which may result from teacher-pupil or peer interactions in the classroom, leading to learners' and teachers' perceptions of soft failure. The diagram overleaf shows the relationships between the theoretical lenses of this study. Bronfenbrenner's theory provides a structural frame, representing the complex, social-ecological layers of impact proximal processes. The social environments – immediate and distil- in which the learner inhabits, affects their constructions and perceptions of soft failure and success. Of relevance are the achievement goals of the classroom, determined by the error climate. The individual, seeking causes of their soft failure experience, makes attributions which are signified emotionally. These impact their achievement goals and behavioural responses. In turn, this influences the error climate of the classroom.

Figure 2: *The relationships between the theoretical lenses within this study*

Macrosystem — *E.g., Normative constructions of ability, success and failure, individualism, national education policies, normative gender constructions*

Exosystem — *E.g., The selective education system within the LEA; interpretation of national policies*

Mesosystem — *E.g., Relationships between home and school impacting perceptions and constructions of ability, success, failure, persistence, etc. Relationship between classroom and school aims*

Microsystem of the classroom

Attributions to soft failure (causal dimensions)

Personal goals *(mastery and performance)*

Affective response

Behavioural reactions to soft failure

Force, Demand, Resource characteristics

The Bio-psychological learner

Experience of soft failure

Interacts with

Situational influences:

e.g. class cohort, seating arrangements, physical environment, pedagogies, resources, attitudes of teachers towards errors etc.

Classroom goal structures

Classroom error climate

Establishing epistemological congruence in the theoretical framework

A cautious approach is needed when fusing theories with differing methodological positioning within one theoretical framework. Research outcomes are inseparable from the theories that generated them (Guba and Lincoln, 1994) with the resulting analysis saturated with theory and positioning, whether visible or not. Merriam and Tisdell remind us that reflected in the research findings are the *"constructs, concepts, language, model and theories that structured the study in the first place"* (2016, p.88). Therefore, to facilitate the reader's understanding and ability to transfer the results to another context, I will assess the congruence of the two dominant models utilised in this theoretical framework: Bronfenbrenner's Bio-Ecological Theory and Weiner's Attribution Theory. If these two theories are compatible, it will be assumed that Goal Achievement Theory will also be congruent within this framework, given that it is a social cognitive approach whose parent is Attribution Theory.

Compatibility may be considered in two ways, the first being epistemic congruence, which is necessary for the integrity of the framework to hold. With both theories orientated within an interpretivist paradigm (Irwin, 1983), an uncomfortable paradigmatic alignment may be possible. A tension is apparent between the understanding of the social world as constructed and the empirical work of Attribution theorists, whose experimental studies are largely aligned with the positivistic concern of measuring causal attributions in terms of the dimensions (Al-Sharif,2020). This signifies an alternative understanding of truth to that of social constructivists. However, it is important to note that the methods used in many Attribution Theory studies do not affect the socially constructed data which is generated. Both theories share a similar agenda and heritage (Jost and Kruglanski, 2015; Crittenden, 1983), underpinned by constructivism, with the agent involved in processing and constructing their world, based on their experiences and interactions in the social world (Fiske and Taylor, 1991).

Secondly, a stress on the role of perceptions for behaviour within the two theories paves the way for both theories to play a complementary role. Both the Bio-Ecological Systems Theory and Attribution Theory, stress the agency of the bio-psychological individual,

with biological and psychological personal characteristics (including beliefs) serving as moderators of the individual's interactions. Bidirectionality of influence characterises the effects that person and processes have on each other within both theories. The interaction between person and environment influences perceptions (Bronfenbrenner, 1999) which can lead to the individual's culturally shaped, yet subjective conceptions. This position aligns Bronfenbrenner's socio-ecological model with the central plank of Attribution Theory which explains how an individual's social perceptions of their differing environments are key to their construction of their world, mediated through language: perceptions link to the individual's causal explanations for events, leading to emotional and behavioural changes (Weiner, 2010) in the individual. Therefore, given the similarities of features in both these theories, their compatibility is enhanced.

However, perhaps, a more important measure of compatibility of theories lies not in the similarities found, but in how their differences and weaknesses might be mitigated. Whilst the Bio-Ecological Systems Theory lacks operational detail in how the interactions of the spheres affect individual perceptions, Attribution Theory can be used to build on this through unpacking the psychological mechanisms that affect an individual's perceptions of others and events, accounting for shifts in behaviours and attitudes. In terms of attribution theory, attributions impact behaviour and affect, with behaviour and affect further impacting attributions. Short fallings, common within critiques for Attribution Theory, such as its tight focus on the micro processes at the expense of the consideration of how larger discourses bias the attributional process (DelGreco et al., 2021), may also be balanced by strengths in Bronfenbrenner's theory. For example, Musgrave et al., (2016) argue that the Bio-Ecological Systems Theory offers a holistic approach. Therefore, compatibility as a measure of complementarity between the features of the two theories appear sufficient to proceed in using both theories within one framework.

1.4   Research Questions

The four research questions that direct this study, focus on the microsystem of the classroom and the proximal processes within, whilst also reflecting the importance Bronfenbrenner places on the individual's personal characteristics:

1) What are teachers' explicit and implicit beliefs about soft failure?

2) Do teachers' perceptions about soft failure reflect their classroom practice?

3) How do pupils perceive soft failure?

4) How do pupils react to soft failure in the classroom?

In recognition that the error climate is forged within the crucible of the classroom[31], questions 2 and 4 focus on what is occurring in the classroom in relation to soft failure events. To develop a richer exploration of the antecedents of classroom soft failure events and interactions, questions 1 and 3 will relate to pupils' and teachers' perceptions and beliefs about soft failure and will also serve to identify participants' attributions and goals. These two questions will also permit the examination of some limited, wider, factors in relation to soft failure, such as the classroom and school culture, the home microsystem, and the 11+ context. Together, the research questions will provide a fuller picture of the antecedents of the classroom error culture and perceptions of errors, illuminating contributing factors to the error climate that have been largely excluded in the literature so far.

1.5   The organisation of the thesis

This thesis is arranged in ten chapters. **Chapter Two** positions challenge as an integral part of learning, in terms of both cognitive and motivational literature perspectives. With the role of challenge in learning established, uncertainty and risk increase the possibility of soft failure. However, this chapter demonstrates that soft failure should

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[31] Steuer, Rosentritt-Brunn and Dresel, 2013; Steuer and Dresel, 2015

not be of concern, offering both cognitive and motivational benefits to the learner. Personal dispositions towards negative responses to soft failure are explored in **Chapter Three,** identifying pupil populations that may find soft failure particularly problematic. Self-belief structures that affect pupils' energy investment for processing errors after an episode of soft failure (Tulis et al., 2017) are examined, alongside the perspective that these are malleable through the messages received in the classroom. Shifting focus to the external, social environment which is thought to influence pupils' beliefs about soft failure, **Chapter Four** considers the teachers' role in shaping the error climate of the classroom. This chapter will then situate classroom procedures and approaches within wider cultural values, before finally considering how pupils learn from errors. **Chapter Five** outlines my methodological considerations and choices for the research design of this case study including philosophical issues around my positioning, the strategic selection of cases; method and data analysis choices and ethical considerations. **Chapter Six** is the first of three findings chapters. Focussing on the microsystems of the school, I consider the similarities and differences in the schools in terms of the qualification, socialisation and subjectification aims of education outlined by Biesta (2010). Turning to the home microsystem, pupil descriptions of pressured 11+ preparation regimes reveal parents to be knowledgeable and skilled navigators of the selective education system. How the teacher's 'invisible hand' shapes the error climate of the classroom is the focus of **Chapter Seven.** Considerations of classroom safety for taking academic risks is discussed in relation to possible threats to the self. I argue that to achieve classroom safety in whole-class discussions, the secondary school teacher must consider pupils' dignity, building on the existing literature to suggest that this must be considered within an adolescent context. **Chapter Eight** turns to pupils' reactions to soft failure, particularly pupils' maladaptive responses, such as selective contributions to whole-class activity and procrastination. A clear difference in pupils' responses to soft failure in the two case study schools emerge. These centre around Y7 pupils' competitive status-directed practices, and their work towards appearing perfect to others, which I suggest are driven by a fear of shame. Utilising my theoretical framework, I identify influences upon pupil' soft failure responses within various ecological systems, including macroscopic factors, such as gender and neoliberalism. **Chapter Nine** discusses and draws together the findings in the previous three chapters.

I consider pupils' responses to soft failure to arise from the complex combination of their unique biological profile, experiences, and the impact of various ecological systems upon themselves and others with whom they interact. The socialisation of pupils towards a competitive orientation and desire to achieve academic success, within an 11+ context is a key theme of this chapter. Contributions to understanding the complexity of pupils' reactions to soft failure are made through the model *'Dignity in an Adolescent Context'*; introducing a model of *When Mistakes Matter* and incorporating the latter into a *Model of Soft Failure Adaptivity,* which draws the findings together. **Chapter Ten** concludes this thesis reflecting upon the multi-layered factors discussed in Chapters 6-9, that impact pupils' responses to soft failure. In doing so, the construction of the classroom error climate comes into a sharper focus with implications arising from this study.

Chapter Two: The role of challenge and soft failure in learning

2.1 Introduction

This chapter makes a case for the use of soft failure in the classroom, rooting this within the heart of learning itself. In doing so, learning is defined and situated within a sociocultural framework (Vygotsky, 1978), with challenge regarded as an integral lever to motivation (Dweck, 1986) and cognitive development[32]. This position can be located within the long-standing debate regarding the role of errors in the initial stages of learning. Polarised positions often characterise this debate[33], but a more nuanced understanding is necessary to optimise the benefits of soft failure for learning in the classroom. It is only in recent times that the value of errors in learning is beginning to be appreciated in schools[34], with social-cognitive approaches to motivation, such as Mindset theory (e.g., Dweck, 1999; Yeager and Dweck, 2012), gaining traction. However, running parallel to this work, the 'knowledge turn'[35], and the ascent of 'learning science' in schools and educational policy in England, has led to the marginalisation of enquiry-based learning practices (Sweller, 2021), that are at odds with the exposure and utilisation of soft failure. As this thesis rests on the assertion that soft failure is pedagogically important in many learning circumstances, this chapter will critically review the literature to ascertain the conditions under which this might be true. This review will provide a rationale for researching soft failure in schools, clarity regarding when, and how, soft failure and challenge are useful in learning, and will aid understanding of my positioning when data analysis is discussed in Chapter Five: it is important the reader understands what I regard as an acceptable teacher response to errors in the classroom. The thesis rationale leads to the starting point for this chapter; an explanation of how the literature review, spanning chapters Two to Four, has been bound. With the literature choices explained, the focus on Chapter Two begins with a

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[32] Bjork and Bjork, 1992; van Lenh et al., 2003;Van Lenh et al., 2003
[33] E.g., Bandura, 1986; Kapur, 2008; Kornell, Klein and Rawson, 2015
[34] Borasi, 1994; Stevenson and Stigler, 1994; Metcalfe, 2017
[35] E.g., Young, 2007; Muller, 2012; Young et al., 2014

consideration of the role of challenge and soft failure in learning. The entwined relationship between soft failure and challenge is explored through the context of gaming, where it might be most readily observed, with soft failure considered as an essential parallel partner to challenge in securing motivation. These relationships are later considered through the lens of cognitive science, with challenge and soft failure playing a mechanistic role in facilitating the encoding and retrieval of durable memories necessary for deeper processing and learning.

2.2 Binding the literature review in Chapters Two-Four

In considering the choices for inclusion in this literature review, Bronfenbrenner's steering influence is clear. In line with bio-ecological systems theory, both biological and sociocultural perspectives need to be considered. However, any attempt to comprehensively represent the multitudinous factors that may influence learners' response to soft failure must acknowledge the impossibility of such a task. Therefore, delimiting the literature is essential. In line with bio-ecological theory I have focused on both 'person' (Chapter 3) and 'process' (Chapter 4) aspects of Bronfenbrenner's PPCT model (Bronfenbrenner and Morris, 2006). Chapter Three discusses not only some of the demand, resource and force characteristics that affect pupils' perceptions of soft failure, but considers how the operationalisation of learners' beliefs, attributions and motivational processes impact their responses to soft failure in the classroom. Chapter Four sees a shift from intrapersonal to interpersonal and ecological factors that influence soft failure perceptions and reactions. The error climate literature that considers the proximal processes of the classroom and teachers' error handling, provides a key focus for the chapter. The inclusion of the international literature highlights the importance of context for interpretation, problematising simple interpretations of error handling. Chapter Two serves two different functions. Firstly, it provides a rationale for the thesis in recognising the importance of soft failure within learning. Secondly, it provides the transparency of my position on error-handling for the reader; understanding what I judge to be acceptable responses by the teacher is essential for interpreting my findings and analysis. In binding the literature so, I am aware of the various paths that I have not chosen to foreground. For example,

it may be argued that to understand the 11+ context of this study, the grammar school literature needs to be represented. However, in making decisions for inclusion within this critical review, I have considered where the attention of the literature lies. For example, a key concern within contemporary grammar school studies has been on social mobility and inclusion, or achievement, rather than socio-emotional concerns, which, excepting the recent study by Jerrim and Sims (2019), there has been considerably less attention. Therefore, the binding of the literature takes this into consideration, whilst utilising Bronfenbrenner to frame my choices.

2.3 The need for challenge in learning

A widely acknowledged feature in the early trajectories of student teachers is the assumption that a successful lesson is one where pupils are compliant (e.g., Kyriacou and Stephens, 1999). However, a distinction might be drawn between task completion, where learners may demonstrate engagement, and learning, which is an unseen mental process (Scrivener, 2014). Whilst ideally, learning, engagement and task completion will co-exist in a mutually supportive manner, these three characteristics may occur independently. Given that various classroom working presentations may masquerade as learning (Soderstrom and Bjork, 2015), a useful starting point might be to define we what mean by learning. As this thesis takes a social constructivist approach, I take learning to be an active process, where knowledge is constructed, not in isolation, but dialogically, in a complex, social environment. Experiences, observations, and interactions with others lead to the construction of mental representations of the world. Whilst the concept of learning can be defined differently across and within disciplines[36], it has been described as a transformative process[37], where new knowledge, behaviours or skills are negotiated (Bruner, 1990) and internalised (Brown, Roediger and McDaniel, 2014) on a long-term basis (Gagné and Driscoll, 1988; Krause *et al.*, 2010).

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[36] Barron et al., 2015; de Houwer, Barnes-Holmes and Moors, 2013
[37] Piaget, 1952; Ambrose *et al.*, 2010; Bingham and Conner, 2010

Studies show that learning can be enhanced under certain conditions, for instance, by increasing the task demand[38], or the conceptual complexity of the task (Lodge et al., 2018). The notion that increasing challenge in the classroom can enhance learning is prominent across several fields including cognitive science[39] and psychology, where both cognition[40] and motivation[41] require challenge. For example, in cognitive science, it is argued that challenge in the form of desirable difficulties (Bjork, 1994) is required to ensure attentional processes are triggered (Kahneman, 1973), which leads to the better encoding of new information (Amlien et al., 2019). In motivational psychology, challenge can be seen as catalyst for intrinsic motivation (Meng et al., 2016), as part of a virtuous circle where increased interest leads to a desire for greater challenge (Ryan and Deci, 2000; Inoue, 2007).

Early research on the role of challenge in learning

The heritage of the role of challenge in learning stretches back to educational psychologists, such as Dewey (1859-1952), Piaget (1896-1980) and Vygotsky (1896-1934), who in their different ways, viewed challenge as a catalyst to learning. These early constructivist perspectives have captured the teacher imagination and continue to underpin modern pedagogical approaches and strategies, albeit in their revised form: Vygotskian theoretical structures that provide an explanation for learning have been particularly enduring (Shokouhi and Shakouri, 2015), whilst in Hattie's (2008) meta-analysis on factors related to student achievement, Piagetian programmes were the sixth most influential factor out of a total of 252 influences, with an effect size of 1.28. To understand the role of challenge in learning currently, it is therefore important to first look at the original contributions made by these early researchers in terms of both cognition and motivation.

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[38] VanLenh, 1988; Bjork and Bjork, 2011; Grawemeyer et al., 2015
[39] Ivanic and Hesketh, 2000; van Lenh et al., 2003; McDaniel and Butler, 2011
[40] Schweinle, Turner and Meyer, 2009; Graesser and D'Mello, 2012
[41] Malone and Lepper, 1987; Dweck, 2006; Nakamura and Csikszentmihalyi, 2012; Meng et al., 2016

Dewey viewed challenge as the necessary ignition for reflective thought. He argued that "thinking is not a case of spontaneous combustion; it does not occur just on 'general principles'. There is something specific which occasions and provokes it" (Dewey, 2010/2015 p.12). In this way, Dewey directly linked growth with the condition of difficulty that must be overcome. According to Piaget (1952), cognitive conflict, experienced through challenges to our existing understanding of the world, leads to the assimilation, modification or rejection of new knowledge within schemas.

For Vygotsky (Vygotsky, ca.1930-34/1978), the role of challenge was not simply the catalyst or mechanism that leads to learning, but occurs within a sociocultural framework, where a More Knowledgeable Other (MKO) supports the learner to bridge the gap between what can be done independently and can't be done alone yet. However, the role of challenge in learning goes beyond learning mechanisms or conditions that spark biological processes for learning. Intrinsic motivation is also seen to be harnessed through challenge, being integral to both Csikszentmihalyi's flow theory (a mental state characterised by absorption and full concentration when completing a challenging task[42]), and Deci and Ryan's Self Determination theory (a meta-theory of personality and motivation, (Deci *et al.*, 1991; Ryan and Deci, 2000) These theories indicate that without motivation to learn, it is easy for inertia and apathy to set in as there is nothing to sustain and direct behaviours. I will now look in more detail at the role of challenge in cognition and in motivation in turn.

The role of challenge in cognition

Piaget's theory of cognitive development

For Piaget (1977), learning is a transformative purpose, with challenge a central process that acts as a catalyst for learning. For Piaget, learning existed within a developmental structure from birth to adulthood. With biological maturity, basic cognitive structures become progressively reorganised in four age-related stages - a position that has been

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[42] Csikszentmihalyi and Csikszentmihalyi, 1988; Csikszentmihalyi, Abuhamdeh and Nakamura, 2005

since been rigorously challenged (e.g., Weiten, 1992; Gray, 1994). Whilst staged theories of development have been significantly revised to provide greater explanatory power for cognitive growth[43], (responding to objections regarding automatic biological processes; Segall, 1990, and individual variations in development; Feldman, 2004), Piagetian influence is visible in contemporary pedagogical strategies that stress active learning construction through challenge. Early-years play based education and discovery learning (developed by Bruner, 1961), bear the imprint of Piagetian cognitive development theory to this day, as do social constructivist teaching approaches, such as enquiry-based learning (Yilmaz, 2011). The latter, typically collaborative (Kahn and O'Rourke, 2005), student-centred (Calder, 2015), problem-driven and complex (Deignan, 2009), is premised around stimulating curiosity (Spronken-Smith *et al.*, 2008), "creating a state of perplexity" by presenting information that conflicts with prior knowledge and experiences of the learner (Ciardiello, 2003 p.229). The cognitive conflict sparked by enquiry-based learning draws from Piaget's concept of cognitive disequilibrium (Mogonea and Popescu, 2015). This concept refers to the process by individuals to try to align prior and new knowledge (homeostasis) due to the disquieting state of disequilibrium (Piaget, 1971). Through the concepts of assimilation and accommodation (Piaget, 1958), Piaget described how learners deal with cognitive disequilibrium and construct the world in relation to their experiences. He suggested that new learning experiences cannot always be easily assimilated within an individual's current schema, leading to cognitive conflict. To avoid a state of disequilibrium, Piaget argued that the resolution lies in either accommodating the new information through the modification or replacement of concepts, or it must be rejected. This process of adjustment is challenging and is assumed to drive learning (Piaget, 1958). Other current learning approaches rooted in confusion, impasses and struggle, also draw upon Piaget's concept of cognitive disequilibrium (D'Mello and Graesser, 2012). Failure-based learning approaches (Tawfik *et al.*, 2019), such as Kapur's productive failure (Kapur and Bielaczyc, 2012), place impasses and cognitive disequilibrium at the forefront of learning. Kapur (2008), demonstrates that allowing learners who take wrong turns and embark on incorrect processes through ill-defined problems, results in negative

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[43] E.g., Pascual-Leone, 1979; Case, 1985; Halford, 1993; Mandler, 2004

knowledge (Oser and Spychiger, 2005)[44], aiding understanding of the problem's conceptual structure: in understanding why solutions do not work, progress towards the correct solution is made. Although it might be argued that striving and failing are an inefficient way to learn when compared with direct instruction (Sweller, 2021), modern day Piagetian-based learning theories, such as Productive Failure, indicate that there is a hidden efficacy in striving and failing, falling short and making mistakes. It is argued that this process assists the learner to generate sturdier and more comprehensive mental models of concepts in problem-solving through greater exploration of the terrain as learners engage in playing "epistemic games" (Bielaczyc and Kapur, 2010 p.19).

Vygotsky's sociocultural theory of cognitive development

For Vygotsky (1978), learning is inseparable from its sociocultural contexts, arguing that higher-order thinking and processes, such as problem-solving, attention, language and perception, develop through an intermental[45] process, with the resulting learning leading to intramental internalisation and the development of the child. A mediation process occurs between the inner processes of the learner and the sociocultural world, where cultured ways of thinking and knowing become internalised. Vygotsky draws parallels between the use of physical tools for labour and psychological tools to aid thinking. The mediating role of cultural tools, such as language, go beyond social interaction to shape the individual's understanding and thinking over time (Vygotsky, 1981), thus giving rise to a greater potential for thinking. Experiences mediated through language, Vygotsky suggests, can disrupt prior knowledge, leading to cognitive conflict, requiring a reconciliation within schemas (Butera, Sommet and Darnon, 2019). However, unlike Piaget, who postulates an intramental approach for development, for Vygotsky, the resolution is through language and communication with others.

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[44] The via negativa, or negative way, is an awareness of what is incorrect (Minsky, 1994; F; Oser and Spychiger, 2005; Gartmeier et al., 2008)

[45] For Vygosky, *inter*mental thinking processes occur between people within social interactions. This paves the way for *intra*mental processes to occur within the thinking of the child (Vygotsky, 1978).

For Vygotsky, cultural tools can be harnessed by those who are more knowledgeable to aid those who are less knowledgeable, to aid a transfer from intermental to intramental thinking (Vygotsky, 1978). A fertile space, a "zone of proximal development" (ZPD; Vygotsky, 1978), spans the independent ability of a person to act, with that which can be accomplished with help from a MKO. The ZPD is considered a shared, shifting space, reflecting the less knowledgeable person's actual and potential limits for development at that moment (Vygotsky, 1934). The individual is challenged to move beyond their current levels of understanding with attuned assistance (scaffolding; Wood, Bruner and Ross, 1976), eventually reaching a level where internalisation occurs, paving the way for intellectual, psychological and autonomous skill development. That teaching must stretch beyond current capabilities, suggests that challenge must play a key role towards intramental functioning and development in thinking and skills. However, (Mercer, 2008 p.10), has challenged the static nature of the ZPD which he claims represents "an individual mental state at any point rather than a dynamic, dialogic process." Mercer argues that knowledge is gained through thinking together, with pupils not merely interacting, but "interthinking" (Mercer, 2002; Littleton and Mercer, 2013). Reconceptualising the ZPD (Mercer, 2004, 2008) as an Intermental Development Zone (IDZ), Mercer describes a mutually constituted and maintained contextual framework of knowledge and understanding that supports interactive teaching and learning through dialogue and action (Fernandez *et al.*, 2001). Mercer argues that it is the quality of dialogue within the IDZ that constrains or facilitates progress, rather than ability. For example, in Fernandez et al.'s (2001) study of Mexican children engaged with problem solving, the type of pupil talk limited (disputational talk) or expanded (exploratory talk) their success at solving problems. Sociocultural research indicates that the relationship between dialogue quality and learning applies as much to teacher-pupil talk as peer talk (Mercer and Howe, 2012).

It might then be suggested that not all progress-oriented instruction is qualitatively equal. Studies, such as Smith et al.,'s (2004) investigation of whole class teaching support this premise, finding teachers asked low demand questions, with pupils' answers correspondingly limited. The predominance of teachers' closed questioning is

recognised in the literature[46]; a concern, even when accounting for the role closed questioning may fruitfully play in learning (Boyd and Markarian, 2011), with higher order questioning associated with developing critical thinking[47]. Moreover, teaching and assistance have, in some cases, been argued to have a debilitating effect upon learners, leading to unproductivity and passivity in learning (Daniel *et al.*, 2016). For example, there have been concerns that Teaching Assistants (TAs) can foster pupils' dependency upon adults (Sharples, Webster and Blatchford, 2015). A study on the impact of TAs found that pupils receiving support made comparatively *less* progress than similar pupils who did not. The nature of unsuccessful TA interactions with pupils focused on task completion, rather than scaffolding for understanding; 'closed down' talk; and were academically less demanding (Blatchford, Webster and Russell, 2012 p.8).

Therefore, how scaffolding is conducted is vitally important (Daniel et al., 2016). This raises several considerations for the TA or teacher. The interactive nature of the IDZ suggests that keeping pupils focused on the task through a "shared consciousness" (Mercer, 2008 p.10) is critical. This includes being attuned to the level of scaffolding required, including fading support and transferring the responsibility of the task back to the learner (van de Pol, Volman and Beishuizen, 2010). However, Mariani's, (1997) research suggests that scaffolding demands a high level of both challenge and support: low challenge is thought to not sufficiently reach into the learners' ZPD for progress to be effected, whilst high challenge necessitates scaffolding that is sufficient to enable pupils to access the learning, and remain interested and motivated. In this view, support and challenge should not be considered opposite ends of a continuum, with an increase of support seen commensurate with a need to decrease stretch, rather, support and challenge work in tandem. To do so, the MKO is required to take a responsive role to calibrate learning, nudging the learner to the next stages in learning whilst preserving problem-solving and struggle.

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[46] E.g., Christoph and Nystrand, 2001; Wragg, Brown and Wragg, 2001; Parker and Hurry, 2007; Alexander, 2008; Brown and Ngan, 2010; Deshmukh et al., 2019

[47] Barnett and Francis, 2012; Smart and Marshall, 2013; Tofade, Elsner and Haines, 2013

Summary

Widespread teaching strategies, such as enquiry or problem-based learning, approaches to child-centred learning, and recent research in failure-based learning approaches, such as Productive Failure, draw from the roots of early constructivists, such as Piaget and Vygotsky. Central to the operationalisation of these approaches is challenge, the mechanism that is assumed to drive learning, whether this is due to an internal conflict that we are driven to solve or originating outsides ourselves through language. Developments in Vygotskian teaching approaches have highlighted the importance of dialogue quality, with higher order questioning assumed to facilitate deeper thinking and yield better outcomes. In this way, challenge may result in an impasse, but is also part of its resolution. As we will see in the next section, experiencing challenge may also foster intrinsic motivation.

2.4 The role of challenge in motivating learners

Research suggests that challenge is not only essential for cognitive development, but that it plays an important role in motivation also. This is particularly important for the classroom where cognition, motivation and emotions interact during the learning process (Schweinle, Reisetter and Stokes, 2009). Although there a myriad of motivational theories that rest upon the provision of challenge which are important for learning (e.g., flow theory; Csikszentmihalyi, 1988; Alderfer's Existence, Relatedness and Growth (ERG) theory, 1969; Social cognitive theory; Bandura, 1986; Situated Expectancy Values Theory, Eccles and Wigfield, 2020 etc.), Self Determination Theory (SDT) may be a particularly good fit for a study on soft failure in the classroom. The three psychological needs of individuals (autonomy, competency, and relatedness), that underpin SDT, are considered important considerations for classroom climates (Niemiec and Ryan, 2009). This may particularly be so for classroom error climates where pupils may be vulnerable after soft failure. Therefore, a motivational theory that addresses challenge, the classroom climate where pupils will be taking academic risks, and pupils' wellbeing is essential, and I consider SDT to fit this remit. A comparison of

several motivational theories also considered for this study can be found in Appendix K.

Self Determination Theory

An orientation towards challenge, improvement, and internal organisation are central concepts within Deci and Ryan's Self-Determination theory (SDT), which attempts to explain the antecedents of motivation and wellness[48]. Assuming an orientation in all organisms towards evolution and growth (Ryan and Deci, 2004), Ryan and Deci, (2020) describe the agentic role in the personal quest to pursue mastery, with human beings oriented to seek out optimally challenging situations, and "to master and integrate new experiences" (Deci et al., 1991 p.239). The basic, intrinsic, desire (Ryan, 1991) to drive forward, is met with the need to integrate experiences on an intrapersonal level (developing a coherent sense of self) and interpersonal level. They argued that finding coherence as part of a wider physical and social environment is not automatic. The social environment acts to sustain, maintain, or undermine this task. A "dialectical struggle" (1991 p.239) emerges within the self, and between the self and the environment, as a necessary part of growth and development. Advancement cannot be made without reconciling these challenges. Within Deci & Ryan's proposed framework for motivation, it is argued that the self's striving for extension and assimilation can be supported through meeting basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 1885; 1991). These three basic psychological needs are well established in the psychology literature, embedded, and often interrelated, within many other key theories of motivation (see table overleaf).

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[48] Deci and Ryan, 1985, 2013, 2016; Ryan and Deci, 2000, 2017, 2019, 2020

Table 1: The presence of autonomy, competence and relatedness within motivational theories

Autonomy	ERG theory (Alderfer, 1969); Flow theory Csikszentmihalyi, (1988); Maturity Theory, (Argyris, 1971)
Competence	Achievement goal theory (Ames, 1992, Dweck, 1986); ERG theory (Alderfer, 1969); Expectancy-value Theory, (Eccles, 1983); Self-Efficacy theory (Bandura, 1986); Need Theory (McClelland, 1985) 1992); Goal-setting theory (Locke and Latham, 2002); Flow theory (Csikszentmihalyi, 1988); Mastery beliefs (Diener and Dweck, 1978)
Relatedness	ERG theory (Alderfer,1969); Hierarchy of needs (Maslow, 1943); Need Theory (McClelland, 1985)
Growth orientation	ERG theory (Alderfer, 1969); Hierarchy of needs (Maslow, 1943); McClelland's Need Theory (1985); Flow theory (Csikszentmihalyi, 1988); Motivation-Hygeine theory (Herzberg, Mausner and Snyderman, 1959) Mastery beliefs (Diener and Dweck, 1978)

These needs have been found to be stable across both individualistic and collectivist cultures (Chen et al., 2015; Ryan and Deci, 2020). For Deci and Ryan (2000), *relatedness* satisfies the desire for unity between the self and the environment: satisfied individuals feel connected to others and have a sense of belonging. Feelings of *competency* are thought to arise when an individual perceives themselves capable to accomplish a task or goal within their environment. This need drives the quest for optimally levelled challenges and, ideally, leads to a virtuous circle of increased competence through skill development and new desires for challenge (Schmidt *et al.*, 2015). It is important to note that the perceived level of a task is crucial to feelings of competency: only the successful completion of valued tasks will lead to increased self-perception of competency (Bandura, 1994). A prerequisite for perceptions of competency to arise, it is argued, is a

sense of autonomy, which describes the perception of agency and volition in one's own life decisions. *Autonomy* is thought to provide a ripe condition for individuals to seek out challenge[49]. A recent experiment by Mierke and colleagues (2017), on the effects of free or prescribed task order demonstrated that autonomy instigated challenge-seeking behaviours. The perceptions of competency that are thought to arise from the sense that actions are self-determined, rather than controlled, are also central to Cognitive Evaluation Theory (CET), a subset of SDT (Ryan and Deci, 2000) that explains how social contexts and external factors (e.g., external rewards/sanctions) affect intrinsic motivation. This theory binds intrinsic motivation to perceived competency. Factors that are thought to lead to positive self-evaluations of competency (and therefore, intrinsic motivation), include accessing optimal challenges, and socio-contextual events, such as non-judgmental feedback (Ryan & Deci, 2000).

The decline in intrinsic motivation of young adolescents in England

If CET is correct in placing perceived competency at the heart of intrinsic motivation, secondary school teachers might be concerned by two converging negative factors that may limit English pupils' desire for challenge: a high stakes environment and an age-related dip in intrinsic motivation. The high-stakes environment of the current English education system (West, 2010; Commons Select Committee, 2017) which is assessment heavy (Cambridge Primary Review, 2009), is considered a factor in depressing intrinsic motivation. Ryan and Weinstein (2009), stress that the problem is not with assessments per se, which may hold informational value for learning, but with the attached stakes. There is a risk of a twofold impact occurring for the high-stakes learner. Firstly, with the theoretical lens of SDT, pupils' perceptions of high stakes are likely to result in perceptions of lack of control (Ryan and Weinstein, 2009), leading to demotivation. Secondly, it is argued that high stakes can encourage a focus on outcomes at the expense of processes, impacting teaching practices.

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[49] See Patall, Cooper and Robinson, 2008; Vansteenkiste, Niemiec and Soenens, 2010; Thompson and Beymer, 2015; de Muynck et al., 2017; Cheon, Reeve and Vansteenkiste, 2019

Before secondary school transition pupils take the high stakes SATS examinations in England. Developmental changes around adolescence (Marelich *et al.*, 2012), combined with the stresses of secondary school transition[50] may lead to a reduction in pupils' perceived physical (Weiss, 2001; Weiss and Bearman, 2007), and academic (Wigfield *et al.*, 1991; Coelho, Marchante and Jimerson, 2016) competence. This, in turn, threatens levels of intrinsic motivation. Studies have demonstrated that intrinsic motivation for both genders (Wang, Willett and Eccles, 2011; Wijsman *et al.*, 2016) tends to tailspin into decline, commensurate with each year at school (Gillet, Vallerand and Lafrenière, 2011; Scherrer and Preckel, 2019), until 15-16 years of age (Wijsman *et al.*, 2015), and has been noted in several Western countries, including the Netherlands, Germany and the US. Unpicking the causes of this time-sensitive decline in motivation is complex, particularly as overall engagement in school is regarded to be a multidimensional construct (Fredricks, Blumenfeld and Paris, 2004). It seems to be moderated to some extent by both psychological and sociological features, such as behavioural (e.g., attention and compliance), emotional (e.g. belonging and valuing school) and cognitive factors, (e.g., self-regulated learning and cognitive strategy use, Wang, Willett and Eccles, 2011), gendered adolescent culture (van Houtte, 2004), and the big fish-little pond effect[51] (Stäbler *et al.*, 2017). However, a mismatch between adolescent developmental needs and the school environment (such as autonomy, challenge, and positive teacher-pupil relationships) appears to be a significant contributing factor (Schmakel, 2008; Eccles and Midgley, 1989).

In several studies the effects of declining motivation from secondary school age might be mitigated by factors such as challenge (Schmakel, 2008; Eccles and Midgeley, 1989), teacher expectations (Boerma, Mol and Jolles, 2015), positive teacher relationships[52], goal orientation[53] and supportive parents[54]. These mitigating factors may be seen alongside and supporting the framework of Self Determination Theory, or indeed Flow

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[50] Chung, Elias and Schneider, 1998; Zeedyk *et al.*, 2016

[51] This effect (Marsh and Parker, 1984) describes how learners in high-achieving schools have a lower academic self-concept in relation to their attainment compared with learners of comparable attainment in less-high-achieving schools. Learners' frame of reference for comparison is considered to explain the effect.

[52] Kiefer, Alley and Ellerbrock, 2015; Opdenakker, Maulana and den Brok, 2012; Eccles et al., 2009

[53] Maehr and Midgley, 1991; Meece, Anderman and Anderman, 2006

[54] Gonida, Kiosseoglou and Voulala, 2007; Gillet, Vallerand and Lafrenière, 2012

Theory. Therefore, schools wanting to improve motivation in their school populations may benefit from supporting pupils' autonomy, perceptions of competency and relatedness. The application of SDT to school settings has been fruitful in terms of the volume of educational research over several decades, including a significant number of interventions (Niemiec and Ryan, 2009; Guay, 2021). However, the 'dampened motivation" of teachers and pupils (Carr, 2020 p.2) has been suggested as a side-effect of educational structures that operate with a neoliberal logic of competition, accountability, evaluation, and control. A relationship between teachers' and pupils' autonomy perceptions underpins studies by Pelletier and Sharp (2009), and Roth and colleagues (Roth *et al.*, 2007) who found that pupils perceived less autonomy for learning when their teachers also perceived less autonomy for teaching. These studies suggest that teacher-experienced pressure and control can be passed onto pupils. It might therefore be assumed that performativity cultures within schools, encouraging evaluation, measurement, accountability, competition, and control (Ball, 2003; Ravitch, 2010), are at odds with providing school environments rich in autonomy and responsiveness to student needs.

Summary

Decades of research on SDT indicates that satisfying learners' needs to feel competent, perceive an internal locus of control, and experience belonging in school, is likely to lead to intrinsic motivation. This is of significance to schools as intrinsic motivation is associated with higher school performance[55]. Challenge, once again, appears to drive a virtuous cycle, where it both provides the means and is the result of meeting these needs. The identification of risk factors in the English school system that threaten intrinsic motivation further supports an aim to place challenge at the heart of the curriculum. However, even when teachers do manage to develop a rich, challenge-filled, environment for learning, this is not the end of the story for learning. In the next section, I shall explore how privileging challenge in the classroom, whilst necessary, can be a risky business.

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[55] Howard et al., 2016; Froiland and Worrell, 2016; Taylor et al., 2014

2.5 Embracing soft failure

If challenge is a necessary component of learning, as argued earlier, then it becomes a required feature of lesson design and teaching strategies. However, the paradox of welcoming challenge into the classroom to enhance mastery and promote progress is that we necessarily also invite uncertainty and the possibility of failure. In this context, failure is taken to refer to a temporary impasse in achievement, a "soft failure" (Laughlin and Marchuk, 2005), whereby the correct conditions for success have not yet been fulfilled. However, both pupil and teacher perceptions of soft failure can be negative, leading to harmful feelings of humiliation (Steuer et al., 2013) and shame (Tangney, 1995) that can damage the self-concept (Budiarto and Helmi, 2021). It is assumed, therefore, that a positive orientation to soft failure will reduce negative affect barriers to learning.

Remaining motivated during risk and soft failure

Whilst students in the classroom often find failure a stumbling block to motivation, the opposite is often true when the same students turn video gamers at the console. Unsuccessful attempts at task completion when gaming leave players positive and undeterred (Hoffman and Nadelson, 2010). Therefore, it is worthwhile for educators to consider why failure in one context leads can lead to fearful reactions, whilst in another is positively embraced.

Game researchers have identified taxonomies of game attributes that lead to motivation. Amongst successful game attributes relevant to learning, Bedwell et al., (2012) identified conflict/challenge (Crawford, 1984; Malone, 1981); control (Malone and Lepper, 1987); human interaction (Crawford, 1984); and assessment (Michael and Chen, 2005). Above all, risk and challenge are identified as the pivotal (Baranauskas, Neto and Borges, 1999) attributes which lead to motivated gamers. Challenge, in a gaming context, includes not only the inherent difficulty, but also conflict and uncertainty, which (Bedwell et al., 2012 p.741) see as "the driving action behind the game". Curiosity

is aroused in gaming through experiencing uncertainty (To *et al.*, 2016). Game-makers, keen to exploit this motivational hook, drip-feed gamers gaps in information, understanding well the desire to fill in these gaps[56]. Resolving the information gap leaves a feeling of satiety, with the return to certainty reducing curiosity (Kidd and Hayden, 2015). At this point, it is argued that the new gaps in information that occur will feed a new round of curiosity.

Curiosity is viewed by some as a basic human drive (Harlow, Harlow and Meyer, 1950) that exists without promise of reward - the desire to satiate curiosity occurs even at the expense of resources (Kang et al. 2009; Blanchard et al., 2015). Others consider curiosity as an intrinsic drive[57], with brain-based rewards that influence future behaviour. A neuroscientific study conducted by Kang and colleagues (2009) with functional magnetic resonance imaging (fMRI), indicates that curiosity correlates with the activation of the caudate regions of the brain, which may anticipate reward[58]. The resolution of the knowledge gap (Loewenstein, 1994) is associated with an increase of activity in the dopaminergic circuit (Gruber and Ranganath, 2019). Dopamine release modulates hippocampal episodic memory formation (Shomamy and Adcock, 2015) as influencing the formation of declarative memories[59] through increased attentional processes (Gottlieb, Lopes and Oudeyer, 2016). However, memory benefits may also be present for unrelated information that the learner encounters whilst in a state of curiosity. A study by Gruber et al., (2014) demonstrated not only those participants remembered trivia that they were curious about but had better retention of an unrelated visual task once their curiosity had been piqued. The implications for education are important: curiosity is a complex process that, once triggered is intrinsically rewarding, engaging attentional, motivational and memory systems.

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[56] Berlyne, 1954; Loewenstein, 1994; To *et al.*, 2016

[57] Baranes, Oudeyer and Gottlieb, 2014; Freeman et al., 2014

[58] Kang *et al.*, 2009; Marvin and Shohamy, 2016

[59] This refers to explicit memories, such as facts or events, that can be consciously retrieved (Baddeley, 2004; Tulving and Markowitsch, 1998).

However, gaming motivation appears to go further than the buoyancy experienced by those curious enough to persevere to solve an immediate problem. Motivation can occur equally in winning or losing conditions. Tornqvist and Tichon (2021), investigated the pursuit of failure in game play, finding support for the hypothesis that the general motivational pull of challenge can be sufficiently powerful to override the desire to win. Similar results were found by van den Hoogen *et al.* (2012), who studied player-death[60] game enjoyment. Here it is speculated that different motivational forces interact (Tornqvist and Tichon, 2019). Juul (2009) describes gamers' combined desire for challenge and responsibility for losing. In his study of player ratings of a game, higher ratings were given by players that lost lives, than those who won straight games. Interest is not sustained where there is no goal to reach for, no need to reconsider strategy and no inherent tension. In other words, "not failing can be as bad as never succeeding" (Juul, 2009 p.244). An explanation why the possibility of failure is more attractive to gamers than forced success may be found in Cognitive Evaluation Theory (Deci and Ryan, 1985; 2000). High autonomy is facilitated by the ability to choose and make decisions and is undermined by control or a lack of freedom (Deci et al. 1999). In the situation above, the risk of failure entails taking responsibility for game actions, meeting the need to be autonomous. The need for competence is also met through the level of challenge that make it possible to lose. Together, these support the gamers' intrinsic motivation.

Autonomy support has been proposed as a key mediator of intrinsic motivation for adolescents in a school context (Gillet, Vallerand and Lafrenière, 2012). Like gamers' need to take responsibility for their success and failure, and have the option to fail, it is suggested that learners may also benefit from increased responsibility (Eccles *et al.*, 1993) even if it invites risk. This principle can be used as a lens to reflect upon the emerging consequences from controversial 'no fail' school policies in the US and Canada (Hanover Research, 2013). Programmes, such as, "Zeroes Aren't Permitted[61]" (ZAP),

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[60] The death of a character in gaming
[61] A US education programme where students are required to take responsibility for their learning and progress. This is directed at students who fail to turn in assignments (and so receive a '0' score).

arose within overlapping cultures of performativity and improving educational equity. At a time when educational budgets were already tight (Carifio and Carey, 2010) local funding was linked to student achievement through federal reform initiatives such as "No Child Left Behind". Targeting students at risk of underachieving and dropping out of school, these programmes aim to increase motivation to submit work through student accountability (Guskey, 2004). Opportunities to submit late assignments are provided with a reduced grade penalty. Minimum award grades can be as high as 50% and awarded even where pupils have not achieved mastery of the concept, or have cheated (Smith, 2012). Pupils are targeted, or 'zapped' by their school, once an assignment due date is breached, leading to compulsory attendance at a catch-up session (Hanover Research, 2013). Supporters of the policy argue that issuing fail grades lead to a culture of failure and result in poor self-esteem and collapsing motivation, whereas minimum grade policies return the locus of control to the student. The policy has gained mixed results. Where it is not working, accountability measures are undermined by the removal of the capacity to fail within the educational system structures (Zwaagstra, 2012), with students perceiving outcomes as not important (Tyner and Petrilli, 2018). With the option to fail removed, concerns have been raised concerning the damage no fail policies can do to intrinsic motivation (Zwaagstra and Clifton, 2014). Therefore, as paradoxical as it may appear, like gamers whose intrinsic motivation to play decreases when risk is removed, providing pupils with the opportunity to experience soft failure may motivate more pupils than demotivate.

Desirable difficulties

Allowing learners to experience soft failure may not only confer benefits, such as increased motivation through autonomous actions (Deci et al., 1999), but also facilitates engagement with challenging work. The importance of this position is reinforced by the work of cognitive scientists. VanLehn and colleagues (2003) in a study of students' cognitive processing, hypothesised that learning is facilitated through the resolutions of impasses encountered during problem-solving[62]. This view supports a constructivist

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[62] VanLenh, 1988; Jones and VanLenh, 1994; VanLenh et al. 2003

pedagogy where learners do not absorb knowledge but must think deeply to process their understanding of information in a deeper and lasting manner. Whilst Bjork and colleagues (1994), working in the field of learning and memory performance, emphasise the role of struggle in learning, Bjork's concept of 'desirable difficulties', suggests that during learning acquisition, an optimally cognitively challenging environment will help secure retention (Bjork, 2004; McDaniel and Butler, 2011), despite increases in error frequency (Clark and Bjork, 2014). Studies have demonstrated that through the effort of retrieving information memories are stored longer. It might be assumed that struggle necessarily underpins challenge; there is a mental exertion to promote learning through effortful processing (Ivanic and Hesketh, 2000), but also an accompanying risk of getting things wrong.

It is argued that a difficulty that slows down learning acquisition and presents difficulties in the short term, such as temporally spacing information, may lead to enhanced long-term recall and transfer. When our memories are fresh, recall is considered unproblematic. However, fluency in retrieval belies an unwarranted confidence that learning has occurred[63]. In distinguishing two indexes of memory strength – retrieval and storage – Bjork and Bjork (1994; 2020), show how conflating the two may lead to a false confidence in learning whilst understanding the distinction provides powerful knowledge about how we might support learning through challenge. Retrieval strength refers to the accessibility of our memories (Tulving & Pearlstone, 1966). In learning, this strength is measured through assessing the learners' performance. However, it is argued that retrieval strength is not fixed but prone to fluctuations that depend on the presence or absence of several factors, including the recency of exposure to the event, circumstances, and cues. In short, retrieval processes are "highly erratic, highly fallible and heavily cue dependent" (Bjork and Bjork, 1992 p.36). The level of storage strength is regarded as the enabling factor that determines the prolongation of the retrieval strength after studying has finished. Low storage strength will lead to quicker retrieval strength decay. However, building storage strength has been found to be inversely related to the retrieval strength when revisiting

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[63] Soderstrom and Bjork, 2015; Kantak and Winstein, 2012; Bjork and Bjork, 2011

information previously learnt (Bjork and Bjork, 1992). As retrieval strength has been demonstrated to be prone to influence from associative, environmental, emotional, physical, and interpersonal cues (Bjork and Bjork, 1992 p.36), where an absence of cues exists, it is argued that retrieval difficulty and failure to retrieve may occur. It is the act of recalling information where retrieval is challenging that directly builds up storage through strengthening retrieval pathways (Birnbaum and Eichner, 1971). Alternative explanations of the mechanism promoting storage strength include an increase of information elaboration caused by the act of retrieving under challenging circumstances, such as limited cues (Carpenter and DeLosh, 2006), and the mediator effectiveness hypothesis (Pyc and Rawson, 2010), whereby mediators (links) between the information and cues are more heavily encoded, enabling more established retrieval pathways. Withstanding the competing mechanisms of increasing storage strength, studies still point to forgetting - desirable in this context- as an important part in increasing the challenge needed to retrieve memories which strengthens learning. For the classroom teacher concerned to show pupils' "rapid and sustained progress" (Ofsted, 2012, p.12), the need to decelerate learning, alongside the role of forgetting in learning, must seem counter intuitive.

Strategies that introduce desirable difficulties

Under the umbrella of 'desirable difficulties', a range of strategies that slow down learning and present challenges, but in doing so, facilitate long term memory longevity, are currently gaining traction in the classroom (Firth, 2018). These include, spacing, interleaving, and testing. The spacing effect refers to the durability gains in memory when learning is spaced out, as opposed to blocked (massed practice). There are several competing theories that account for the spacing effect (e.g., encoding variability, (Glenberg and Bradley, 1979); attentional processes, (Xu and Metcalfe, 2016). However, it is generally accepted that the reduced accessibility of the previous learning event under the condition of distributed practice is critical to induce effort to retrieve (Maddox, 2016).Therefore, a period of forgetting acts to increase the potency of learning. However, the timing of the spacing is likely to be crucial for durable learning.

Interleaving works in tandem with the spacing effect (Perry et al., 2021). Unlike massed practice, which groups similar concepts together for teaching, interleaving does not employ consecutive teaching or skills for one concept, temporally spacing the teaching of one concept (distributed practice) and sandwiching different concepts in between (Foster *et al.*, 2019), such as switching between calculation strategies in maths. Although interleaving is entwined with spaced practice, (the act of interleaving necessarily introduces some level of distributed practice, Carvalho and Goldstone, 2014), the benefits of spacing do not account for the positive effects of interleaving (Kang and Pashler, 2012). Rather, it is theorised that the act of moving from one concept to another in a different category provides challenge (Kang, 2016), forcing the brain to differentiate between concepts (Kornell and Bjork, 2008). The increased attention to the similarities and differences between concepts promotes secure identification of the concept and how it differs from other concepts. This is known as the discriminative-contrast hypothesis[64]. In experiments, the interleaved condition has typically reduced test scores and the speed of learning in the short term, due to the increase in contextual interference (Ste-Marie *et al.*, 2004) but provides long term gains over massed practice (Taylor and Rohrer, 2010; Birnbaum *et al.*, 2013) in certain conditions.

Learning is also thought to be enhanced through testing (Karpicke, 2017). When compared to more passive strategies of learning, such as re-reading notes, highlighting important passages, or re-studying material, the inherent difficulties in testing make it a potentially high leverage practice for learning. Whilst tests are primarily used in schools as a measurement tool to assess the progress of the student, or the success of the teaching and learning (Glover, 1989; Nguyen and McDaniel, 2015), a focus on assessment neglects the beneficial effects of tests *(The Testing Effect[65])* to enhance learning through enhancing retention (Pyc & Rawson, 2010). Both laboratory[66] and tests in natural settings (McDaniel, Roediger and McDermott, 2007), have consistently demonstrated the advantage of tests over repeated study for longer term retention

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[64] Kornell and Bjork, 2008; Kang and Pashler, 2012
[65] Hogan and Kintsch, 1971; McDaniel, Kowitz and Dunay, 1989; McDaniel and Einstein, 2000; Roediger and Karpicke, 2006
[66] McDaniel and Masson, 1985; Carrier and Pashler, 1992; Wheeler et al., 2003

(Dobson and Linderholm, 2015). The mechanisms that make testing a desirable difficulty are still not clearly understood. However, it is thought that errors themselves may potentiate learning. Kornell, Hays and Bjork (2009), demonstrated that subsequent learning was enhanced when feedback followed test errors in a word association experiment. Initial commissions on a test were more likely than omissions to be answered correctly on a subsequent test, indicating that the errors contribute to learning. The role of feedback after missed or incorrect answers on tests may be significant in enhancing the overall effect on learning[67]. However, Roediger and Karpicke (2006), have shown that even where feedback is not given, there is an efficacy to testing, despite the presence of errors (see also Nungester and Duchastel, 1982). This result may be attributed to the elaboration process (Pyc & Rawson, 2010) which is linked to deep processing. This theoretical model indicates that cognitive effort made in retrieval leads to greater elaboration in encoding information, and in turn deeper processing[68]. When we strive to retrieve, prior learning and associations with the target information are activated. This map of related material (which may be thought of as an enhanced mental representation of a concept or idea), may lead to multiple retrieval routes, aiding a path back to the target through association[69]. Despite wide support for the elaborative retrieval theory (Rowland, 2014) there are inconsistencies with competing theories (Karpicke, 2017), indicating our understanding of retrieval practices is likely to be both partial and provisional.

Summary

Whilst there is an abundance of studies on the efficacy of desirable difficulties in the lab, the conditions under how these translate to the dynamic setting of the classroom, are still under largely unknown (Perry *et al.*, 2021). When strategies such as spacing, interleaving, and testing interact with learner characteristics, such as age, knowledge, and skill, the difficulty may shift to become undesirable. For example, the ratio of task complexity to current ability, may moderate the desirability of the difficulty (McDaniel

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[67] Rowland, 2014; 2015; Pashler, Zarow and Triplett, 2003
[68] Kornell, Klein and Rawson, 2015; Carpenter and Yeung, 2017
[69] Bradshaw and Anderson, 1982; Carpenter, 2009, 2011

and Butler, 2011). Where demand is already high within the task, an additional difficulty could lead to cognitive overload (Chen *et al.*, 2018). Identifying the level of optimal challenge for the learner is therefore key in making pedagogic decisions about strategy selection. A suitable level of challenge that pushes learners outside their comfort zone to provide attentional benefits, and provides opportunities to experience soft failure, whilst not becoming overwhelming[70] is therefore paramount for learning.

Chapter conclusion

With a focus on psychology, this chapter has argued two main points. Firstly, challenge is perceived as an integral part of learning, and therefore, teaching needs to stretch all learners. Secondly, in committing to providing stretching and challenging work, we inevitably open the door to soft failure. A significant body of research, as part of a constructivist heritage that stretches back to Piaget and Vygotsky, has demonstrated that challenge drives learning through cognitive conflict. The literature on motivation also converges around the importance of challenge as a key driver, underpinned by the argument that humans are driven to seek optimally challenging situations of cognitive complexity. The intrinsically motivated student is likely to put in greater effort (León, Núñez and Liew, 2014), has higher levels of engagement (Lam *et al.*, 2014), is mastery-goal directed (Cerasoli and Ford, 2014), demonstrates greater levels of concentration (Shernoff and Schmidt, 2008), is more persistent in academic work (Shernoff and Hoogstra, 2001), and is more motivated to improve their skills through the acceptance of greater levels of challenge (Boggiano, Main and Katz, 1988), resulting in a virtuous loop of development.

There appears to be no tension between providing the challenge needed for learning and the associated error and impasse risk. On the contrary, challenge has a facilitative function for learning, even where it tips into soft failure. Errors and impasses may be regarded as 'desirable difficulties', functioning as memory trace erasers, triggers of attentional processes, initiators of deeper processing, and facilitators of broader

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[70] Vygotsky, 1978; Sousa and Tomlinson, 2011; Csikszentmihalyi, 2014

mental models. However, learning from mistakes is not given (Rach, Ufer and Heinze, 2013). Experiencing soft failure may prove beneficial or detrimental to learning, depending on a myriad of connecting and interacting cognitive, affective, psychological, and environmental mediating processes. The following chapter will explore some of these processes and their impact upon pupils' responses to soft failure, with a particular focus on pupil populations for whom soft failure may be particularly difficult.

Chapter Three: How Personal Characteristics Affect Reactions to Errors

3.1 Introduction

Two arguments were presented in the previous chapter. Firstly, I positioned challenge as a key lever for learning. With intellectual risk at the heart of challenging endeavour, I argued that teachers must be prepared for challenge's shadow, soft failure, to also occupy a role in the ambitious and constructivist classroom as part of the learning process. These assumptions initially present few problems: we have seen that soft failure is beneficial, providing desirable difficulties that drive learning[71], aiding schema development (Kapur, 2014a) and fostering motivation[72]. However, these outcomes are not guaranteed. Errors are considered complex "emotional events" (Zhao, 2011 p.436), that may give rise to negative emotions (Rausch, Seifried and Harteis, 2017b) triggering maladaptive reactions to errors.

In keeping with my theoretical framework, this chapter will consider how factors internal to learners, such as their personal profile, may affect their response to soft failure. Pupil populations considered at particular risk of maladaptive responses to soft failure, and who are key foci in this study, such as adolescents, girls, 'gifted' learners and 'high achievers' will be considered first. Turning to psychology, I will then consider how learners' beliefs, attributions and motivational processes impact individuals' responses to soft failure, and how pupils' subsequent emotional responses affect learning.

3.2 Pupil populations that struggle with soft failure

It is thought that some subsets of the pupil population may struggle more with soft failure than others, including adolescents[73], females[74]; 'gifted' pupils (Samardzija and Peterson, 2015), and high achievers (Endleman, Brittain and Vaillancourt, 2021). As

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[71] E.g., VanLenh et al., 2003; Bjork and Bjork, 2004; Ericsson, Roring and Nandagopal, 2007; Kapur, 2008
[72] E.g. (Bedwell *et al.*, 2012; Tornqvist and Tichon, 2019; Zwaagstra, Clifton and Long, 2010
[73] E.g. Flett et al., 2002; Stoeber and Childs, 2011
[74] Bryans, 1999; Sherman and Cohen, 2006; Nelson et al., 2013

Anbury Grammar pupils sit at the intersection of all four categories above, and Burcastle pupils are in early adolescence, careful consideration of the relationships between pupil populations and soft failure is warranted, particularly where they converge.

Adolescents' fear of soft failure

Adolescence and pre-adolescence mark a ripe time for developing fear of failure (McClelland, 1985). Pekrun describes pre-adolescence as a 'critical period' (2017, p.215) for learners' exposure to and experience of achievement emotions, that is, emotions experienced in response to an academic or achievement contextual activity or outcome which may impact motivation, self-regulation, and cognition (Camacho-Morles et al., 2021). Pre-adolescence is characterised by a decrease of academic self-concept, as more realistic self-perceptions about abilities and achievements converge with repeated messages from others about ability (e.g., teachers, parents and peers). This impacts learners' responses to soft failure and achievement situations. Even during Elementary School (KS1 and KS2), Pekrun (2017a) notes that test anxiety increases considerably.

Studies have found that positive and negative emotions both intensify during adolescence[75] and reach a height of intensity during late adolescence (Frost *et al.*, 2015). This includes achievement emotions, such as fear of failure and test anxiety. A 'perfect storm', which is often used to characterise the downward trajectory of teenage emotional experiences, may arise from the coalescence of the adolescent's developing physiological and psychological profile, alongside the increased importance of the social world (Bailen, Green and Thompson, 2018). This convergence of factors is thought to lead to adolescents' identity work to explore the self (Erikson, 1968), where personal motivations, goals and commitments begin to emerge (Pfeifer and Berkman, 2018). Identity theory suggests that this construction is situated and negotiated in social sites, such as the home (Benson and Johnson, 2009; Scabini and Manzi, 2011) and school (Verhoeven, Poorthuis and Volman, 2019): the primary contexts for adolescents. This sociocultural process implies a reciprocal shaping between the self, others, and the

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[75] Michalčáková, Lacinová and & Jelínek, 2009; McLaughlin, Garrad and Somerville, 2015

environment (Mead, 1970). Social comparisons are thought to play an important role in the essential work to develop adolescent self-concept[76], providing the individual with information about the social world in which they are enmeshed (Krayer, Ingledew and Iphofen, 2008). This operation becomes sharpened by physical and cognitive maturation processes which heighten the adolescent awareness of both themselves and social standards (Steinberg, 2008). In home and school contexts, adolescents can thus become sensitised to the evaluation of themselves by peers, teachers, and family. This is considered particularly true in high-stakes achievement situations, which become increasingly emphasised at the end of their primary school career (e.g., SATS and for those in selective LEAs, the 11+), which pupils are aware may hold importance for their futures (Damian *et al.*, 2017). At secondary school, students are likely to encounter a greater emphasis on evaluative practices, such as testing and grading (Eccles and Midgley, 1989; Wigfield *et al.*, 1991) and increased academic (Rice, Frederickson and Seymour, 2011) and structural (Evans, Borriello and Field, 2018) demands.

Girls' fear of soft failure

There is evidence of a gender discrepancy in response to soft failure. Surveying men and women in a range of professions, including teaching, Bryans (1999, 2017), found that men and women experience mistake making differently; mistakes are more emotionally salient for women in comparison with men, and so, their soft failure experiences may be more intense and longer lasting. This may result in women internalising blame for soft failure (Bryans, 1999) and may have consequences for their ability to rebound afterwards. A cognitive cost associated with emotional processing has been described (Krendl, Richeson and Kelley, 2008), whereby working memory resources may be consumed commensurate to the increased attention on negative emotions (e.g., Arnsten, Wang and Paspalas, 2012; Figueira et al., 2017). Moreover, affect related to soft failure may influence successive output. Gill and Prowse (2014), in an experimental study examining gender responses to winning and losing in a series of competitions, concluded that losing had no effect on men's subsequent productivity (unless the prize stakes were high), but this was not the case for women.

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[76] Festinger, 1954; Sandu, Pânişoară and Pânişoară, 2015

Females report higher levels of fear of failure than males across several domains, from education (Nelson *et al.*, 2013; OECD, 2020) to sport (Koellinger, Minniti and Schade, 2013) to entrepreneurship (Koellinger, Minniti and Schade, 2013). This may manifest in increased anxiety in scholastic test situations. Gender differences in test anxiety levels have been established (Locker and Cropley, 2004) with girls demonstrating greater levels of negative affect and anxiety than boys. Moreover, transition between primary and secondary school has been identified as a time that test anxiety may increase (von der Embse *et al.*, 2018). This is of concern as anxiety correlates with reduced motivation and avoidance behaviours (England, Brigati and Schussler, 2017) and decreased performance outcomes[77]. However, mixed results complicate the picture, with studies indicating the impact of test anxiety moderated by context and personal characteristics (Howard, 2020). There is some evidence that females may have better coping mechanisms for test anxiety (McCarthy and Goffin, 2004). However, this is contradicted by studies by Collie et al., (2014) and Martin and Marsh, (2008) who have found academic buoyancy is significantly higher in boys, with a correlation established between anxiety and reduced academic buoyancy.

In soft failure scenarios, classroom anxiety appears to be more prevalent in girls than boys (e.g. Brass et al., 2018). A study by Dewaele et al., (2017) found that despite girls' increased enjoyment in the modern language classroom, compared to boys, girls also experienced increased anxiety relating to their mistakes, alongside reduced confidence in their abilities[78]. In other subjects, such as maths, a similar pattern was found for older girls[79].

Gender differences have also been observed with risk aversion (Eckel and Grossman, 2008; Sutter and Glätzle-Rützler, 2013). Baldiga (2014), observing that women are less likely than men to guess unknown tests answers when there is a penalty for errors, suggested that women demonstrated a lower risk tolerance. This may account for their

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[77] Carey et al., 2017; Raccanello et al., 2018; von der Embse et al., 2018; Khesht-Masjedi et al., 2019

[78] See also Sadeghi, Mohammadi and Sedaghatghoftar, 2013; Ghorbandordinejad and Ahmadabad, 2016; Khajavy, MacIntyre and Barabadi, 2017.

[79] See meta-analysis by Else-Quest, Hyde and Linn, 2010; Kyttälä and Björn, 2010; Devine et al., 2012; Hill et al., 2016

requirement of higher levels of confidence before committing to guessing an answer in a test. Similar gender-based risk patterns have been identified in children[80]. This is of relevance to the classroom as it is argued that intellectual risk taking facilitates self-growth through engaging with challenge (Duell and Steinberg, 2019). However, other studies that demonstrate gendered risk patterns in younger children are broadly equal (e.g., Andreoni et al., 2020), indicate that risk preference may be developmental or socially acquired. For example, a study of risk-taking and cognitive performance during the Swedish 'Jeopardy' show, by Söderberg and Lindquist (2014), found no differences in risk taking for pre-adolescent girls and boys, whilst girls took more risks than women and boys took less risks than men. There is agreement amongst scholars that risk taking, like anxiety, is culturally shaped (Eckel and Grossman, 2008; Wängnerud, 2018). In a study of children in two culturally distinct Chinese cultural populations, Mouso and Han, Liu and Zuo (2019), found evidence that social learning influences risk aversion preferences. Whilst boys from the matrilineal Mouso culture began school taking less risks than Mouso girls, when Mouso children mixed with those from the patriarchal Han group, peer effects became noticeable. Mouso girls became more risk adverse in the Han majority group, and boys less so. Han girls started less risk adverse and remained so throughout their elementary and early middle schooling, unless in a Mouso majority group. This suggests a cultural shaping to risk preference, rather than a genetic one. This conclusion chimes with findings by Booth and Nolen (2009, 2012). Their studies demonstrate that girls in single-sex schools were as likely as boys to take risks, unlike girls in co-educational settings. The importance of social context within these studies paves the way for the possibility that classroom interventions and classroom climate may become modifiers for learners' risk-taking patterns: risk aversion may be learnt and unlearnt.

'Gifted' populations, high achievers, and perfectionism

A fear of failure, including sensitivities to criticism (Cross, 1997) and fear of negative evaluation, has been associated with maladaptive responses, such as perfectionism

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[80] E.g., Croson and Gneezy, 2009; Sutter and Glätzle-Rützler, 2013

(Schuler, 2000; Gotwals *et al.*, 2012). As the development of perfectionism is considered to include environmental factors, such as the high expectations of others (in particular, from the family and schools (Flett *et al.*, 2002; Christopher and Shewmaker, 2010), it is unsurprising that perfectionistic tendencies may be associated more with gifted or high-achieving pupils within school populations.[81]

Gifted pupils and perfectionism

The prevalence of perfectionism in gifted students in comparison to typical populations has been reported extensively (Cross, 1997; Mendaglio, 2012), with Silverman (1999) indicating that gifted children are ipso facto perfectionistic. This is of concern given that maladaptive outcomes, such as underachievement have been associated with perfectionism (Madigan, 2019). However, recent research has revised this conclusion[82]. For example, both Ogurlu (2020) and Stricker et al., (2019) found no statistical difference between gifted and non-labelled cohorts regarding levels of perfectionism. However, they did find that differences emerged when the multidimensionality of the perfectionist construct was considered. Two main dimensions of perfectionism have been identified (Frost *et al.*, 1993; Stoeber and Otto, 2006): perfectionistic strivings (setting unfeasibly high personal standards; Frost et al., 1990; Grugan et al., 2021), and perfectionistic concerns (worries and maladaptive responses to soft failure and judgement from others, (Gotwals *et al.*, 2012). Both dimensions correlate with some negative outcomes (such as lower happiness, e.g., Chan, 2012), although whilst perfectionistic strivings largely lead to a healthy adjustment and orientation towards academic success[83], perfectionistic concerns lead to a host of particularly dysfunctional outcomes (Ogurlu, 2020), including neuroticism (Smith *et al.*, 2019); anxiety[84]; emotional maladjustment (Taylor, 2018); procrastination (Sirois, Molnar and Hirsch, 2017); burnout (Hill and Curran, 2016); suicidal ideation (Damian et al., 2014);

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[81] Locicero and Ashby, 2000; Kornblum and Ainley, 2005; Mofield, Peters and Chakraborti-Ghosh, 2016
[82] Stricker et al., 2019; Grugan et al., 2021; Yi and Gentry, 2021
[83] E.g., Madigan, 2019; Stricker et al., 2019; Ogurlu, 2020; Egan et al., 2022
[84] E.g., Alsop, 2003; Flett and Hewitt, 2014; Owens, 2015; Doss and Bloom, 2017

depression (Yi and Gentry, 2021), demotivation and underachievement (Fletcher and Speirs Neumeister, 2012).

Systematic reviews demonstrate that when compared to non-labelled peers, gifted pupils are more likely to exhibit the constructive, perfectionistic strivings, rather than perfectionistic concerns (Ogurlu, 2020). This conclusion harmonises with the results of two large comparison studies, which demonstrate that gifted pupils fare well emotionally and socially in comparison to pupils not identified as gifted (Shechtman and Silektor, 2012; Eklund *et al.*, 2015). In accounting for the contradictory studies that demonstrate gifted students' perfectionistic concerns, an explanation may be found in the multifarious methods of identification of gifted students that comprise the sample within studies, (Yi and Gentry, 2021). With identification of 'gifted' pupils in studies spanning high-achievement, psychometric screening, self-identification and teacher nomination methods, separating gifted and high achieving pupils looks impossible to achieve. Therefore, if analysis has ruled out perfectionism as a distinguishing characteristic of giftedness, then disentangling overlapping constructions, such as high achievement, may prove important in understanding the antecedents of perfectionism.

High achievement and perfectionism

Rather than interpreting academic success as an outcome of perfectionism[85], it has been suggested that high achievement is an antecedent of perfectionism[86]. If directionality flows from high achievement to perfectionism, then this is of particular interest to grammar schools, who select their cohort from high attaining primary pupils. However, given the prevalence of maladaptive perfectionism in adolescents is estimated to be around 25%-30%[87], this is of relevance for all schools.

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[85] Stoeber, 2012; Bong et al., 2014; Kljajic, Gaudreau and Franche, 2017
[86] E.g., Flett et al., 2002; Speirs Neumeister, Williams and Cross, 2009; Damian et al., 2017; Endleman, Brittain and Vaillancourt, 2021
[87] Rice, Frederickson and Seymour, 2011; Sironic and Reeve, 2015

Damian et al., (2017), accounts for the development of perfectionism from academic achievement through the establishment of a loop between increased success and self-efficacy. Drawing upon Flett et al.'s model (2002) of perfectionism and Bandura's social cognitive theory (Bandura, 1986), they describe a spiral of success and striving, where learners' perceptions of their ability to meet ever-increasing high standards are bolstered by their academic achievements. This may further strivings towards perfection. The learner is later vulnerable to developing perfectionistic concerns which usually arise through perceived pressure. Should the learner perceive that their high attainment has established a bar that they feel others expect them to reach subsequently, and where there has been little experience with soft failure (Speirs Neumeister, Williams and Cross, 2009), perfectionistic concerns may develop. A self-orientated perfectionism[88], which comes from within and concerns holding extremely high standards for oneself, may therefore coexist with (Kljajic, Gaudreau and Franche, 2017) or shift towards perfectionism that is socially prescribed.

Both self-orientated perfectionism (the individual's belief that others expect them to be perfect), and socially prescribed perfectionism (that social acceptance is conditional on the achievement of perfection[89], are associated with perfectionistic concerns (Frost *et al.*, 1993; Damian *et al.*, 2017), with socially prescribed perfectionism, exclusively so. That socially prescribed perfectionism rests upon learner's perceptions of the expectations of others, suggests that teachers may be able to strengthen or buffer its deleterious effects, taking care that classroom practices, communications and policies cannot be interpreted by learners as a signal that perfection is required. Domocus, Damian and Benga (2020) offer guidelines for teachers to help prevent the development of learners' perfectionistic beliefs. These are considered under three key areas: creating a supportive environment, providing challenging work where all pupils may experience soft failure, and thinking about how feedback is communicated to pupils. These might all be considered features of a positive classroom climate towards errors. The establishment of cooperative or individualistic classroom goal structures rather than competitive ones (Domocus, Damian and Benga, 2020); reducing the emphasis on grades and results;

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[88] Hewitt and Flett, 1991; Besser, Flett and Hewitt, 2004
[89] Hewitt and Flett, 1991b; Flett *et al.*, 2002; Besser, Flett and Hewitt, 2004

modelling healthy reactions to mistake making; and adjusting their communications so that learners feel accepted irrespective of soft failure[90], become important steps for teachers in dismantling perfectionistic support structures.

Summary

This section has argued that negative reactions to, or negative anticipation of soft failure, may affect some learner populations more than others, including adolescents, girls, and 'gifted' or high achievers. Of particular concern is where these characteristics intersect (e.g., in a girls' grammar school), putting the learner at an increased risk of maladaptive responses to soft failure that are inimical to learning from errors. Existing research has largely considered these populations as distinct, limiting our knowledge of the interplay of interactions. However, a synthesis of the literature suggests that a convergence of age (the critical period around adolescence where learners seek evaluation from peers, become more aware of their place in the social world, and feel emotions intensely); gender (with females reporting higher anxiety, increased fear of failure, and more risk aversion); and high prior achievement (which may lead to maladaptive perfectionistic tendencies) become a dangerous cocktail of characteristics that increase sensitivity to soft failure and increase the likelihood that pupils will not benefit from soft failure or challenge. However, rather than present a dismal picture, the literature also gives reason for more hopeful outcomes. The literature is in wide agreement that risk factors are not inevitable. Constructs such as perfectionism, fear of negative evaluation and learning from errors are multidimensional, with patterns of behaviour that have been socially constructed. Therefore, a key issue for teachers and schools is to reflect on how their classroom and school environments contribute towards positive and negative responses to errors, how dysfunctional perfectionism may manifest in the classroom, and how they might mitigate these factors.

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[90] Mofield and Chakraborti-Ghosh, 2010; Domocus, Damian and Benga, 2020

3.3 The impact of negative emotions upon learning and achievement

Following the previous section, which has highlighted risk factors within individual learner profiles (e.g., adolescence, gender and high achievement/giftedness) that may make maladaptive responses and negative emotional reactions to errors more likely, I will now discuss further the consequences of negative emotions during learning tasks.

The relationship between emotions and motivation, performance, achievement and learning in children and adolescents is well-established[91] with studies identifying a bi-directional relationship between achievement and achievement emotions (emotions felt in achievement settings, such as pride, interest, anxiety, shame and boredom). That is, emotions and achievement are both mediators and outcomes of learning, reinforcing each other in feedback loops (Pekrun, 2017). In a study by Pekrun et al., (2017), to develop a reciprocal effects model of emotion and achievement, adolescents' positive emotions (e.g., enjoyment and pride) in mathematics were a predictor of both their grades and further positivity in maths over time. Likewise, negative emotions related to mathematics (e.g., anger, boredom, anxiety and shame) predicted lower grades and future negative emotions towards maths, with negative emotions establishing a stronger predictor of academic achievement levels than positive emotions. There may be several reasons why this may be so, with complexity characterising the bidirectional relationship between achievement and emotions. Therefore, unpacking the multifaceted mechanisms that underscore this relationship is essential. These may include physiological and psychological processes that have a significant effect upon students' cognitive resources, beliefs, and behaviours.

The psychophysiological impact of negative emotions on learning

Psychophysiologically, negative emotions are thought to impact cognition (Wortha *et al.*, 2019). For example, excess stress is known to impair memory encoding and retrieval,

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[91] Schutz and Pekrun, 2007; Pekrun *et al.*, 2011; Goetz, Athan and Hall, 2013

as well as integrating new information into schemas[92]. This might be explained through selective attentional processes which are biased towards emotional information, diverting resources to emotional stimulus processing (Yamaguchi and Onoda, 2012; Tyng *et al.*, 2017). In a study of six-year-olds mathematics learners in the UK and Italy, who were presented with novel problems, maths anxious learners demonstrated prior subject knowledge gaps and had a slower rate of learning than non-maths anxious peers (Tomasetto *et al.*, 2021). Furthermore, negative emotions, such as worry, may restrict residual working memory (WM) capacity (Eysenck *et al.*, 2007; Soltanlou *et al.*, 2019); cognitive overload may ensue, and an inability to shift thinking from worrying to the task in hand (Hayes, Hirsch and Mathews, 2008), resulting in interrupted cognitive function (Eysenck et al., 2007; Maloney, Sattizahn and Beilock, 2014). Working memory capacity declines exacerbate the situation further, with limited capacity associated with difficulties in regulating anxiety levels (Hofmann, Friese and Schmelchel, 2011). Therefore, not only may worry lead to difficulties with long term memory and retrieval, but it can also affect cognitive processing of a task, impacting effective thinking and leading to a negative spiral with consequences that are not only physiological, but psychological.

Emotions are considered psychologically impactful for learning and achievement, affecting mediating processes that are salient for learning, including motivation to study (Weiner, 2010; Pekrun, 2014, 2017), the deployment of learning strategies and decision making, and self-regulation (Goetz *et al.*, 2010; Kim and Pekrun, 2014), which ultimately affect achievement. Negative emotions are associated with the unconducive effects they may have on learning, such as maladaptive responses to challenge and soft failure, such as withdrawing from challenge, procrastination or reducing motivation (Sirois and Pychyl, 2013). Differentiating between these negative emotional states (such as, boredom, shame, anxiety, anger) is important, as it is argued that they impact learning and responses to challenge and soft failure differently. For example, some negative emotions (e.g., shame), have a greater impact on learning than others (e.g. mild stress). Equally important is the role of context in moderating the emotion's valence; not all

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[92] E.g., Nasby and Yando, 1982; Lovallo and Buchanan, 2016; Vogel and Schwabe, 2016

negative emotions yield detrimental academic effects. For example, troublesome emotions, such as anger, which has been found to decrease an individual's sense of agency, (Christensen *et al.*, 2019), or interrupt cognitive regulation (Zhan et al., 2017), may also galvanise an individual to take action (Macintyre and Vincze, 2017). Therefore, we can assume that negative affect can be beneficial for both motivation and performance, under the right circumstances. In Chapter 2, it was argued that uncertainty, which may provoke a level of anxiety and stress, also primes curiosity and motivation (Craig *et al.*, 2004; D'Mello and Graesser, 2012). Emotions, such as stress are considered to lie on a spectrum of benefit and harm (Dhabhar, 2018), and therefore may not deserve their 'bad reputation' (p.175). Under certain circumstances, anxiety has been shown to have a beneficial outcome in children. For example, a study by Tulis and Fulmer (2013), found a correlation between situational interest and increased anxiety during challenging maths and reading tasks, leading to persistence. The literature on anxiety in learning therefore suggests a tipping point may occur where the levels of anxiety risks learning, although identifying the point of occurrence is, as yet, unknown (Nielsen and Harder, 2013).

Summary:

Negative emotions do not automatically lead to poor learning outcomes, such as the student whose anger at being overlooked in class motivates them to show their teacher what they can achieve. However, the frequency or intensity of negative emotions in learning situations can trigger motivational and cognitive processes that lead to negative learning outcomes. Using the example of embarrassment in class, I have illustrated these possible interactions in the figure overleaf:

Figure 1: How embarrassment impacts achievement through interacting cognitive, self-regulative and motivational processes. This diagram draws upon studies by Pekrun, 2017 and Shunk and Millar, 2002)
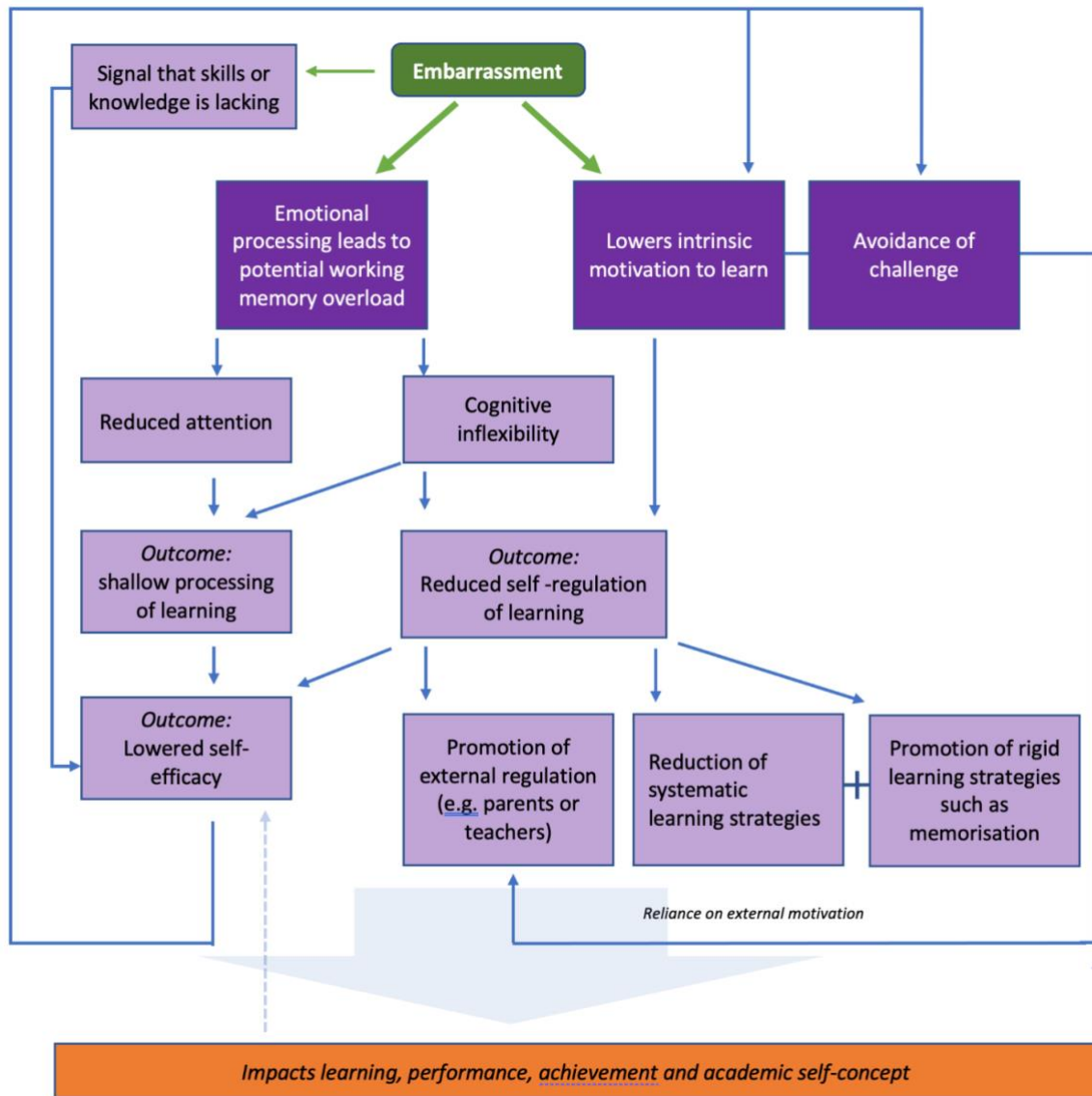
The impact of embarrassment upon learning may be felt in several, layered ways. Emotional processing may reduce attention to academic work, resulting in working memory (WM) overload. The limited availability of WM resources may, in turn, lead to shallow processing of information, and thereby, an insufficient grasp of the material. Signals that learning is not sufficiently secure may be gleaned by the learner from subsequent episodes of confusion or frustration when the material is revisited, or indeed from lowered achievement levels related to the material. This realisation can lower self-efficacy, self-regulation (Pekrun, 2017), and intrinsic motivation, although Pekrun (2017) notes that anxiety and shame may also trigger a drive to avoid failure and so enhance extrinsic motivation. Under such conditions, the learner's repertoire of strategies to problem solve becomes narrowed and rigid, further lowering chances of success. A

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spiral of bidirectional causes and effects may then develop, as self-efficacy and wider motivational processes lower the chances of future achievement and impact the learners' academic self-concept and expectancies of success. As the next section will show, lowered academic self-concept is associated with negative emotions and may damage self-efficacy.

3.4 Beliefs that affect learners' error orientation

It is argued that the theories learners hold about their academic abilities, and associated personal goals, are powerful influencers of academic achievement[93], motivation (Kornilova, 2009; Marsh and O'Mara, 2008) and emotions (Aragão, 2011; Teunissen and Bok, 2013) in scholastic contexts, and can impact responses to setbacks (Dweck, 1999; Robins and Pals, 2010). To develop an understanding of the relationship between self-beliefs and soft failure responses, I will consider three types of self-belief: academic self-concept, self-efficacy, and implicit theories of intelligence. I will not be considering global self-esteem (a gauge of the value one places on the self; Blascovich and Tomaka, 1991) as Marsh and Craven, (2006) found little impact upon academic performance (see also, Baumeister et al., 2003). However, it is important to note that Trautwein et al., (2006) consider the relationship between self-esteem and academic self-concept bidirectional and mutually reinforcing, particularly in meritocratic environments.

The bidirectional relationship between academic self-concept and emotions

Academic self-concept is a multidimensional concept that has been defined as an individual's perceptions and beliefs about themselves in domain-specific academic situations (Bong and Skaalvik, 2003). It is regarded as an essential aspect of scholastic success (Marsh et al., 2016), shaping self-beliefs (Bong and Skaalvik, 2003; Ferla, Valcke and Cai, 2009), through both cognitive and affective processes. It is thought that information relating to the self is evaluated using internal and external frames of

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[93] E.g., Valentine and Dubois, 2005; Marsh and O'Mara, 2008; Kornilova, Kornilov and Chumakova, 2009; Marsh et al., 2017

reference (Bong and Skaalvik 2003) to measure self-ability and self-competence. The internal comparison relates to the learner's own perceived academic profile across domains, whilst the external comparison benchmarks against the learner's peer achievements. A learner, in internally judging their maths ability to be comparably superior to their English abilities, may inadvertently drive down their academic self-concept in English, even if their achievement in English speaks otherwise. In terms of the external frame of reference, the environmental context appears a rich source of information on which appraisals may be made. Prior achievement is but one important signifier, but it would be a mistake to assume a simple relationship between academic self-concept and achievement. A study into mathematics self-concept and emotions by van der Beek et al., (2017), found the relation between achievement and self-concept correlated only moderately, compared to the stronger relationship between self-perceptions of ability and affect. This finding supports the idea that the learner utilises a wider range of experiences and perceptions than achievement for appraisals (van der Beek et al., 2017).

Appraisal theorists argue that a reciprocal relationship exists between academic self-concept and emotions, such as pride, enjoyment, anxiety, anger and boredom[94]. Goetz et al., (2010), have identified a positive relationship between academic self-concept and pleasant emotions (such as pride and enjoyment) and a negative relationship between academic self-concept and negative emotions (such as anxiety, anger and frustration). The association between academic self-concept and emotions is particularly strong for mathematics and other qualitatively based subjects, and for older students (Goetz et al., 2010), aligning with an academic self-concept decrease around early adolescence (Pekrun, 2017a; Postigo et al., 2022). However, contradictory findings from Bong, (2001) and Goetz et al., (2007) point to a similar association between emotions and academic self-concept for middle and high school pupils. The relationship is further moderated by the type of emotion felt, with the link between activity-based emotions (that is, emotions, such as boredom or enjoyment, that arise through engaging with a learning activity or task), being less strong than outcome-based emotions that centre on

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[94] E.g., Bandura, 1997; Goetz et al., 2006, 2008, 2010; Pekrun, 2006; Frenzel, Pekrun and Goetz, 2007; Marsh and Martin, 2011; Pekrun and Perry, 2014

academic consequences, such as feeling pride or shame at a test score (Goetz *et al.*, 2010).

Motivational theories, such as Pekrun's control-value theory of emotion (Pekrun, 2006; Goetz *et al.*, 2010; Pekrun and Perry, 2014), highlight the operational role of academic self-concept as an antecedent to achievement emotions such as anxiety, shame, pride, enjoyment and disappointment (Pekrun *et al.*, 2011; Bieg *et al.*, 2014). The control-value theory of emotion (Pekrun, 2006; Frenzel, Pekrun and Goetz, 2007), like other appraisal or attribution-based motivational theories, considers that learners' appraisals of control over learning actions and outcomes, and the perceived importance of success, are significant triggers of achievement emotions. Appraisals of control include attributions of achievement (e.g., whether success or failure is within the individual's control); self-efficacy expectations (beliefs about their capability or competence to carry out a task successfully (Pekrun et al., 2007); and a more global appraisal of competence or ability (academic self-concept). A lack of self-efficacy or academic self-confidence signals the learner's inability to control a situation that holds meaning for the individual. Negative emotions, such as anxiety, or hopelessness may result from such appraisals, and as we have already seen, may lead to outcomes for the learner that are inimical with success. However, it is important to note that a couple of studies (e.g., Efklides and Petkaki, 2005; Tulis and Ainley, 2011) have found no evidence of a link between emotional reactions after task related success and failure experiences, and domain-specific academic self-concept or value of the subject. Instead, Tulis and Ainley (2011) found that learners' task-related emotional reactions were associated with their beliefs about the role of errors in learning. They suggest that this points to different operational roles for transient, state emotions, (emotions experienced during a task), and habituative, trait academic emotions (captured later, via questionnaires, for example, academic self-concept). This pattern is supported by the literature on emotions[95], where it is argued that negative trait emotions tend to be magnified through reflective processes when compared to state emotions[96] and so are not reliable barometers of experienced emotion. Rather, Bieg and colleagues (2014) suggest that trait emotions refer to beliefs

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[95] E.g., de Raad and Kokkonen, 2000; Zelenski, 2000; Wirtz et al., 2003; Scherer, 2016; Saviola et al., 2020
[96] E.g.Puterman, Delongis and Pomaki, 2010; Goetz, Athan and Hall, 2013; Catalino et al., 2017

about emotions, rather than an evaluation of emotion itself. However, given that behaviours are affected by trait beliefs (Wirtz *et al.*, 2003), and that beliefs constitute 'mental scaffolding' (Conner and Barrett, 2012 p.331) for sensory data, identifying the precursors and buffers of academic self-concept seems prudent.

Applied to the classroom, interactions with the teacher and peers provide meaningful sources of information about society and the learner. For example, the teacher's use of praise may communicate more than intended, with global praise in terms of ability interpreted by the learner as communicating that intelligence is not malleable (Mueller and Dweck, 1998; Cimpian *et al.*, 2007). Learners may also interpret meanings within classroom practices. For instance, a learner may evaluate their ability in relation to others through their ability group placing (Marks, 2013). Learners' perceptions of how teachers see them are also communicated through teachers' expectations for the class (e.g., whether the work set is challenging or easy provides the learner with messages about the teachers' confidence in their ability to complete the task successfully). Cognitive appraisals of classroom situations may further lead to emotional impacts. For example, the teacher's instructional approach may increase learners' enjoyment (such as modelling, scaffolding and support that communicate learners' ability to control the situation). Conversely, approaches that communicate high stakes may lead to anxiety (Goetz *et al.*, 2020). The classroom, therefore, becomes an important source of appraisals. Within the classroom, it is argued that teachers, sensitised to the implicit messages they send to pupils, may be able to mould pupils' self-theories to enhance motivation and achievement (e.g., Cimpian et al., 2007). I shall return to this in the following chapter.

Self-Efficacy Theory

Self-Efficacy Theory (a personal evaluation of one's capability to accomplish tasks and courses of action, Bandura, 1977; 1986), has also been offered as an explanation for differential responses to academic challenge and soft failure (Usher and Pajares, 2008; Richardson, Abraham and Bond, 2012), and the presence of achievement-related emotions (Pekrun, 2000, 2006). Considered central to the control-value theory of achievement emotions, Pekrun et al. (2011), argue that levels of self-efficacy determine whether an academic situation is appraised as a threat or challenge.

According to Bandura (1986, 1997), learners who are regarded as self-efficacious hold two key beliefs. Firstly, they hold and agentic perspective of learning where they exercise some control over the tasks they undertake (1986). Secondly, learners hold personal expectations that they will be successful in executing a goal, or performing at the correct level (Bandura, 1977, 1997; Schunk, 1989). Learners who have confidence in their abilities are more likely to respond with resilience when they experience soft failure, with a greater likelihood of repelling negative thoughts and affect regarding their capabilities (Ozer and Bandura, 1990). Errors, mistakes, and impasses are more likely to be viewed as within the control of the individual, and therefore, are obstacles that can be overcome with effort, practice, and skill development (Bandura, 1986). Moreover, self-efficacious learners are orientated towards embracing challenging tasks and sustaining persistence whilst engaged in them (Bandura *et al.*, 2001). Conversely, it is common for individuals to give up or avoid tasks where there is a lack of perceived confidence (Bandura, 1986; Elliot, 1999) and avoid seeking help with difficult tasks (Tahmassian and Moghadam, 2011): effective learning habits, such as effort, persistence and academic buoyancy are more to be present in self-efficacious learners. Moreover, a correlation exists between higher levels of self-efficacy and lower levels of negative affect such as anxiety[97]. Further, (Grotan, Sund and Bjerkeset, 2019) found a correlation between low academic self-efficacy and mental health problems, but they were unable to identify the causal direction.

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[97] E.g., Bandura, 1997; Muris, 2002; Tahmassian and Moghadam, 2011; Qudsyi and Putri, 2016

Given that beliefs learners have about their self-efficacy can affect motivation, academic behaviours, and correlate with negative affect, supporting pupils to gain high levels of self-efficacy is therefore a key concern of the teacher. As a social-cognitive construct, self-efficacy is subject to a range of sources that indicate that levels are not fixed and can be increased, suggesting the importance of the teachers' role in supporting the development of self-efficacy. Recent literature[98] has provided considerable support for Bandura's (1977, 1986, 1997) four main sources of self-efficacy that may help to facilitate a successful recovery from soft failure in the classroom: 1) enactive mastery experiences (drawing upon previous successes); vicarious experiences of self-regulation and mastery (seeing others' successful attempts); social persuasion that the learner can achieve the task (the messages received from others); and appraisals of physiological and affective states (appraising feelings whilst engaged in a task). Other sources of self-efficacy that have been recently identified include teacher practices and social comparisons (Butz and Usher, 2015). However, there is evidence of a gendered response in a study by Webb-Williams (2018) where girls' appraisals side-lined teacher feedback, relying predominantly on social comparisons.

The role of the teacher in supporting the development of self-efficacy thus requires skilful navigation in providing pupils with opportunities to experience mastery, observe self-efficacious behaviours through teacher or peer modelling, whilst being mindful of the developing classroom climate where social comparisons may both support and undermine its development. An example where teachers have been successful in building learners' internal resources and dispositions can be seen in the 'Learning Without Limits movement in England[99], where transformability of learning capacity relies not only upon the external opportunities provided by the teacher and school (e.g. feedback and direct teaching of strategy), but the strengthening of pupils' confidence and positive states of mind which, it is argued, expand or constrain learning capacity (Hart *et al.*, 2004). Approaches, such as Learning Without Limits, in supporting several sources of self-efficacy, also avoids the issue Bandura (1994) notes of some sources being

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[98] E.g., Britner and Pajares, 2006; Klassen and Usher, 2010; Phan and Locke, 2016
[99] E.g., Hart, Drummond and McIntyre, 2007; Swann et al., 2012

less potent (e.g., social persuasion) than others. A package that builds learners' confidence to take an initial step through mastery experiences, provides modelling of self-efficacious and self-regulatory behaviours, scaffolding, feedback, and academic support and promotes positive states of mind and reduces the opportunity for social comparisons (e.g., rejecting ability grouping), is likely to have result in a virtuous circle of mastery experiences.

Implicit theories of intelligence

Whilst error detection may prime defensive motivation (Hajcak and Foti, 2008), negative reactions to soft failure are not universal (Elliot and Dweck, 2005). The question of why some learners give up after experiencing soft failure, whilst others seem unaffected, has been the focus of a considerable body of research in psychology over several decades (although research on motivation and learning from errors specifically remains limited; Zhao, 2011). Whilst soft failure can prompt a variety of negative emotions including anxiety (Chong and Meyer, 2018) and shame (McGregor and Elliot, 2005), it is argued that these are not inevitable reactions (e.g., Tulis and Ainley, 2011). Studies over several decades have indicated that some learners are able to overcome the challenges they face through self-regulated activities, enabling them to apply strategies and remain motivated (e.g., Benard, 2004; Artuch-Garde et al., 2017). An abundance of research has focused on the malleability or stability of leaners' beliefs about intelligence and its psychological impact on learning and self-efficacy. Dweck describes two views learners have about intelligence: learners who are entity theorists believe intelligence is a fixed trait (fixed mindset). This view refers to intelligence as a genetic inheritance that determines intelligence permanently. Therefore, despite the efforts of the learner and teacher to improve, progress is bound by the limitations of the inherent intelligence. Correspondingly, for entity theorists, potential is predictable and known. In contrast, incremental theorists believe that intelligence is malleable, and potential is not knowable in advance (growth mindset). For incremental theorists, the analogy of a brain as a muscle is meaningful: with a combination of guidance from more experienced others and effort from the self, intelligence may grow, and future levels of intelligence are unknowable. Mindset theory provides an explanation for the different patterns of

academic behaviours and outcomes within a classroom (Dweck and Leggett, 1988). Learners who have an incremental theory of intelligence are more likely to respond positively to feedback after soft failure, embrace challenge, demonstrate resilience and see the value in making effort (Dweck and Leggett, 1988; Yeager and Dweck, 2012). Conversely, those learners with entity conceptions of intelligence, are more likely to shy away from challenging work, due to their perception that soft failure exposes the limits of their intelligence to others (Yeagar and Dweck, 2012).

Given that mindset theory has become a "global phenomenon" in schools (Quigley, 2021), with growth mindset principles influencing policy within the two case study schools, it is worthwhile setting out the argued benefits and evidence for Mindset theory interventions.

Evidence for the benefits of a growth mindset in dealing with soft failure

Evidence for the existence of mindsets and their impact on academic buoyancy after errors and mistakes, has been found largely through methods associated with psychological studies, such as self-reporting and behavioural observations (Schroder *et al.*, 2017). However, there is also evidence from cognitive neuroscience for a neural mechanism that underpins growth mindset responses to error making (Tirri and Kujala, 2016). Two key studies have demonstrated a correlation between a holding a growth mindset and brain activity subsequent to error detection, but as yet this area of research is limited (Schroder and Moser, 2014; Ng, 2018). Mangels and colleagues (2006) found that participants who held incremental beliefs about intelligence had increased and sustained memory-related activity about corrective actions after negative feedback was given. Indeed, on a subsequent unexpected retest, those with fixed mindsets (holding entity theories of intelligence) had lower rates of error correction than those with a growth mindset, and overall less gains in knowledge. They suggest that the comparatively better results for growth mindset participants are attributable to the rates of directed attention and conceptual processing. In the previous chapter, both attention and deep processing were noted as being positively related to encoding rates and memory. For entity theorists in Mangals et al.'s study, less brain activity was detected

subsequent to error feedback, indicating less attention to error correction, and less sustained sematic processing, leading to less corrective behavioural changes. Results demonstrated in a flanker task study by Moser and colleagues (2011), were consistent with Mangals et al.'s study, concluding that growth mindset facilitated attentional focus and subsequent error processing after an error commission, where mindset was not found to be associated with the discovery of an error, but with the subsequent processing of the error (Schroder et al., 2017). These neurological studies, although few, support research on memory discussed in Chapter 2, where increased attention to mistakes facilitates learning and leads to increased future accuracy.

However, concerns that mindset theory may not be the panacea to academic buoyancy have developed from unsuccessful attempts to link growth mindset to achievement[100] and difficulties in replicating research, particularly from lab-based studies to natural settings (Sisk et al., 2018; Li and Bates, 2019). For example, two Changing Mindsets studies, funded by the Educational Endowment Foundation in England (2014, 2019), found no statistically significant improvements in pupils' progress. In the first study, two interventions were trialled: teacher training in mindset theory and pupil mindset workshops, with the latter resulting in two months' progress in English, and no progress for the teacher training intervention. In a second study carried out with 101 schools across England, Y6 pupils were given an intervention which combined teacher training and pupil workshops. The size of the effect of the intervention, measured in months' progress, was zero, including measured progress for pupils eligible for free school meals. However, the study acknowledged that effects may have been dampened by teachers in the study who were already aware of mindset practice.

A myriad of studies from other countries contribute to the mixed results: a Kenyan study of 1000 learners who used an online platform, found one of the strongest predictors for achievement in assessment was having growth mindset, with GM students spending longer on assessments (Kizilcec and Goldfarb, 2019). Admiomo (2015), researching in an Indonesian context, also found growth mindset beliefs about academic ability led to

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[100]E.g., Macnamara and Rupani, 2017; Sisk et al., 2018; Burnette et al., 2019; Burgoyne, Hambrick and Macnamara, 2020

better academic achievement and increased academic buoyancy. In New Zealand, Bonne and Johnston (2016), found that children aged 7-9 who had a GM maths intervention in their regular maths lessons, increased in their achievement, self-efficacy and growth mindset beliefs. Growth mindset also predicted achievement in a nationwide study of high school students in Chile. Students from socioeconomically deprived backgrounds, who held incremental theories of intelligence, matched achievement levels of students who came from wealthier backgrounds, but who held entity theories of intelligence. This suggests that growth mindset can provide an academic buffer for the economically disadvantaged (Claro, Paunesku and Dweck, 2016). A Norwegian study, replicating the work of Yeager's (2016) online mindset intervention, found that perseverance was predicted by holding a growth mindset, leading to improved performance (Bettinger et al., 2018). However, these studies are tempered by null results elsewhere, or reported small effect sizes (e.g. Sisk, 2018). For example, a large-scale Czech study involving over 5500 university applicants undertaking aptitude testing found no association between growth mindset and test success (Bahník and Vranka, 2017), with similar results for a Finnish observational study for undergraduate computing courses (Kaijanaho and Tirronen, 2018). A scaled Argentinian growth mindset intervention, with Y12 students in over 200 secondary schools, found no evidence for achievement, performance or a favourable perception of challenging tasks (Ganimian, 2020). Even where positive results from a GM intervention were in evidence, these were not always long lasting. For example, a Hungarian study pointed to only a temporary malleability in personality beliefs and lower amotivation (Orosz *et al.*, 2017).

These competing results point to complexities in drawing meaningful conclusions about the efficacy on Mindset interventions, and whether there is sufficient evidence to support a generalised Mindset theory. Two problems occur when scaling up smaller lab studies to larger studies, implementation and effect heterogeneity. Implementation issues may result from the transfer from the meticulous set up of the researcher to the teacher who has more constraints and whose responsibilities in the class are divided beyond research and will include general classroom orchestration. Therefore, the teacher may differ to the researcher in that they may be able to achieve only what is

reasonably practicable (Farrington et al., 2012). This in many cases may have been insufficient to see success in mindset research. Scaling up educational research, therefore, may not be a matter of 'conceptualisation', but instead 'implementation' (Dewa et al., 2002 p.173).

A second scaling problem occurs where a greater diversity of participant leads to the exposure of null effects (Dweck and Yeager, 2019; Yeager and Dweck, 2020). The significant contextual differences, not just between lab based work and natural settings, but between and within countries, schools, and participants, may suggest that population heterogeneity plays an important role in determining whether a growth mindset intervention will be ultimately successful for the individual or group (Yeager et al., 2019, Yeager et al., 2020). Therefore, as far as possible, accounting for "diversity along a virtually infinite number of dimensions within society" (Ercikan and Roth, 2014 p.21) is essential, although this requires intricate, complex, research design and analysis.

Summary

This section has considered how self-belief structures may impact learners' reactions to soft failure and are considered predictive of academic success. Lee, Lee and Bong's, 2022) confident assertion that self-efficacy "is easily the most important construct for engagement and success in achievement contexts" (p.35), emphasises the essential role self-beliefs play in learning. Despite the dire consequences of negative self-belief that have been reviewed, there are studies that suggest that self-beliefs are not simply a product of biology, but are socioculturally constructed. For instance, studies focusing on construct of mindset have found that interventions may alter pupils' implicit theories of intelligence. It is argued that these can alter pupils' responses to academic challenge and soft failure, leading to higher motivational beliefs, levels of grit, and greater performance (Blackwell, Trzesniewski and Dweck, 2007). A range of interactive bioecological influences may be considered to impact learners' reactions to soft failure, and should considered by educators in their approaches to error-handling.

Chapter conclusion

In this chapter I have discussed the many risk factors for developing fear of failure, or the increased likelihood of maladaptive responses to errors stemming from a person's personal profile. These include adolescence, gender, intellectual achievement or abilities and dispositions, with risks multiplying where these characteristics intersect. Negative emotional reactions to errors may occur where personal characteristics interact with achievement settings, such as the classroom. This may lead to unfortunate learning outcomes such as cognitive inflexibility, shallow processing, and the reduction of self-regulated learning. A catch-22 situation emerges where the maladaptive responses to errors that result from negative emotions, itself arising from appraisals of the situation and self, may lead to yet further negative affect; the reciprocity between emotions and achievement drives a negative spiral of effects.

However, this chapter has also demonstrated that this situation is not inevitable. Studies support the malleability of self-beliefs, such as academic self-concept, self-efficacy, and mindset. What teachers do in the classroom, and the climate towards errors which they help create, can impact pupils' responses to soft failure with distal ecological factors within the school and societal culture affecting learner appraisals. This will be the focus of the following chapter.

Chapter Four: The error climate

4.1   Introduction

Whilst the previous chapter concentrated on the internal characteristics within a learner's profile that can affect their responses to soft failure, this chapter concerns the impact of factors within pupils' social learning environment, which interacting with the learners' personal characteristics, shapes their reactions to errors, mistakes, and impasses. The classroom error climate, which describes pupils' and teachers' overall perceptions of the classroom environment toward learning from errors (Steuer, Rosentritt-Brunn and Dresel, 2013), is constructed from the messages received from the social world. The error climate may include classroom expectations and goals, social interactions (including how errors are managed), and wider classroom practices. Therefore, the first section of this chapter begins by exploring the classroom goals that may influence pupils' appraisal processes, personal goal orientations (Urdan and Schoenfelder, 2006) and reactions to errors. Teachers' error handling strategies, which have a significant impact on the construction of the error climate, will be considered alongside a discussion of safety in the classroom. The wider context of the wider educational systems, including the constructed nature of the normative schooling ideals and their impact upon school and classroom values, will then be examined through a cross-cultural comparison of the error climate literature. In doing so, I consider how countrywide and local school constructs of success and soft failure influences how individual teachers respond to mistakes in the classroom. The chapter ends with a consideration of how pupils learn from errors.

4.2 Teachers' responses to soft failure

Whilst the formation of beliefs and attitudes are considered a negotiated act between person and environment (Seitz and Angel, 2020), it has been suggested that learners' beliefs are shaped by the 'invisible hand' of the teacher (Cairns and Cairns, 1994). Whilst

this occurs through the proximal processes of the classroom, studies over several decades indicate that these interactions and classroom practices are influenced by, and signal, classroom goal structures (Ames, 1992), which overlap the error climate construct (Steuer et al., 2013). Both goal structures and the error climate are thought to influence pupils' responses to soft failure.

The contribution of classroom goal structures to the error climate

As we have seen in Chapter One, a significant body of research on classroom goal structures has demonstrated a link between perceived classroom goals, learner motivation, affect and achievement[101]. Whilst there is evidence that both mastery and performance classroom goal structures can both lead to achievement (e.g., Harackiewicz et al., 2002; Lam et al., 2004), findings tend to indicate positive socio-emotional outcomes for mastery goal structures (see Senko, Hulleman and Harackiewicz, 2011 and Givens Rolland, 2012, for reviews) compared with performance goal structures, which are typically associated with either null results, or negative psychological outcomes. An association between performance goal perceptions and maladaptive responses to soft failure, such as self-handicapping (Urdan, 2004); cheating, (Anderman, Cupp and Lane, 2009), fear of failure (Furner and Gonzalez-DeHass, 2011) and the avoidance of help during impasses (Ryan, Pintrich and Midgley, 2001), has consistently been reported in studies.

It is theorised that teachers' classroom practices are indicative of classroom goals for mastery (developing personal competence; Ames, 1992), or performance (demonstrating competence in relation to peers; Dweck, 1986). For example, a classroom performance goal structure is associated with teachers using methods of social comparison, such as grades (Skaalvik and Federici, 2016) or ability grouping. Shim et al., (2013) suggest that classroom practices such as norm benchmarking, may lead to

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[101] See Nicholls, 1984; Ames, 1992; Dweck, 1999, 2006; Rawsthorne and Elliot, 1999; Midgley and Urdan, 2001; Meece, Anderman and Anderman, 2006; Gonida, Voulala and Kiosseoglou, 2009; Givens Rolland, 2012; Bardach et al., 2020

pupils' pursuit of social achievement goals and a need to 'prove themselves', due to the visibility of the self (p.71). It might be assumed that a substantial emphasis on achievement might signal to pupils that soft failure is a , as well as reflect a competitive classroom culture (Nie, 2016). Conversely, a perceived mastery goal structure, taking an iterative approach to progress in which learning from mistakes is embraced (Skaalvik and Skaalvik, 2013), is more likely to be manifested in practice though self-referencing of assessment results (Ames, 1992). In the messy natural settings of the classroom, there is evidence of the adoption of multiple goals (Meece, Anderman and Anderman, 2006), presenting a complex interplay of aims in school.

A bidirectional influence is suggested where goal orientation not only impacts how a learner or teacher engages with soft failure, but where individuals' responses also influence classroom goals (Rybowiak *et al.*, 1999). The climate that emerges in the classroom is therefore considered to be constructed by classroom processes, interactions, and individual's reactions, with classroom goals a contributing factor (Steuer, Rosentritt-Brunn and Dresel, 2013). This suggests the critical role of the teacher in both the development and communication of classroom goals through their teaching practices, that support learners' adaptivity.

Despite the recognition of a need for challenging work (e.g., Teacher Standards of England, DfE, 2011) and harnessing mistakes for learning (e.g. DfE's Core Content Framework, 2020), in England, paradoxically, the classroom remains a place where challenge (Dunne *et al.*, 2007; Curee and QCDA, 2011), impasses, errors and mistakes can be perceived as unwelcome. There is some evidence that some teachers are sympathetic (implicitly or otherwise) to errorless learning theory (Kornell, Hays and Bjork, 2009; Kruse-Weber and Parncutt, 2014), where tasks are designed to minimise the risk of errors occurring. Historically, in areas such as learning foreign language, strategies such as audiolingualism (Brooks, 1960) avoided error-making through drilling and practice. In an error-climate study in Germany (Oser and Spychiger, 2005 in an English book review by Minnameier, 2006), revealed that teachers do exactly this, dodging situations where mistakes may made. Even where errors are discussed in a positive light, a contrary message may be given to pupils. In an analysis of 22

mathematics lessons in the UK, Ingram, Baldry and Pitt (2015), found that despite teachers explicitly welcoming mistakes, contradictory messages that errors were to be avoided were implicitly given, and it was the latter view which was replicated by their students. Rather than give pupils time to identify and correct their own errors, there is a tendency for many teachers to rush this phase and prematurely supply pupils with the correct answers[102]. This can be indicative of a maladaptive error climate where pupils implicitly learn that mistakes are not welcome.

Research in German and Swiss contexts has identified how teacher and pupil responses to errors are related to the error climate of a classroom (Oser and Spychiger, 2005), although research in this area remains limited[103] and is predominantly survey (von Kotzebue *et al.*, 2021) or quantitatively (Simpson, Anderson and Maltese, 2019) based. Where the error culture is perceived to be supportive, it is assumed that pupils may learn more from their errors (Steuer et al., 2013), engaging with the error in a deeper manner, and spending time thinking though impasses. However, in a climate that is perceived to be intolerant of errors, as we have seen in Chapter Three, pupils may demonstrate risk avoidance and may try to conceal errors (Tulis, 2013).

Four teacher behaviours that underpin an adaptive error environment have been identified by Tulis (2013), corresponding with items 1,3,4,7 and 8 in Steuer and colleagues' (2013) eight subdimensions of the perceived classroom error climate. Whilst these are decontextualised in Tulis' work, how the social and cultural contexts modify teacher behaviours will be discussed in this chapter. The first teacher behaviour identified by Tulis, is a positive orientation towards errors. This includes a tolerance for soft failure and a willingness to discuss errors and strategies, even where pupils have taken a wrong turn in the classroom. The second attitude/behaviour moves beyond tolerance in recognition of errors as a key part of the learning process. Soft failure is not merely tolerated but welcomed and utilised as a pedagogic strategy for learning[104]. To communicate the first two approaches in the classroom, teacher patience towards errors

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[102] Oser & Spychiger 2005; Minnameier 2006; Borasi, 1994
[103] Steuer, Rosentritt-Brunn and Dresel, 2013; Tulis, 2013; Soncini, Matteucci and Butera, 2020
[104] Also see Seifried and Wuttke, 2010; Kapur and Bielaczyc, 2012; Steuer, Rosentritt-Brunn and Dresel, 2013

is required. Student ownership of learning is assumed, and errors are not simply 'mopped up' by the teacher, but the student is supported to work through their impasses and mistakes, without premature corrections by the teacher. The third error management behaviour is teacher support after soft failure experiences (also see Spychiger et al., 1988; Hattie and Timperley, 2007). This encompasses both the adoption of a patient approach when pupils err, but also includes a constructivist commitment to facilitate pupils' own ability to resolve the error or impasse. Lastly, it is assumed that teachers will not react in a negative manner (including both verbal and non-verbal reactions that signal annoyance, frustration etc). Other relevant features of a positive error climate, identified by Steuer and Dresel's in their eight subdimensions (2013 p.198), include a delineation of performance and learning situations (*No.2*), the absence of negative peer reactions to errors (*No.5*) and intellectual risk-taking (*No.6*). These do not neatly fit within teacher behaviours but are important aspects of the teachers' provision of a classroom environment where pupils feel safe.

In the table overleaf, I have grouped both teacher behaviours and practices in terms of the underpinning pedagogical commitments which I have identified: accepting errors, embracing errors, and supporting errors, and aligned them with pedagogic strategies. The overall orientation for the adaptive error environment is constructivism. The pedagogic commitments and strategies (overleaf) that support an adaptive error environment provide a useful tool with which to read studies on classroom error climates. However, as the review of cross-cultural error handling studies suggests in Section 4.3, a more nuanced understanding that considers cultural values is required to interpret interactions in the classroom.

Table 1: Characteristics of teacher behaviours that contribute to an adaptive error environment drawn from studies by Tulis, (2013) and Steuer and Dresel (2013)

Pedagogic orientation	Pedagogic commitments	Pedagogic Strategies
A constructivist orientation is assumed where the teacher facilitates learning through a dialogic approach. Shared ownership of learning is assumed The teacher is a More Knowledgeable Other	Accepting Errors	Demonstrating a willingness to discuss errors Ensuring both verbal and body language is accepting of errors Inclusivity during whole-class questioning Ensuring a safe learning environment through establishing expectations, classroom management and modelling
	Embracing Errors	Using errors as a teaching tool for the whole class Separating performance and mastery situations
	Supporting Errors	Patience with impasses and errors Facilitating the resolution of errors and impasses, rather than providing an answer Encouragement

The safe space of the classroom

Adaptive error climate research suggests that the classroom must become a 'safe space' for learners. Within a school classroom context, this borrowed concept[105] describes a metaphorical space where pupils feel they can take intellectual risks and are encouraged to do so (Rom, 1998; Barrett, 2010), enable honest dialogue, explore knowledge (Holley and Steiner, 2005) and engage in meaning making. It is worthwhile noting that a safe space cannot be guaranteed (Barrett, 2010) nor is a safe space synonymous with a comfortable space – pupils may wrestle with cognitive dissonance as they further understanding. This points to a tension between the learner who equates a safe space, not only with the careful handling of contributions, but with the removal of judgement (Rom, 1998), and the teacher who recognises the role that criticality plays within

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[105] The term 'safe space' originated from women's and LGBT movements in the 1970s and focused on the safety of marginalised communities (Flensner and von der Lippe, 2019). More recently, it has given rise to safe spaces in other environments (Ali, 2017) such as education (Holley and Steiner, 2005)

feedback and in pupil progress. Therefore, questions have been raised as to whether safe spaces in classrooms can exist (e.g., Rom, 1998; Barrett, 2010), with Iversen (2019 p.316), indicating that the concept "promises more than it can deliver". The paradox of the classroom safe space is that its creation introduces learner visibility and vulnerability, and an indication, as Rom (1998 p.405) appositely suggests, that learners "are going to be very unsafe".

If no emotionally safe environment is secured there may be good reason for fearing making mistakes in class. However, it is useful to distinguish between the types of threat to the self. Callan (2016) draws a distinction between two specific types of threat that he labels "dignity safety" (p.64) and "intellectual safety" (p.65). Whilst he argues that education by its nature requires learners to be 'intellectually unsafe'" to learn, 'dignity safety', must be ensured. Here, the concern over humiliation is presented within a moral context rather than an affective one. That is, learners must be protected from anxiety over concerns that they may be belittled by others for their views or seen as less in some way. The next section will explore to what extent cross-national error handling meets either intellectual or dignity safety.

4.3   Cross-national comparisons of error handling in the classroom

The classroom error climate is assumed to be culturally situated (Dalehefte, Seidel and Prenzel, 2012), with pedagogical approaches arising from country-wide values that facilitate or constrain the potential to benefit from soft failure. However, research into national trends for error handling and error climate in schools is limited (Arani et al., 2017), and cross-country comparisons arguably rarer, with studies concentrated across a few countries. Research within and between countries include the USA, Japan, China, Malaysia, Italy, Switzerland, and Germany, with extremely limited research occurring in the UK context. Of the limited studies on the error climate that exist internationally, most of these are not comparative in nature, but are presented without context, with a sole focus on the phenomena. Context allows national borders to be drawn within research so that approaches might be compared (Kosmützky and Putty, 2015).

Therefore, to facilitate the comparison of cultural values upon classroom error handling practices, I have used Holfstede's, (1991; 2021) framework of cultural dimensions; an internationally recognised standard of attitude, belief and value dimensions shared within a society.

 For Hofstede, culture can be described and compared along six indices. These are as follows: *power distance index* (society's acceptance and expectation of unequal power distribution); *individualism vs. collectivism* (a measure of the strength of ties to a group or community); *uncertainty avoidance* (the toleration of ambiguity within a society: the preference for structure, rules, and orderliness and how well people cope with anxiety); *masculinity vs. femininity* (the extent to which masculine or feminine values are desired in a society. A masculine culture is characterised as favouring assertiveness, achievement, material rewards for success, competition, heroism, strength and speed, whilst a feminine culture values care, communication, interpersonal skills, quality of life and modesty, alongside more traditional male values); *long term orientation vs. short-term orientation* (Bond and Hofstede, 1989; the extent to which society focuses on a long or short time span in its everyday operation and considerations); and *indulgence vs. restraint* (Hofstede, 2011) refers to the extent that natural human needs and desires for enjoying life are gratified).

The table in Appendix E synthesises studies on error handling in the classroom from national and cross-national studies, with error approaches viewed alongside wider cultural and classroom values. Countries have been selected on the basis that there is sufficient literature to begin to draw assumptions about the country's cultural classroom error script, although with the caveat that the literature body is too small for generalised principles to be established. An exception is made for the United Kingdom, where error climate and teacher error handling studies are too few to report but included on the grounds that this study is UK based.

Cultural scripts

Whilst error climate studies are sparse, I have synthesised the available research to facilitate country-wide and cross-country comparisons of classroom error handing. In doing so, it is important to be alert to culturally embedded practices. Cultural scripts, described as the implicit norms, values and practices of a culture that guide behaviour and expectations[106] may not be immediately understood to the outsider, but to the insider, provide the code to unlocking meaning of practices in schools that could be misinterpreted otherwise.

Holfstede[107] has been used as a starting point for cross-country comparisons. The intersection of cultural dimensions may provide the grounding for the cultural script of the classroom. For example, Heine et al. (2001), argue that collective cultures with high power distance, such as Japan, may make it more likely that negative feedback will lead to greater motivation to improve. The hierarchical nature of society, providing accepted standards for success, combines with the collectivist focus on mutually understood standards that members will aspire to meet, and the belief that ability is modifiable with effort (Heine *et al.*, 2001a; Khatri, 2009). Learning where one can grow towards the accepted standards from a respected authority, (such as the teacher), is likely to be regarded as motivating, rather than threatening (which is more likely in an individualistic and competitive culture). Conversely, for societies with low power distance, less weight is likely to be placed on teacher authority and the acceptance of negative feedback (Eriksson et al., 2020; Heine et al., 2001).

However, the intersection of other cultural dimensions may moderate teachers' and pupils' reactions to soft failure in different ways. High power distance, particularly when combined with uncertainty avoidance, may lead to negative error handling and

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[106] Stigler and Hiebert, 1998; Goddard and Wierzbicka, 2004

[107] It should be noted that Holfstede's paradigm has received criticism, for example, regarding the emphasis on values, rather than practices, and cultural homogeneity (see Jones, 2007; McSweeney, 2002; Dumetz and Cadil, 2018). A tension emerges between Hofstede's cultural generalisation and an ecological framework where the layered contexts acknowledge the complexity in human development. However, as a lens with which to view the predominantly psychological cross-cultural error climate literature, Hofstede's framework provides a useful initial review of cross-cultural studies.

responses. Barriers to open feedback and communication may be erected between individuals on various levels of power levels (Khatri, 2009), with those lower in the societal hierarchy reluctant to report errors of their own making or provide feedback on those higher in the social ranking (Appelbaum *et al.*, 2016). For example, an employee who asks for help or admits errors may be concerned at appearing less competent to others (König *et al.*, 2007). Identifying the errors of others may also be problematic in cultures where face-saving and high-power distance is present. In the field of nursing, it is recognised that medication errors tend to be under-reported by nurses (Yang, Pepper and Wang, 2020). Even though these examples are drawn from the context of organisational culture, it is argued that power distance is relevant to the school context due to the social hierarchies that exist within schools[108]. Therefore, it may be assumed that pupils may feel unable to admit where they need academic assistance, or have made a mistake, limiting their potential to learn through challenges and errors. This effect upon errors may be intensified when high power distance is combined with uncertainty avoidance. In the context of schooling, Hofstede (1986) suggests that characteristics of classrooms in societies high in uncertainty avoidance, where ambiguity is minimised, include passive, rather than active participation in learning; minimising, rather than encouraging risk taking; rewarding pupils for accuracy, rather than innovation in problem solving; viewing the teacher as an expert, rather than a life-long learner; and interpreting pupils' academic disagreements with the teacher as examples of disloyalty, rather than intellectual engagement. A combination of these factors positions errors as threatening in classrooms that are high in uncertainty avoidance and power distance. Rewarding pupils' accuracy and applying pedagogical approaches that minimise pupils risk taking, is likely to communicate an intolerance for error. Where the power distance between learners and teachers is also high, pupils may become afraid to ask for help or admit where they are wrong. A lack of engagement with errors will hinder the potential to learn from errors (Farnese, Fida and Picoco, 2020). Moreover, it is more likely that errors will not be framed as positive events that can lead to learning.

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[108] Cortina, Arel and Smith-Darden, 2017; Eriksson, et al., 2020

National and cross-national error climate research

Below is a synthesis of studies on the error climate from seven countries: the UK, Japan, Germany, Switzerland, Italy, the US and China. Understanding studies within their national context is important to establish if the studies are transferable or important within our own contexts. When comparability has been established, cross-cultural research may allow us to separate cultural-bound variables that affect the error climate with those that can be attributed to general human behaviour (Whiting, 1963).

<u>UK</u>

Error climate research is underdeveloped in the UK. In the few studies that exist, a tension is evident between the wider literature that extolls the importance of utilising mistakes in the classroom (Brodie, 2014), thereby facilitating intellectual unsafety, and classroom practice that seeks to protect pupils from the negative effects of soft failure (Ingram, Baldry and Pitt, 2014). Popular strategies in English classrooms, in the interests of creating a safe space to make errors, have included 'phone-a-friend[109]', as recommended in an article from the UK Chartered College of Teaching (Doherty, 2017). This, whilst designed to take pressure off the pupil, side-steps engagement with the error altogether. This is similar to the 'Bermuda triangle of error correction' (Oser and Spychiger, 2005), where the teacher bounces one incorrect answer to another pupil which is a typical response to errors in the US (Santagata, 2005) and other individualistic countries. In two studies in Germany by Tulis (2013), 35% of all responses were of this nature and had maladaptive affective consequences. In a similar vein of teachers avoiding the confrontation of pupils' errors directly, or offering negative evaluations of answers, is UK teachers' use of hedging language (Lake, 2018; Ingram et al., 2014). The intention here is to dampen the assumed, impending prickle of soft failure. However, in hedging communication this way, the hidden message becomes clear: soft failure will hurt, and pupils need to be protected from it (Seedhouse, 2001 in Ingram, Baldry and Pitt, 2014). Instead of providing a buffer to pupils' motivation and resilience, indirect

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[109] This strategy allows a pupil who is unsure about their answer to nominate another pupil to speak on their behalf.

communication around soft failure sensitises pupils to their mistakes; they become encultured to fear their mistakes, learning to associate errors with embarrassment and a loss of self-esteem. It is therefore not surprising that English pupils' self-reported fear of failure, is one of the highest rates in the world, particularly for girls (PISA 2018 Results, Volume III, 2019).

Japan

Japanese error handling can be considered positive in supporting pupils' emotional safety in class through distancing the individual from the error (Tanaka, 2017), whilst also productively utilising errors in the classroom to secure intellectual unsafety[110]. However, complexity emerges within a collective cultural context where mistakes signal a departure from the group (Lanzer Pereira de Souza, 2020), where pupil self-esteem is low (Briony D. Pulford, Johnson and Awaida, 2005) and fear of failure is felt by pupils (de Castella, Byrne and Covington, 2013).

Japanese teaching practices – and indeed pupil reactions to soft failure - has deep roots in the wider cultural philosophies, values, and beliefs of Japanese society, particularly the Confucian culture. The starting point for Japanese ethics stresses interdependency; the existence of the self is defined in reference to others (Stigler and Perry, 1988). In fact, Sato (1993), notes that the Japanese ideographs to write the term *ningen* ('human being') translates to 'amidst people' (p.122). Closely aligned with this overarching principle is the need for interpersonal obligations and responsibility towards others (Araki, 1988). Pedagogical principles arise from the philosophical fabric of Japanese society and work to reinforce it; schools becoming sites of enculturation. Therefore, the emphasis on non-hierarchical learning in Japanese education is unsurprising, with group work that benefits the collective whole. The lack of hierarchy can extend to the teacher- particularly from pre-school to middle school- who positions herself as a co-enquirer in learning. Such constructivist principles support critical reflection and personal growth (Escandon, 2004). In theory, this cultural framework shapes the error

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[110] Dalehefte et al., 2012; Metcalfe, 2017; Tanaka, 2017

climate in Japanese schools. Approaches, such as in maths, where direct teaching methods are eschewed in favour of allowing students to grapple with problems alone before discussion with the teacher is initiated (Metcalfe, 2017) bear similarities to Kapur's Productive Failure (Kapur, 2008), indicating that errors are welcomed as an integral part of learning and harnessed for the learning of all. This approach also allows teachers to develop and utilise a typology of mistakes with metacognitive exposition (Tanaka, 2017), aiding students' schemata development and transfer of knowledge and skills.

Nevertheless, a tension can emerge in the Japanese classroom between supporting the collective interest to enable the utilisation of errors, and the pupil experience of soft failure, where standing out from the crowd is considered undesirable. This is hard to reconcile and may account for the fear of negative evaluation that is reported by Japanese students. However, as (de Castella, Byrne and Covington, 2013) remind us, these factors require a local interpretation as they operate differently between cultures. Pupils' fear of failure in Japan appears not to impact pupil motivation or performance.

Germany and Switzerland

Whilst error culture studies are more prominent in these countries than elsewhere (but nevertheless, still thin), it is important to preface any discussion about what we might conclude with some caution. The contemporary literature frequently draws upon important studies that are now quite dated (e.g., Oser and Spychiger's seminal study in 2005 and Heinze, 2006). Therefore, in the absence of many up-to-date studies, it is hard to know whether the situation has changed. The relevance of dated studies is particularly pertinent in the case of German education which has undergone a considerable shift in centralised control and reforms, triggered by the 'PISA shock' of 2001 (Davoli and Entorf, 2018), where student outcomes in international tests fell below the PISA average. Moreover, the gravitation towards centralisation in German education is tempered by the existing decentralised and stratified education system. This has resulted in differing levels of teacher autonomy between states (Erss, 2018). The

impact of rapid change, a federal system, and a tradition of teacher autonomy in Germany means that existing studies are unlikely to be representative of a nation.

With that said, comparisons may be made between existing, situated studies. It is not surprising that similarities exist within the error climates of the classrooms within German and Swiss studies, given that it is argued that there are also similarities of overall pedagogic approach (e.g., implicit behaviourist orientations are noted by Heinze and Reiss, 2007). However, there are some significant differences. In both countries there appears to be limited opportunities to encounter errors (Heinze and Erhard, 2006; Heinze and A. Reiss, 2007). However, studies show that this situation is more pronounced in Germany. Where errors do occur in the classroom, studies show a tendency for teachers to evade mistakes, or mop them up quickly before students have opportunity to engage with their errors (Oser and Spychiger, 2005 in Tulis, 2013), indicating an avoidance of intellectual unsafe situations. There is also an indication that some teachers may lack engagement with pupils' errors. In a Bavarian study by Seifried and Wuttke, (2010), the root causes of learners' errors were consistently not tackled, and learners were not encouraged in problem-solving. This situation is compounded by a lack of cognitive and emotional support for students (Heinze and Reiss, 2007). However, several studies suggest a more complex picture, with observed practice misaligning with pupils' perspectives of the classroom error culture[111]. For example, both German (Heinze and Reiss, 2007) and Swiss (Pisa, 2018; Rach et al., 2013; Heinze, 2006) students report that they are not afraid to make errors, seemingly at odds with practices that are distanced from engagement with errors.

Italy and the US

It would be a mistake to assume that all western countries approach the handling of errors in the same way. In comparing US and Italian classrooms, Santagata notes several significant differences: in Italian lesson errors were discussed twice as often in front of the whole class. Italian students may also expect to be called to the front of the class to

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[111] E.g., Seifried and Wuttke, 2010; Dalehefte, Seidel and Prenzel, 2012

solve problems, explaining their reasoning, and where errors occur, students remain at the board whilst the problem is solved (Santagata and Barbieri, 2009). Such public vulnerabilities are rarer in US classrooms where pupils are shielded from experiencing embarrassment or shame by ensuring their errors are kept private (Debrincat, 2015). Observations indicate that US and Italian teachers' error handling also differed. Observations of mathematics lessons in the US have revealed a pedagogic focus on following correct procedures. In a seminal study by Stevenson and Stigler (1994), praise was awarded for correct answers, whilst in contrast, errors were largely ignored. In contrast, responses to errors in Italian classrooms were often negatively framed, including practices such as voicing disappointment, and shaming the student, "*Giacomo but are you joking or sleeping? Really*" (Santagata, 2004 p.153). This contrasts with US classrooms where errors are largely mitigated, with a positive affective stance. Here, the emphasis lies not in the importance of students taking personal responsibility for their own work, but of bolstering individuals' self-esteem. However, what counts as aggravation in a US context may not be considered the same in an Italian one, with social laws less visible to those who stand outside them. Santagata (2005), softens the harshness of the Italian teacher's use of name-calling, irony, and sarcasm in lesson observations by revealing the coupling of severity and intimacy in an Italian setting. Whilst harsh language and humour may appear to communicate ridicule and falling short to outsiders, this metacommunication tells a different story to Italian students, who recognise that such language is only made possible with emotional closeness, rapport and care from teachers who have taught pupils over several years and know them well. Therefore, although the affective stance of Italian teachers towards errors is negative, it may not have the same emotional fallout should teachers from other settings act in a comparable manner, and therefore the classroom may well remain dignity safe.

China and the US

In a key study into US and Chinese teachers' responses to students' mathematical mistakes, (Schleppenbach *et al.*, 2007) found that whilst Chinese students did not make more errors that those pupils in the US setting, Chinese teachers engaged with errors more, allowing for intellectual unsafety, and promoted a positive error climate in a way

not seen by the US teachers in four distinct ways: (1) Chinese teachers planned opportunities for errors to occur in their classroom. Lessons designed around likely misconceptions aimed to expose students' likely errors and provide opportunity to deconstruct these; (2) Chinese teachers asked more questions where pupils had erred, rather than simply making statements about the error (like the US teachers); (3) students' impasses were tolerated better by Chinese teachers than US ones. In the Chinese classrooms, students spent more time working through errors when they occurred; (4) Chinese teachers supported a positive error climate by reassuring pupils that making mistakes was an acceptable part of learning. These types of statement were not made in the US classroom. However, Chinese teachers' positivity about the universality of *making* errors should not be generalised to positivity about the *commission* of errors themselves. Hu, Son and Hodge, (2016) in a study of the responses of Chinese and US teachers to one student's errors in quadratic equation problem solving, found the Chinese teachers to express greater negativity in response to errors made. However, this does not indicate Chinese teachers' maladaptive error handling or signal dignity unsafe situations. Whilst soft failure may trigger resignation and withdrawal in the US, it may kindle persistence in China, (Zhang and Cross, 2011). Seen in this light, Chinese teachers' positivity around making mistakes may reflect the Confucian belief that errors are an inevitable part of the learning process (Zhou, 2019), and that ability is malleable (Chen *et al.*, 2016), with the negative response to a mistake, once made, part of a useful pedagogic aid for conceptual understanding. However, caution against premature conclusions about the error culture in Chinese schools is warranted: the ideal of the Chinese classroom is somewhat dampened by reports that reveal the toxic levels of academic stress experienced by Chinese school learners. Whilst this has been commonly attributed to the high-stakes university entrance tests (the Gaokao)[112], a study by Hesketh and colleagues (2010), showed over 80% of 9-12 year old learners worried about exams, with 60% afraid of their teachers' punishment. Indeed, academic stress and testing burnout is said to be experienced by even children in Kindergarten (Zhang, 2019). The obligation to improve the self and the filial duty to achieve academically (Li *et al.*, 2012; Chen *et al.*, 2016) further muddy the waters. Whilst

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[112] Zhao, Robert L. Selman and Haste, 2015; Zhao, Robert L Selman and Haste, 2015; João Pires, 2019

these stressors do not necessarily imply that low stakes errors and mistakes are costly to Chinese learners, in an absence of studies on Chinese learners' reactions to soft failure, a more agnostic reading of students' perception of the error climate may be appropriate.

The benefits and limitations of cross-cultural research on the error climate

As we have seen, research located within other cultures needs careful contextualisation before insights can be gleaned. When reading research set within diverse cultures, challenges of context can obscure meaning. For instance, research on error handling may be based on coding schemes designed with the values aligned with settings in particular cultures. For example, in the case of a comparative study of US and Italian classrooms above, responses to errors were coded for mitigation, aggravation, and neutrality, but what might constitute aggravation differed between the two countries.

Kelly (2013), reminds us that pedagogic practice within a classroom is a situated act, constituted through different, competing, channels. The recontextualisation of wider societal discourses into pedagogic discourses provides the basis for this construction, but pedagogy also emerges through more localised concerns relating to personal identities and agendas, political, and educational discourses, and limitations from the physical space. To describe classrooms as "sites of struggle" (p.419), signifies the complexity, conflicts, and contradictions that teachers navigate in the construction of their practice and approaches. In attempting to represent country-wide error climates, I acknowledge this task is reductionist, and at worst, impossible: the variables are multifarious, studies are few and that we know little about the practices in the everyday classroom 'black box' (Black and Wiliam, 2001, 2010). Therefore, it was not possible to identify a country-wide teacher orientation towards providing intellectual unsafe and dignity safe environments for taking academic risks and error-handling. However, even when limited in number, cross-cultural comparative studies may still provide a useful contrast to help us critically examine practices and values, highlighting assumptions (Crossley and Watson, 2003) which we review from new

vantage points. The 'otherness' we encounter stimulates deeper questioning about our own positioning and choices, as well as providing new avenues for consideration, leading to deeper self-questioning and reflection (Stigler and Perry, 1988). The cross-national error climate literature was particularly useful in increasing criticality during analysis, providing a strong reminder of the situatedness of pedagogic practices and my need to seek and uncover the contexts that unlock understanding.

The first two sections of this chapter have considered teachers' error handling practices and how these direct and shape pupils' responses to errors and the overall error climate in which pupils evaluate errors as valuable for learning. Drawing from cross-national literature, I have shown the importance of viewing the error culture within its cultural framework. The final section in this chapter aims to draw threads together from across the three literature chapters, in considering how pupils learn from errors.

4.4   Learning from errors

Learning from errors may be defined as having several components (Tulis et al., 2016): the detection of a discrepancy between the desired situation and the present outcome, an emotional response to the unexpected outcome, cognitive appraisals of the situation, and subsequent motivational and self-regulatory processes that initiate behaviours. However, there are no guarantees that learning from errors will result[113], with both situational (Keith and Frese, 2008; Horvath *et al.*, 2021) and individual characteristics interacting in a complex manner to moderate outcomes (Boekaerts and Corno, 2005). As might be assumed with a process that has a complex, multi-dimensional structure, research lies scattered over various fields. For example, whilst the error climate has received recent attention[114], this has often been treated separately from motivational processes, (Tulis, Steuer and Dresel, 2016). Each multiple theoretical framing provides a useful lens for examining the productive use of errors and applied to the classroom,

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[113] Gartmeier *et al.*, 2008; Rausch, Seifried and Harteis, 2017
[114] van Dyck et al., 2005; Ingram, Pitt and Baldry, 2015

they may each be thought of as contributing one piece of the puzzle. With such fragmentation in the literature, it is unsurprising that systematic reviews that draw together insights from different fields and frameworks are lacking. A few overviews exist within different contexts (e.g., Dahlin, Chuang and Roulet, 2018, writing within the context of organisational culture; see also Elliot and Dweck, 2005; Metcalfe, 2017), but these are insufficiently broad enough to capture the complexity of learning after soft failure in a school context. Currently, only one model, (Tulis, Steuer and Dresel, 2016) 'Model of individual Processes' has been proposed in the literature to account for learning from errors at school.

Learning from errors: Tulis, Steuer and Dresel's (2016) model of individual processes

Any framework seeking to understand how learning from errors occurs, needs to account for the complexity of the endeavour, which involves the interaction between emotional, motivational, cognitive, and behavioural processes. The individual processes in Tulis' et al.'s (2016) model fall into three broad areas: individual traits and differences (e.g., self-concept of ability, goal orientations, interest, and prior knowledge); sequenced processes (such as self-regulation[115], affective processing, Boekaerts, 2010), metacognition and other cognitive activities etc., and situational contexts (such as the task, the climate). A broad alignment between Tulis, Steuer and Dresel's model and bio-ecological systems theory, can be found in the interactions between 'person' and 'context', although Tulis and colleagues do not use such terminology.

Motivational processes are seen as a pre-requisite for learning from errors in Tulis and colleagues' model (2016). The possibility that an error is ignored by an individual exists where there is insufficient motivation, arising from the negotiation of bio-ecological processes, to initiate the use of cognitive resources (e.g., metacognitive processes) required needed for error analysis, correction, and future self-regulation (Dresel, Tulis and Steuer, 2015). In turn, Dresel and colleagues (2015) view emotions and motivation

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[115] Bandura, 1977, 1994; Baumeister, Heatherton and Tice, 1994; Bandura et al., 2001; Baumeister and Vohs, 2007

as enmeshed (see also, Meyer and Turner, 2006; D'Mello and Graesser, 2010). They argue that the emotional reaction to the discrepancy in outcome after an error serves three functions. Firstly, the reaction provides sufficient impetus for motivational considerations to be made by an individual. Secondly, emotional states act as a barometer that monitors the processes post error detection. Thirdly, emotions serve a facilitatory role in the activation of learning behaviours, such as self-regulation, and learning strategies (D'Mello and Graesser, 2010). For example, to restore cognitive equilibrium after confusion, learners are often induced to make more effort to resolve an impasse (D'Mello and Graesser, 2012). The detection of an error by an individual, thereby provides a catalyst for the emotional and motivational changes in an individual. It is these changes in stage that initiate the emotional and motivational self-regulation processes that are necessary to produce an adaptive response to the error.

An initial appraisal of the situation occurs on the detection of an error; the relevance and significance of the error for the learner is considered, the results of which are emotionally charged (Tulis, Steuer and Dresel, 2016). For example, where the task or the perceived learning is not valued, or the error a minor slip, the error may not be emotionally salient for the learner. However, where the learner perceives value in the learning, a primary emotional reaction to the error detection may arise (e.g., surprise, interest, confusion, puzzlement, embarrassment, frustration). This affective reaction is dependent on additional factors, such as confidence, prior knowledge, and ability. Tulis and colleagues (2016) provide the example of the low achieving student who may experience frustration, compared to the high-achieving, confident student, who may be surprised to detect an error. In turn, these emotional reactions spark secondary appraisals to the error in terms of the learner's self-efficacy (Bandura, 1977), resources, or controllability of the situation. This secondary appraisal acts as a modifier to the initial emotion. For example, the learner who initially felt frustrated at the error may reflect that they are not able to succeed in remedying the error. The effect is that the emotional response is intensified, and frustration may give way to discouragement and defeat. However, the confident, high-achieving student, on appraising their cognitive resources may become galvanised into finding a solution to the error, with increased feelings of resolve and absorption. These feelings trigger further self and task appraisals,

such as attributions, as the learner seeks a causal explanation for the event (Kelley, 1967; Weiner, 1986). Further emotional reactions to the learners' own causal evaluations may occur, modifying or intensifying the original emotion felt. For example, the low achieving, discouraged student, on attributing the error to his own lack of ability, may become despondent. Thus, a causal loop is established where appraisals and emotions mutually impact on each other. The sum of appraisal outcomes and affect leads to changes in motivation and lead to the initiation of self-regulation processes with respect to the error. Tulis, Steuer and Dresel (2016), draw upon the literature on stress and coping[116] to explain how emotional and motivational self-regulation strategies are selected by the learner. They assume that the self-regulation processes that are required to keep on task and deal with the error in an adaptive fashion, are triggered by their affective responses to the situation. Positive or negative emotional reactions direct learners to either the 'wellbeing' (leading to ego-protection strategies, such as reduced effort) or 'mastery' pathways (the selection of appropriate strategies to master the task; (see Boekaerts and Corno, 2005). Should the learner not be successful in regulating negative emotions, it is unlikely that subsequent learning processes will be employed (such as effort, analysis, and the application of the strategies that the learner has in their existing cognitive and metacognitive toolkit) that will foster continued motivation and enable learning from errors. The selection of appropriate strategies is therefore dependent upon the affective state of the learner, which impacts upon motivation. Tulis et al.'s model allows for metacognitive processes and appropriate cognitive strategies only where emotional self-regulation occurs, although the model falls short of identifying which self-regulatory strategies are appropriate within an error situation. Where appropriate cognitive and metacognitive strategies are employed, progress can be made towards moving beyond the error, with structural changes in knowledge and skills.

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[116] E.g., Boekaerts and Corno, 2005; Schwinger, Steinmayr and Spinath, 2009

Chapter conclusion

This chapter has considered the impact of the classroom social environment, reviewing the error climate literature in relation to three aspects: teachers' error handing and classroom goals upon pupils' perceptions of, and responses to, soft failure; the international literature on the error climate; and drawing together the sequenced processes (e.g., metacognitive, affective and regulatory) involved in learning from errors.

The classroom climate is assumed to be under continual construction by those perceiving it, with an interplay between classroom practices, interactions, and error reactions that leads to a bidirectionality between the impact of the learner, teacher, and environment. In recognition of the importance of contextually situating classroom practices and responses, I have reviewed the error climate literature in line with national values and education systems, and discussions of safe classroom spaces. In terms of the UK error climate research, English girls' high fear of failure in comparison to other individualistic countries (such as Germany and Switzerland) is striking. When seen against the lack of research on teachers' error handling in English classrooms, a worrying gap emerges in our understanding of the error climate, its roots and consequences for learning and pupil wellbeing. This study aims to make a small contribution to plugging this gap.

Chapter Five – Methodological Considerations

5.1 Introduction

In this chapter I set out my rationale for this study, which draws upon an instrumental, multiple, case study approach, tracing the roots of its inception that have sensitised me to the direction that I have taken. The first half of the chapter concerns my initial positioning, philosophical position, and corresponding methodological decisions. This journey includes my search for methodological congruence between the competing, messy, epistemological positions of the psychology and sociology literatures. The development of my methodological choices continues with the compromises of my ideals through circumstance, dictating my relationship with the research environment and shaping the research design. The second half of this chapter begins by examining my strategic case study choices and main methods, focusing on interviews and observations. I discuss my choices for transcription and representation of observation and interviews, and my coding strategies. Finally, I discuss my ethical considerations and the transferability of research to other contexts.

5.2 The conception of the study and methodological positioning

In this thesis, I explore pupils' and teachers' perceptions of soft failure in Y5/6 (Burcastle Primary School) and Y7 (Anbury Grammar School) within a selective education context. Research question formation has been described by (Moustakas, 1990 p.27) as the discovery of a "passionate concern that calls out to the researcher". Within this research, this is found in the issue of academic buoyancy (Martin and Marsh, 2008b) within a high-stakes environment; an issue which has punctuated both my personal and professional experiences. During my career as a teacher, I saw how pupil difficulties in dealing with 'soft failure' led to academic stagnation. This was most apparent when I taught overseas at a one-day-a-week school for 'gifted children', and when in charge of

the 'gifted education' programme within an all-through girls' school in New Zealand. In these settings, some high-achieving pupils seemed preoccupied by being correct at all costs, their perfectionism leading to paralysis. In many of these cases, an underlying fear of failure constricted opportunities to be heard, to participate and to make progress.

Later, as a teacher educator, my perspective changed from viewing intellectually risk-adverse pupils as self-saboteurs, to perceiving teachers as complicit in developing a climate where it was only safe in name to take academic risks. 'Helicopter teachers' hovered around those engaged in impasses, swooping in to prematurely solve problems and eliminate struggle. Children, with teacher-corrected strategies completed more work, but stripped of agency, grew in dependency upon the teacher. In the desire to erase pupils' impasses, a tension emerged between teachers' pedagogic awareness of providing challenging work, and other practices (discussed in Chapter Two) that failed to recognise its implications.

The educational backdrop provided clues to the emergence of this tension. A gradual governmental shift towards school accountability for pupil performance in England increased from the 1980s onwards (Goldstein, 2001; Gilbert, 2012). The steady rise of accountability ran parallel with a culture of performativity (Ball, 2003) and surveillance (Perryman, 2006). Teachers were 'constantly recorded' and 'continually accountable' (Ball, 2003 p.220) with changes in policy impacting upon pedagogical practice (Alexander, 2001). Therefore, when the duration of Ofsted lesson observations in a 'light touch' inspection shortened to as little as 20 minutes during the Noughties (NUT, 2010), it was not a surprise that the dangerous mix of performativity and the limited time to demonstrate practice, led to a pervading myth amongst teachers that observable pupil progress must be demonstrated in 20 minutes (Didau, 2014). Pupil activities were often truncated with an obligatory assessment of progress undertaken within that timeslot. It is no wonder that teachers seemed unable to let pupils engage in the liminal space of the impasse!

The combined effect of these factors upon children's academic buoyancy left me wanting to understand more. However, it is important to also acknowledge a personal

dimension to my interest: I have also been involved in this unfolding narrative since my own 11-plus exam that led me to a single-sex grammar school, and recently, that of my children. Issues of perfectionism and pressure, apparent then, are echoed back to me through my children's school experiences. This resulted in a heightened consciousness to let participant voices speak under their own terms and not overlay them with my own experiences.

Clarifying philosophical approaches and perspectives at the beginning of a study, such as the researcher's ontological and epistemological assumptions, enables a researcher to make theoretical and design choices that are internally consistent: research choices flow from our own perspectives and worldviews (Crotty, 1998). My positioning begins with my pre-existing epistemological commitments to interpretivism. The social-constructivist underpinning of the study reveals my assumption that knowledge is constructed through interaction with others; meanings are made, rather than discovered. The inevitability of subjectivity ingrained in this research is thus accepted and the inseparability of the research and researcher is acknowledged (Hertz, 1997; Charmaz, 2006), leading to implications for the analysis and understanding of my data. However, whilst embracing the joint construction of the research between participants and researcher (McCabe and Holmes, 2009), the situated nature of knowledge demands the researcher to reveal her positioning in order that the structure of knowledge might be better known. Exposing the researcher's steering influences and positionality, is essential to provide increase research rigour, credibility[117], and ensure the research is ethical (Sultana, 2015). A meaningful interpretation of the research by a reader (Moon and Blackman, 2014) is not possible without the researcher's assumptions made explicit. For example, the reading of my data analysis and the understanding of how I formed judgements on the efficacy of error-handling in the classroom is only possible by understanding my pedagogic assumptions that stem from my epistemological position. In taking a social-constructivist position on learning, I naturally see the strategies of scaffolding and handover (Wood, Bruner and Ross, 1976) as necessary in helping

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[117] Jootun, McGhee and Marland, 2009; McCabe and Holmes, 2009

learners make progress, nudging pupils towards independence at the appropriate time (Bruner, 1978).

The process of laying bare my positioning also enables the decision-making processes to become more transparent to the researcher. Reflexivity, which exposes assumptions and how the researcher positions herself in relation to the field of research, is therefore an essential qualitative strategy (Bradbury-Jones, 2007; Houghton *et al.*, 2013) to generate researcher awareness of biases, and one I have used throughout this study.

5.3   Epistemological tensions

Coherence in methodological orientation goes beyond personal positioning. Settling upon an exclusive and harmonious epistemological direction to guide the study also involves a congruence with pre-existing theoretical frameworks. The phenomenon of soft failure straddles several disciplinary orientations. Extant literature largely centres around institutional case studies within high-stakes industries where errors are experienced (e.g., aviation, nuclear and medicinal industries). Here, the *error climate* becomes salient; measurable, quantifiable, and positivistic in approach. The paradigmatic assumptions underpinning this literature base strikes a discord with my existing philosophical commitments. In drawing upon the literature that underpins the theoretical approach to the thesis, an epistemological strain can be felt where different disciplines are aligned in different theoretical directions (Spelt *et al.*, 2009). Here, different inherent assumptions about the acquisition and validation of knowledge might be presumed, and the corresponding methods to do so which are judged as legitimate.

The limited research into the error climate of the classroom has been conducted within educational and social psychology, and is coloured with positivistic overtones, where the focus lies upon the identification and unpacking of the processes by which the effects of the social phenomena are felt by the individual. As we have seen in earlier chapters, research into academic buoyancy, mindset and personality are centred on the

participants' mental world. There are not only conflicts within the ontology and epistemologies underpinning these studies, but also in the theoretical direction. In focusing on uncovering the mechanisms of behaviour and belief, there is a risk that psychologists can 'overlook' the macro structures that impact the individual (Thoits, 1995 p.124) and develop a 'micro-myopia' (Vaara and Whittington, 2012, p301). This study aims to examine the classroom environment when mistakes are made, and the impact upon individual pupils' perceptions, beliefs, and actions. In doing so, taking a psychological perspective in identifying the internal mechanisms that affect belief and behaviour is important. However, drawing on my theoretical framework in Chapter One, the research reaches further to recognise the impact of wider societal structures upon the individual, including considerations of identity and subjective experiences, the role of gender societal expectations, and power relations. These aspects lean on sociological perspectives, as does the socio-constructivist underpinning of this research.

In the process of failing to erase epistemological tensions in the neat manner I desired, I gradually became aware that it may be impossible to prevent paradigmatic tensions between the literatures, but in embracing the methodological messiness insight may still be found. Interdisciplinarity recognises the possibilities for epistemological pluralism to contribute to a broader understanding of a problem where issues are too complex to be addressed from a singular perspective (Hübenthal and Doyle, 1994; Newell, 2013). This may lead to new cognitive understandings which would not be possible if disciplinary and epistemological perspectives were constrained (Miller et al., 2008). Knowledge, rather than bound within one discipline, is seen to occupy liminal spaces where the dialogue between different perspectives can give rise to new understandings (Akkerman and Bakker, 2011). Constellations of knowledge, multiple and overlapping, can contribute to fresh perspectives in its various reconfigurations. In this way, interdisciplinarity can be seen to be a transformative tool, rather than one that simply adds information. The resulting knowledge can be thought of as provisional, contextual, and relative, characterised not as a linear structure, such as the trunk of the tree with offshoots and branches, but rather "a wildly growing rhizome without a central root" (Klein, 2004 p.3).

Psychology and sociology, two key disciplines which this study draws from, are recognised to have strong interdisciplinary threads from their beginnings[118] (Brossard and Sallée, 2020). So, it is argued that these tensions emerging from their differing epistemological roots[119] need less of a reconciliation within interdisciplinary work, but a patch for the missing links to enable "significant conversion work between disciplines" to occur (Brossard and Sallée, 2020, p.9). An uncritical pluralism that ignores epistemological and disciplinary roots must be avoided. As a first step in facilitating 'conversion' between disciplines, I have ensured that the philosophical perspectives within each discipline are identified (Moon and Blackman, 2014). In developing this philosophical understanding, attention also needs to be given to the "historicization of the research" (Kincheloe, 2001). It is by unravelling the situated threads of disciplinary heritage, that the reasoning behind the constituted elements of the research can be laid bare and thus better understood. Disciplines can begin to talk to one other with understanding once we first understand the language that they are using.

5.3   Disciplinary language and my emerging methodological orientation

During my literature review, I found that paying attention to the disciplinary language was an important step in clarifying my methodological orientation. Disciplinary terms are not confined to simple definitions. Rather, they stretch into the past, steeped in a concealed history that has shaped their meaning through context, debate and usage. The choice of terminology is therefore a situated act. Imprecision in the selection of terms can skew meaning, leading to misrepresentation and misunderstanding. However, in dutifully attending to the disciplinary underpinnings of terms in the service of understanding and transparency, another benefit was produced. The process provided the opportunity to unravel some of the knotted, conflicting assumptions inherent in my methodological approach, leading to sounder methodological choices. The importance of disciplinary terminology in this study was highlighted in my use of

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[118] E.g. social psychology (Durkheim, 2005; Weber, 1946) or social interactionism (Cooley, 1902)
[119] Psychology- empiricism and sociology-social constructivism.

the term 'classroom culture' or 'classroom climate'. The terms 'climate' and 'culture' are conflated in much organisational and educational literature (Hoy, 1990), particularly in reference to the US education system. However, there is an epistemological tension arising from the clash of the values, assumptions and methods that lie behind the choice of language. Whilst there is no precise agreement of definition of 'classroom culture' and 'classroom climate', a consensus of their meanings can be identified, rooted in the respective sociological[120], anthropological[121] and psychological[122] educational research outputs. Classroom culture, as used in sociological research, refers to the underlying webs (Geertz, 1973) of shared beliefs, values, unwritten rules, and norms that pertain to the classroom or school, that have been established over time (Deal and Peterson, 1998). Classroom culture is deeply rooted and, unlike the classroom climate, outlives changing circumstances and events. The density and complexity of a culture means that it is unlikely to be successfully understood through simple measurement tools. Values and norms are subconsciously transmitted (Stoll, 2000) and are unlikely to rise to the surface of an interview for easy extraction. Although the outward manifestations of culture are visible through behaviours, cultural artefacts and symbolic actions, their meanings lie hidden to outsiders (Holfstede, 1991), and possibly insiders. Therefore, to access cultural understanding, method choices will prioritise those which result in description that has sufficient depth for the necessary interpretation and analysis. Qualitative methodologies, such as ethnography, may access a classroom culture more readily than the use of other methods and methodologies.

Whereas the classroom culture has an enduring quality and a history that may explain how the culture has been established, the classroom climate is more impressionistic, capturing the current collective 'feel' and 'mood' of a classroom on a day-to-day basis (Ehrhart, Schneider and Macey, 2013). The classroom climate, bound by local, spatio-temporal episodes, and constituted by experiences, is expressed as perceptions. In line with my aims to capture teacher and pupils' perceptions of soft failure, I have used the term 'climate'. However, in recognition that classroom behaviours and actions that lead

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[120] E.g.,von Glaserfeld, 1981; Bauersfeld, 1992; Zulfiquar, 2015
[121] E.g., Trueba, Guthrie and Au, 1981; Barnes, 1992; Putney and Frank, 2008
[122] Mariani, 1997; Bradley et al., 2018

to the perceptions of the error climate, emerge from the embedded values within the wider school culture, I also refer to classroom culture. To capture the impressionistic quality of the error climate, pupils and teacher perceptions of soft failure were required. Traditionally, surveys are the method of choice in the literature bodies for understanding social climates. However, in thinking about the complexity and holistic nature of this case study, and a need to also understand the classroom culture, I drew closer to an ethnographic underpinning in my research design where the meanings and practices of a culture are prioritised (O'Connell Davidson and Layder, 1994). However, this research cannot claim to be ethnographic. As an educator turned researcher, the classroom setting is a recognisable world (Stenhouse, 1988): unfamiliarity with the setting is considered a marker of ethnography (Hammersley, 1992). Moreover, a sustained immersion in the field is a key identifier of ethnographic study (Wolcott, 2005) and contextual factors were to limit my sustained access to the classroom.

5.4   Challenges and compromises in methodological decision making

My choice of research aim – to examine experiences and perceptions of soft failure- has been instrumental in determining both my methodological focus and my situation in relation to the research environment. Initially, I courted the possibility of conducting an ethnographic case study. This would support the development of participant-researcher relationships that seemed essential for facilitating authentic responses in relation to soft failure experiences. An ethnographic study also harmonised with my planned method of observation analysis: socio-cultural discourse analysis, where linguistic changes over time are tracked. Lemke asks: "How do moments add up to *lives*? How do our shared moments together add up to *social life*, as such?" (Lemke, 2000 p.273). These questions prompted a recognition of events as inseparable from their historical foundations and appreciation of the dynamic, multiple timescales that link moment to moment. The observed shoots of an event has roots that may penetrate through incalculable timescales: one classroom utterance may have its origin in many conversations, commands, observances, semiotic artefacts, activities, habits, and values.

Appreciating the implications of heterochrony[123], I wished to examine the classroom over an extended period to better understand the factors that contribute to the development of classroom culture and the error climate in the classroom. However, in initially approaching schools as a professional stranger interested in fieldwork, schools were reluctant to entertain an extended visit. Whilst the schools welcomed both myself and the nature of the research, concerns were raised over the impact I would have on teacher's workload, for example, at Burcastle Primary, where a team leader wished to 'protect' those in her team. Pragmatics won over principle: I compromised with half a term collecting data with a temporally compact, intensive research schedule that involved lesson observations, interviews, school documentation and the observation of sport's day and an activity camp[124] at Anbury Grammar (for a table of fieldwork and generated data, see appendix D). However, by seeing 'time' in the field in terms of *frequency*, rather than the *length* of time over the period of fieldwork, drawing upon a contemporary ethnographic framework to support the case study was still possible (Jeffrey and Troman, 2004). Whilst I lost the ability to track the minute changes that occur over long timescales, the frequency in which I was present with participants, built a familiarity which preserved the 'naturally occurring' episodes (Silverman, 2006), as far as possible, mitigating some possible problems with the authenticity of responses.

Not having an existing relationship with the schools, I entered positioned as an 'outsider'[125]. However, my relationship to the research environment could not be characterised this way. My professional experience as a teacher-educator and prior to this, schoolteacher, has sensitised me to pupil and teacher experience. The school environment is familiar, and the interpretation of teacher and pupil classroom responses is a necessary skill in my current position. Therefore, I was situated as a 'hybrid' (Reed and Procter, 1995) researcher. Despite not gaining the advantages of the 'insider', for example, trusting relationships (Bonner and Tolhurst, 2002) or access to inside knowledge (Merton, 1972), I could circumnavigate issues that 'insiders' typically grapple with, for example, biased reporting (Simmel, 1950) and confidentiality concerns

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[123] The production of short-term effects by longer-term processes (Lemke, 2000).

[124] I have decided not to discuss the camp and sports day in this thesis due to limited space.

[125] Someone who is not a member of the group being researched (Adler and Adler, 1994).

(Smyth and Holian, 2008). A hybrid situation provides access to nuanced participant understanding, whilst simultaneously retaining some distance. However, being a 'hybrid' poses its own concerns. Jootun, and colleagues, (2009 p.6) caution the hybrid researcher against making "assumptions that are dangerous to validity". My practiced skills as teacher-educator may lead to a false confidence in understanding participant meaning within a new context. If intuition is left unchecked and assumptions lay masked, then subconscious bias may affect the results.

5.5   Case Study Design

The selection of a purposive, multiple, case study strategy (Stake, 1995) arose from the importance of the study's selective education context which suggested a need for a holistic study of the classroom and school environment. The phenomenon of pupil and teacher reactions to impasses and errors is fused with the peculiarities of the local education system, which still selects 25% of children for grammar school admission via the 11+ test, taken in the first week of Y6[126]. My assumption was that the influence of the selective system would inevitably seep into both teachers' and pupils' conceptions of success, failure, and ability. The 11+ context of the study, where the boundaries where the phenomenon intersects with the context would not be sharply defined (Gillham, 2000; Yin, 2014) suggesting an instrumental case study was an appropriate research design, where the case plays "a supporting role" (Stake, 2005 p.445) to understanding the issue.

The selective educational context led to the selection of Year 5 (Y5) and Year 7 (Y7) classes: the entry and exit points of pupils' transition through to selective secondary education. Whilst Y7s are the recent products of the selective school system, many Y5s are busy in pre-production for the 11+. However, it is essential within case study design, to be clear *how* the subjects are a suitable exemplification of the phenomenon. There will be examples of soft failure in all Y5 and Y7 classes within the LEA, so the

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[126] https://www.kent.gov.uk/__data/assets/pdf_file/0009/58680/Grammar-Schools-and-Social-Mobility-June-2016.pdf

distinguishing features of the chosen subjects for enquiry that will exemplify the phenomena of error-making and impasse-reactions need to be justified in the following section.

The strategic selection of cases

The small-scale, holistic, and multifaceted nature of case study renders quantitative sampling strategies, such as statistical sampling, inadequate for case selection. Therefore, a purposive choice of case therefore becomes more appropriate (Stake, 1995; Palinkas *et al.*, 2015). The schools selected for this research, Burcastle Primary School, a state community school for children aged between 4 and 11, and Anbury Grammar, an 11-18 girls' selective entry school (both pseudonyms) share a broad middle-class social demographic and local demand for selective education.

Although the phenomenon of soft failure is likely to occur in every classroom and in every school, the cases chosen are more likely to exemplify the phenomenon in different ways. Anbury School provides a unique angle on the phenomenon. It has been chosen specifically for the opportunity to reflect on the themes of intellectual courage and resilience of high-achieving girls at a point of flux in their school career, where the impact of the school system through which they have transitioned may begin to be realised implicitly or explicitly. While the characteristics that it shares with other schools outweigh the differences, the intake of very high-achieving girls sets it apart from non-selective schools, and even grammar schools themselves, indicating that it might be an outlier case (Lijphart, 1971 p.692). The association between high-achieving girls and maladaptive perfectionism (Cross, 2004; Mendaglio, 2007; Reeves, 2014), particularly during the transition between primary and secondary education (Kline and Short, 1991; Schuler, 1997) provides a ripe setting for intellectual resilience to be examined. In selecting Anbury Grammar, a magnifying glass is held to a sector of the school population that is likely to experience the phenomenon of soft failure in a pronounced and widespread manner. Therefore, the opportunity to view responses to impasses and errors from this group is enhanced.

Based on its strengths as a successful comprehensive school, Burcastle Primary, may qualify as a critical case (Flyvbjerg, 2006 p.230), having 'strategic importance' for the phenomenon. There is a strong institutional awareness of the need to develop resilient learners, and this is reflected in classroom approaches. The school focus on resilience provides a strong starting point for exploring adaptive error handing in the classroom.

A holistic understanding of these subjects is required to fully capture the inherent complexity of the system[127]. Even though I chose to conduct an instrumental case study, where the primary interest lies in examining a particular phenomenon (Stake, 2005), this is in relation to some*thing* with its own points of interest. For this, multiple sources of evidence are recommended (Gillham, 2000; Stake, 2006). Therefore, to shed light on the case, I utilised two main methods, interviews (25 pupil and 7 teacher interviews), and observations (10 at Anbury Grammar and 5 at Burcastle Primary)[128], supported with school document checks. Although the use of bio-ecological theory may suggest that a parental perspective may be fruitful in understanding the impact of proximal processes upon the child, this may risk diluting the focus on the case. Therefore, I have chosen to limit the home microsystem to pupils' own perspectives.

5.8   My interview approach

The attraction of using interviews is summed up by Kvale's rhetorical question to the qualitative researcher: "If you want to know how people understand their world and their life, why not to talk to them?"(1996 p.1). The focus on contextual understanding in case study to illuminate a complex and multi-faceted phenomenon indicates that interviews are a suitable method. The sensitive nature of this phenomenon led me to choose to conduct individual interviews over focus groups. Admission of errors and mistakes may place participants in a vulnerable situation, which will be further considered in the ethics section of this chapter. Honest disclosures were less likely to

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[127] Adelman, Kemmis and Jenkins, 1980; Merriam, 1998
[128] See appendix D for table of collected data

occur in a group setting, particularly for Y7 pupils; early adolescence marks a peak in susceptibility to peer pressure (Monahan, Steinberg and Cauffman, 2009).

While we are all expert conversationalists in our everyday world, the interview belies simplicity. Effective interviewing involves the consideration of a multiplicity of factors (Menter *et al.*, 2011; Mears, 2017). Although there is no right way to conduct an interview (Kvale, 1996; Robson, 2011), there many wrong turns that may bias and influence the resulting data, from insufficient skill in asking open questions (Robson, 2011), a lack of thorough preparation (Coe, 2017), through to interpersonal dimensions, such as a responsiveness interviewee's various needs (Gubrium and Holstein, 2001), and failing to account for power differentials (Menter *et al.*, 2011; Coe, 2017). The importance of the quality of rapport in the interview relationship is highlighted by Jorgensen (1992), although this can be challenging where rapid relationships are required to be fostered in response to strict interview time limits. Here I felt the jar between theoretical ideals and the messier world of real educational research. Providing an appropriate environment conducive to the sharing of personal experiences (DiCicco-Bloom and Crabtree, 2006) proved problematic. To foster a trusting and comfortable environment, teachers were given choice of interview time and location. However, practical considerations led to a compromise that prioritised teacher convenience over ambience. Teachers at Burcastle Primary opted for after school interviews in their classroom. The reality was far from ideal and an uninterrupted space could not be secured. Trains of thought were punctuated by pupils retrieving forgotten items, and one interview ground to a holt, with the noise from an industrial vacuum cleaner preventing the possibility of successful conversation. Time-pressed teachers from Anbury Grammar also opted to conduct the interviews at school, squeezed into break times or a free period. Pupil interviews fared little better: Anbury Grammar pupils were given a time slot to attend the interview in a school 'conference room' - hardly a setting to place a pupil at ease. Burcastle Primary pupils were either called into a spare classroom, formally seated behind a desk, or sat rather more comfortably on a sofa in a corridor, but which lacked privacy. Aghast, I learned that several pupils were removed from their treat viewing of a 'Horrible Histories' episode for their interview. I attempted to make up for the unfavourable environments through introductions, attentiveness, careful

listening (Menter et al., 2011), and my positive body language and tone (Robson, 2011). Although all but one pupil answered fluently and appeared at ease, it is not known how these external factors affected the establishment of rapport and trust, and therefore the willingness of the respondent to answer openly (Robson, 2011).

An existing sensitivity to concepts and themes arising from the observations, pre-interview discussions with senior leaders and the literature review led to a semi-structured interview approach. Planned questions ranged from the phenomenologically inspired, "talk me through what happens when you get stuck on a problem", through to those that were aimed at exploring contextual responses. In posing the question, "How do you feel about taking tests?", the space was created for pupils to freely respond, but underpinning the question choice was a hypothesis that the 11+ may be salient for pupils embedded within a wholly selective education system.

Lesson observations took place prior to the interviews as an inductive tool to gain familiarity with the context and pertinent issues. The sequencing of interviews occurring post-observation allowed further shaping of questions within the interview-schedule. For example, observational patterns indicated pupils' wavering commitment to answering questions in a whole class setting, prompting questions of whether pupils put up their hand when they were not completely sure of the answer. Observations served both an exploratory and hypothesis testing function, enabling me to consider whether contradictions were apparent between practice and their espoused theories. However, it was also important that there was flexibility to depart from the interview-schedule (Menter et al., 2011). This pliancy facilitated a fruitful interview interaction, on a few occasions more akin to a discussion, where I could clarify and deepen my understanding. I also took opportunity to check the consistency of answers, as a part of my understanding of validity in qualitative interviews as a form of "quality control" (Kvale, 1996, p.236) or reliability (Coe et al., 2017). Trustworthiness of the responses is an important part of ascertaining qualitative validity, although this does not imply that the interviewee will give an unmediated expression of opinion. The interaction between the interviewer and interviewee is the site of knowledge construction, rather than knowledge residing within the interviewee (Kvale, 1996).

The interactive construction of knowledge implies an equality of relationship between interviewer and interviewee. However, in line with most qualitative interviews, this was not the case, and I held the dominant role in determining the agenda and turn-taking (Kvale, 1996). Creating the ideal environment where participants felt sufficiently at ease to lessen the power dynamics proved a matter of luck and circumstance. Where a more conversational approach occurred (in teacher interviews), a democratic direction emerged, allowing participants the space to introduce their own contextual concerns, enabling new angles to be explored that I had not originally envisaged. A more equitable space additionally gave rise to two subsidiary benefits. Firstly, a climate of trust developed where participants seemed freer to speak their mind, thus reducing the possibility of bias. Moving towards a power symmetry also provided further justification for the interview method as a legitimate and important source of socially constructed knowledge; I regarded participants as experts in their own social reality and context (Gubrium and Holstein, 2002).

5.9   Conducting observations

Observing classroom activity, which permits direct access to the phenomenon (Merriam and Tisdell, 2009), was a clear method choice. Whilst self-reporting in interviews can lead to a tendency to exaggerate prosocial behaviour and responding with behavioural intentions, rather than actual behaviours (Kormos and Gifford, 2014), observation places the researcher at the centre of the action (Robson, 2011), allowing the messiness of responses that may be filtered out in other methods, to be directly sensed within a naturalistic setting. The natural context provides detail which otherwise may be missed. Moreover, processes hidden to a participant may be revealed in an observation (Furlong and Mark, 2010), leading to a richer and more holistic understanding of the phenomenon (Menter *et al.*, 2011). This, in turn, increases the authenticity of the research (DeWalt and DeWalt, 2002).

However, human physical limitations may be considered a drawback of utilising

observations. Finite working memory capacity (Cowan, 2014) creates a necessity for recording information during fieldwork. By waiting until the event has finished, we run the risk of memory decay (Mentor et al., 2011; Robson, 2011); selective memory processes may lead to a skewed version of events, or overlooking pertinent data[129]. For the researcher-as-research-instrument, the human capacity to retain focus during an observation is a limitation. Humans are not primed for continuous attention. Instead, periods of inattention can be expected (Kawulich, 2005). This is compounded by the intensity of the classroom experience. The pace of unfolding events and complex interactions can prove challenging for the classroom observer (Jordan and Henderson, 2005) and processing 'high load' tasks can result in inattention blindness, where we respond selectively to extraneous visual stimuli outside our main focus (Lavie and de Fockert, 2003). The classroom may be considered a complex ecological system (Larsen, Butler and Roediger, 2013), with each actor pre-located personally, emotionally, socially, and historically, as they interact with each other and the physical, temporal, and institutional environments. This complexity gives rise to the particular character of the classroom, which can be thought of as a "swiftly flowing river" (Lewis and Tsuchida, 1998).

Therefore, responding to the flux that characterises classroom events and learning poses significant challenges for the observer. In accepting that the observer will be blind to much that occurs in the classroom, actions may be taken to diminish the effects of data overload: the choice is either to reduce the data to be gathered or increase the viewing opportunities. As this is an instrumental case study, focusing the observation was a necessity. I was primarily interested in examining impasses, mistakes and errors and their handing. However, I was concerned that blinkered viewing used to provide direction might also lead to the premature closure of other possibilities and routes. Stake (1995) advises that the researcher must also be alert to influential events and conditions that lurk in the background. Therefore, I wanted to observe classroom events as holistically and openly as possible to ensure I could respond with attentiveness to those conditions that might influence pupils' reactions to their mistakes and impasses.

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[129] E.g., Cohen, Manion and Morrison, 2011; Breakwell, Smith and Wright, 2012.

This preserved the inductive character of the study. Therefore, I chose not to structure my observations more than was necessary, leaving the sifting process largely to the data processing and analysis.

Choosing to video record observations

To mitigate the drawbacks of observation, I decided to video record the observations. Video is a recommended method to reduce the challenges for data gathering in complex, live, social situations, particularly where concurrent conditions and events occur (Asan and Montague, 2014). Videoed observations would provide me with a permanent record of information. This would allow me to "revisit the field" (Gylfe et al., 2016; LeBaron et al., 2018) repeatedly and not rely on my memory of events. The potential for repeated viewing (Christianson, 2018) afforded by video facilitated the examination of multiple threads of interest and permit reiterative analysis of minutiae. Although this became onerous when it comes to analysis, it enabled a more comprehensive, albeit certainly not exhaustive, study of the phenomenon. Moreover, the features of using this technology allowed me to revisit the data in different ways. Rather than the observer's attention be limited by the flow of temporal events, video permits the observer to isolate events, enabling comparisons and identification of patterns.

Despite the advantages afforded by video, data analysis, inferences, and conclusions still depend upon what data is gathered (Hall, 2001). Therefore, consideration was given to the number, type and angle of cameras used. Like human gaze, video can but represent a particular viewpoint. However, the range of perspectives can be increased through multiple points of viewing. It is argued that additional cameras may better represent the complexity inherent in educational settings (Derry, 2007). Although the scopic field (Merleau-Ponty, 1948) is not encompassed by such measures, the differing angles allow for different perspectives and events to be represented. In line with these recommendations, and to capture as much of the of whole classroom as possible, a wide-angled action, 4K action camera was mounted on the whiteboard. This had the advantage of its minimal presence, which would hopefully reduce the distracting effect

upon pupils (O'Hara *et al.*, 2011). It was also hoped that the high definition afforded from this camera would support the fine-grained analysis of non-verbal behaviours.

The importance of this mode increased as I reflected upon my theoretical underpinning to the study. In closing the door to conducting a sociocultural discourse analysis on observations due to the duration of fieldwork, I had the opportunity to reappraise the privileged place I had given to verbal data in analysis. Whilst Mercer, (2010) argues that "language is the prime cultural tool of the classroom" (p.10), there is a multidimensional quality to the construction of the error climate[130]. Reactions to impasses, mistakes and errors are useful indicators of a positive or negative error climate, but when negative, arguably, are less likely to be expressed verbally, with shame and embarrassment hidden emotions. My field notes indicated how frustration was often silently expressed, but not invisibly, with signs of mild annoyance through to weariness etched upon faces, compared with the verbal utterances of self-congratulations upon an impasse solution. Therefore, I realised that to analyse the error climate, I needed to include both verbal and non-verbal classroom interactions. Therefore, a hand-held flip camera was additionally carried by me to follow particular 'events' (Zacks and Tversky, 2001) as they unfolded, allowing me to gain insight into the changing responses of pupils in real time and to provide a perspective on the teacher's actions. This camera allowed me to study micro-gestures through close-up shots (de Freitas, 2015): Nemirovsky et al., (2012 p.294) explain that "momentary expressions of surprise, satisfactions, wonder, frustration, appreciation, disapproval, and so on are the pivots of our interpretative work."

This supplementary angle also would prove a useful tool in comparison with the wide-angled camera for reflexivity, revealing my own priorities, decisions in the moment and analysis-in-process. 'Events' are not reified but constructed. They are actions and processes interpreted as having some significance to the observer. The 'follow' camera, relied upon my 'in-action' choices (Schon, 1984) to determine the focus. The subjectivity in making these choices needs to be accounted for, but is not an obstacle, given that selection is unavoidable and has occurred at every stage through the research process.

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[130] Steuer, Rosentritt-Brunn and Dresel, 2013; Steuer and Dresel, 2015

Video-capture, although giving the impression of a greater impartiality compared with observer who takes field notes, cannot provide an objective account. Instead, it may be better at masking selection. Even prior to analysis, the choices that a researcher makes in the field prime the unfolding of specific narratives.

5.9 Data analysis

Data analysis was informed by Charmaz's constructivist grounded theory method (Charmaz, 2006). This methodological decision was grounded in a prior commitment and paradigmatic inclination towards social constructivism. This naturally led to the corresponding belief that data is a co-construction between researcher and participant (Charmaz, 2003), leading to an interpretative rendering of participants' experience of the phenomenon. Balancing this co-production of data, is the need to keep participants' voices present in the research (Charmaz, 2001). The use of in vivo codes (emic coding), as appropriate in this research, honoured a commitment to the importance of pupil voice as important and as distinct from parental views. Listening to children poses unique challenges where significant gaps may occur between researcher and participant experiences and understanding. By focusing on direct words from children, pupil perspectives and meanings could be prioritised and captured with the vibrancy and urgency that researcher-generated words may fail to represent (Saldaña, 2015). This increases the likelihood of the impending analysis reflecting an insider view (Charmaz, 2014). For example, in coding the following interview with Y5 pupil, Esther, my choice to directly use her own words "can't shake it off", over my initial choice of code, better captures how her feelings about mistakes lingers on persistently to affect her mood:

Elicia:	*"How do you feel when you make mistakes?"*
Esther (Y5, BP):	*"Annoyed and quite upset. I can't shake it off".*

The initial code *'mistakes negatively affect mood',* is drained of colour and life, and in turn this affects the understanding of the passage. The inescapability of the sense of disquiet caused by the mistake is preserved far more effectively by allowing Esther to speak for herself through the coding. Where possible, process coding – a gerund that

captures action or behaviour – was used to expose any hidden processes in the data (Charmaz, 2002, 2012). This was particularly useful in identifying conceptual action within discussions concerning errors and challenging work (e.g., 'struggling', 'striving'), and accompanying temporal sequencing. Moving into the second phase of coding, I ensured that the codes were constructed to preserve the energy within the data to capture participants' meaning effectively. I also began distilling and reducing extraneous codes[131].

Transcribing video

Whilst audio transcriptions required careful consideration, the modes of communication and the multiple voices and actors in the video data multiplied potential issues. Decisions of what to transcribe and leave out, and how to represent multimodality changed as I became immersed in the data. Despite an overwhelming initial desire to try to capture 'everything', the first transcriptions revealed the futility of the task. Decisions about what was worth analysing proved problematic, leading to a concern to reduce the data to a manageable level (Abasi and Taylor, 2007). Given that the possible structure of an event may comprise many layers, transcription choices are essential to enable focused analysis and avoid data overload.

In assuming the existence of an error climate, video clips for transcription were selected to facilitate a focused analysis of pupils engaging with the possibility of errors or impasses. I had decided to capture a) impasses b) instances of error-making or handing, even though these activities cannot fully represent how pupils interpret error making and impasses. Events that did not fall into these categories (such as teacher modelling or instructions) were not transcribed but were gisted (Woods and Dempster, 2011) in the hope that these may provide a trigger for re-viewing the raw data in the light of the emerging thematic enquiry. However, premature selection, whilst necessary, risks precluding the analysis of potentially relevant events further down the line. The saliency of rejected events, may only come into focus as significant when seen through an

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[131] Please see Appendix J for transcript samples

appropriate lens. My nervousness about making premature conclusions about data and potentially ignoring fruitful lines of enquiry, led to time wasted on transcribing the first few transcriptions fully.

However, the decisions of *what* to transcribe were in some ways easier than questions of *how* to transcribe. Although all transcriptions are partial and representational (Ochs, 1979; Loubere, 2017), capturing both speech and non-speech modes, and ensuring that videoed 'communication' made sense once translated to paper was challenging. Dialogue between peers or teacher and pupils was often partial, with body language providing the nuance required for understanding. It was also frequently repetitive as pupils, intent on making a point, interleaved the same comment until they were acknowledged by others. Pupils did not always take conversational turns, with interruptions and overlapping speech making translation difficult. On early video scripts, using an 'overlapping dialogue' code and bracketing together sentences spoken simultaneously suggested a linearity that did not exist. Reading back some of these scripts revealed an impoverished depiction of the event, which did not capture the reality which I observed. Therefore, after reviewing the material I supplemented selected events with 'thick description' (Geertz, 1973) to bring the scene back to life. This was not without its own problems: like Mavers, (2012 p.4), I found that my attempt to capture reality resulted in loaded word choices. For example, in Chapter Seven, I described pupils 'furtive glances' once Laura (Latin teacher, AG) announced one pupil was incorrect. Through adding an adjectival partner to the word 'glances', my interpretation of their behaviour is revealed.

I experimented further with how to represent embodied communication, before designing a basic multimodal grid, with columns for simultaneous interactions. This allowed for the inclusion of gaze, gesture, actions alongside speech. I was aware that my choices in doing so would shape my analysis. A prioritisation of one mode over another is risked through the construction of the grid (Cowan, 2014). I was also conscious of the large amounts of observational data to process before analysis. This precluded more detailed methods involving timelines and video stills that might aid pattern identification in analysis (Cowan, 2014).

Once the transcriptions of events and summaries were completed, they were coded, keeping to constructivist grounded theory principles as far as possible (Charmaz, 2003). A second layer of analysis utilised the axial interview categories within a coding scheme to see how far the observations supported the interview analysis. This initially was to be used as a first wave of analysis, but after an initial trial shifted to post open coding to prevent straightjacketing the data.

Establishing data convergence with document analysis

The institutional framing of values, through the analysis of documentation, provided an additional perspective with which to compare the perceptions and experiences of pupils and teachers, contributing to rich data gathering. Drawing upon my theoretical framework, a variety of electronic documents, such as school newsletters, admissions brochures and Ofsted Reports, were analysed against Biesta's (2008) three aims of education[132] (qualification, socialisation and subjectification). This allowed me to see where values between the institution and participants converged or departed (Stake, 2005). An initial appraisal of documents prior to fieldwork also raised questions, shaping the interview guide.

Other documents, such as newspaper articles and parent-focused websites, were used to understand the unobservable local selective education context and its recent history, which bound the case. Coding provided a bridge between participants' data and the documental data (Boblin *et al.*, 2013). Other cultural artifacts, which produce 'trace evidence' (Bowen, 2009 p.27), such as exercise books, classroom displays etc., were not coded, but were accounted for through fieldnotes.

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[132] See appendix I, p.401

5.10 Ethical considerations

At each stage in this study, ethics has been an essential consideration, in particular my responsibility to participants to do no harm and ensuring the integrity of the research (BERA, 2018). As part of this process, I ensured that I followed the ethical protocols of my institution and gained ethical clearance prior to research, acting in accordance with BERA's ethical guidelines for educational research and The National Children's Bureau guidelines for research (Shaw, Brady and Davey, 2011). In acknowledgement of the vulnerability of children, I ensured I was compliant with legal requirements for working with young people, including an up-to-date Disclosure and Barring Service check.

In the spirit of openness and transparency, informed consent/assent was sought for all participants. In line with the United Convention on the Rights of the Child (UN, Article 12, 1990), I viewed children as capable participants in matters that concerned them. Therefore, to enable all participants to provide informed consent (adults) or assent (children) to the research (Kumpunen *et al.*, 2012), three distinct versions of an information sheet were drawn[133] that explained the nature of the research. The level of detail and language was tailored appropriately for teachers, pupils, and their parents/guardians respectively, so that decisions to participate were truly informed. Accessibility of language was also essential for the interviews, and so short and direct questions were used (Shaw, Brady and Davey, 2011). All participants were given the option to freely participate in the research, and the right to withdraw from the project at any stage, including the withdrawal of their data. Not all parents returned consent forms, although all pupils had assented to the research. In Burcastle Primary, the decision was made to observe and interview only the children whose parents had returned their forms. The pragmatic result of this ethical decision making was to collapse two classes into one for observations. The composite class, made possible by the flexible timetabling within the primary school structure, was not without its drawbacks: observing the natural setting of the primary classroom with its shared history was now not possible. Whilst comparable ethical considerations occurred at Anbury Grammar, timetabling prevented a similar compromise to work around the lack

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[133] See appendix M, p.411

of universal parental consent. Therefore, pupils whose parents had not provided consent were not interviewed and were sat out of sight of the fixed camera lens. I was careful not to video these individuals with the roving flip camera. However, it was not possible to prevent the capture of individuals' contributions in the audio recordings of lessons. Therefore, during the transcription of the lesson, I removed any data from pupils whose parents had not provided consent to the research.

For teachers, I wished to move beyond merely providing consent to ensure their willingness to be involved in the research. This was particularly important given the confidentiality limitations of the study. Therefore, a self-selection strategy for teachers was used at Anbury Grammar. This shaped the research subject focus. Whilst I was keen to observe a spread of subject domains to facilitate the analysis of the domain specificity of teacher and pupil responses to soft failure, I was sufficiently flexible in my subject requirements to accommodate teachers' preferences. Through the self-selection of teachers who wished to be involved in the study, Latin and science became the focus at Anbury Grammar. At Burcastle Primary, self-selection of teachers was more limited as I wished to observe Year 5. However, I could provide teachers the choice of subjects that would become the focus of the observations. The generalist nature of the primary teacher means many will teach outside their degree specialism and interest. It was important that error-handling decisions were not obscured by a lack of confidence. Burcastle teachers opted to teach the core subject, science, and the foundation subjects of computing and art.

Consideration was given to the storage of data. Consent and assent forms with identifying data were locked away securely. Digital data was stored securely and saved to a password protected hard drive, with the agreement that video recordings would be destroyed once data analysis had been completed.

Three ethical issues proved more challenging: issues of confidentiality, power issues and ensuring the best interests of the child were upheld (UN, Article 3, 1990). With respect to confidentiality, participants were assured of name and data anonymity (all names have been changed), although all participants were warned that they may recognise some of the comments that they personally shared, along with publicly available data,

such as GCSE results and the local context. I made clear to teachers the limits of confidentiality: the wider wholly selective education system was a key aspect of the rich contextual information, as was the socio-economic demographic particular to the area. Therefore, defining school characteristics, such as the high levels of admissions selectivity, would be made known. However, non-necessary identifying features of the school were changed where possible.

Power issues, in relation to my role as a researcher, were at the forefront of my mind, particularly when interviewing pupils. I was aware of the power imbalance in both observations and interviews and sought to minimise the impact of my status as an adult conducting professional activity within a school. I aimed to set pupils at ease with a warm response, limit formal settings where able and reassure pupils that there was no expected answer.

The preservation of the mental well-being of pupils was paramount. I was concerned that a focus on soft failure, impasses and mistakes may leave some pupils emotionally at risk. This consideration was particularly relevant for learners at Anbury Grammar, and those pupils at Burcastle Primary aiming for super-selective scores in the 11+. Higher attainers are regarded at greater risk of emotional intensity displays and perfectionism (Neihart, 2002), whilst the selective system may be a sensitive area for lower attainers. Therefore, especial care and sensitivity was needed in exploring topics of soft failure, impasses, perfectionism, and testing. As a preventative measure, I requested that teachers remove any pupils from the sampling pool for interviews, who may be vulnerable to such questioning. Interview questions were also piloted, pupil reactions monitored, and questions adjusted accordingly. At any sign of pupil distress, I was ready to halt the interview, although happily, this scenario did not occur.

Collisions between my teacher and researcher identities

My ethical responses in fieldwork have undoubtedly been positioned and shaped in many ways, including my gender and ethnicity. However, I was struck by how my inveterate teacher identity, which, at times collided with my researcher identity. The ethical duty to protect participants in my researcher role combined readily with my

automatic teacher instinct to protect pupils. This weakened the impartiality of my responses where pupils revealed their vulnerability in relating worries for their future, or where their self-esteem seemed in jeopardy. Where this occurred, instead of providing non-committal comments that might facilitate the extension of the point, I heard myself slipping into teacher mode, mopping up troublesome emotions with bland reassurances. In my reflexive journal I described where this had occurred:

Several pupils discussed their concern that they may fail the 11+. My immediate response was to gloss over the comment and reassure pupils of the excellent schools in the locality, the intention was not to let the sting of possible disappointment and failure be felt. However, in closing the conversation to preserve self-esteem, I operated as a teacher, rather than a researcher and in the process sacrificed possible productive outcomes, such the exploration of the pupils' perception of failure: the very intention of this thesis! Moreover, giving opportunity for pupils to explore this during the interview may have also had a benefit for the pupil in understanding their complex feelings about the process of which they found themselves enmeshed.   *[Reflexive Journal, entry 16]*

Reflexivity uncovered the privileged position I have gave to the preservation of pupils' self-esteem over pupil voice and the child's ownership of difficult feelings. This revealed a slipperiness in my ethical positioning and alerted me to the role of my emotions in directing my ethical decision making. Our ethical judgements in the field can lead to far-reaching consequences. In this one episode alone, I may have limited participant responses, undermined my positioning of pupils as capable social agents who can offer valuable insights, and possibly unwittingly undermined pupils' perceptions of me as an impartial researcher who welcomed all responses, however messy.

5.11 Providing transparency

Generalisation is not considered to be a goal of this study, despite Grunbaum's (2007 p.84) warning that studying multiple instrumental cases exposes a "craving for external validity". This inconsistency rests on subscribing to Yin's positivist understanding of generalisation with the desire for replication (Yin, 2014 p.63-64), as opposed to Stake's softer naturalistic generalisation (1995), Donmoyer's heuristic generalisation (2009) or

Lincoln and Guba's (1985) holographic generalisation. I am not looking to find universals, locate essences or draw comparisons. Instead, my aim is to develop a nuanced and context-bound understanding of the phenomenon of soft failure. Rather than striving for a positivistic generalisation that is impossible within an interpretivist paradigm, it is hoped that 'fuzzy generalisations' (Bassey, 1999) or the transferability of knowledge (Lincoln and Guba, 2009) can occur between case contexts that are similar. To this end, the 'thick' descriptions (Geertz, 1973) that I have provided through interview and observational excerpts serve, not only to develop understanding, but to provide the reader with sufficient information that a judgement of transferability of context can be facilitated (Pickard and Dixon, 2004).

5.12   Chapter conclusion

This chapter has charted the choices, constraints, and compromises in this study. Difficulties ranged from ensuring the methodological and internal consistency necessary for robust method choices, through to the "untidy realities"(Mellor, 2001, p.465) of working in the field, where external limitations would be placed upon the research, requiring a rethink of the data analysis and a justification of the orientation. Epistemological choices persisted beyond the gradual clarification of the methodological principles. The layers of selectivity involved in data collection led to the capture of events that were partial in both senses of the word. From here, my decisions regarding what to include and exclude in the transcript further affected the representation of the data.

The following chapters explore the results of the research process, which whilst never compromised, are shaped, and delimited by the choices that I have made. Drawing upon constructivist grounded theory for the analysis of the case study, as described above, I identify themes that relate to pupils' experiences of soft failure in the classroom. Theoretically framed by Bronfenbrenner's (1998) Bioecological Systems Theory (outlined in Chapter One), I shall show how pupils complex, and often contradictory responses to soft failure are situated within an 11+ context.

Chapter Six: The microsystems of school and home

6.1 Introduction

The focus of this instrumental, multiple, case study is to investigate the phenomenon of soft failure as perceived by pupils and teachers in a Y5/6 class of a mixed community primary school, and two Y7 secondary classes in an academically selective girls' state secondary school in England. Through data which has been drawn from interviews, scrutinising school policies and wider literature, the findings in the following chapters consider the impact of the classroom error climate upon pupils' experience, including the role of teachers and pupils in the classroom error climate construction. As Eisner (2000, p.344) reminds us, "students do indeed learn much more and less than teachers intend." In line with the theoretical framework outlined in Chapter One, examining the construction of the error climate requires us to look beyond the immediate environment of the classroom to the other ecologies which learners inhabit. To aid analysis of the perceptions of the error climate, as well to assist the reader in assessing the transferability of the findings to different contexts (Lincoln and Guba, 1985), attention needs to be paid to the peculiarities of the settings (Stake, 1995). An exploration of the key microsystems of pupils – home and school – is therefore an essential first step to revealing some of the complex layers of influence on pupils' and teachers' perceptions of soft failure.

I will present these contextual strands, as viewed by myself as a hybrid (Reed and Procter, 1995) outsider, and through the eyes of participants, in two distinct parts. Part 1 describes the institutional values and practices of the schools in this study. Part 2 turns to the home microsystem. Pupils' descriptions of home interactions were exclusively made through the lens of 11+ preparations. Whilst I was unable to directly access the parental viewpoint, through the perspective of pupils I explore how the 11+ shapes parent-child interactions, foregrounding the instrumental role of the selective education system in the formation of the classroom error climate, which I will turn to in later chapters.

6.2   Part 1: The school microsystem

Institutional values

The case study schools, Burcastle Primary (BP) and Anbury Grammar (AG)[134], were chosen for their potential to shed light on the phenomenon of soft failure in the classroom, with the wholly selective education context of the schools determining my selection of school type and year group. As may be expected, the schools' institutional values differed in several important ways. Following Bronfenbrenner (Bronfenbrenner and Morris, 2006), to appreciate how responses to, and perceptions of, soft failure may have arisen, it is important first to gain a contextual understanding of the microsystems where soft failure is experienced. Significantly, as the schools located in different educational phases, they operated with distinct aims. I shall explore these aims using Biesta's (2009, 2015, 2020) three functions of education; *qualification, socialisation* and *subjectification,* which was introduced as part of my theoretical framework in Chapter One. Biesta understands *qualification* as a focus on pupils attaining the knowledge, skills, and dispositions needed to be able to do something in the world, e.g., preparation for joining the workforce or to gain qualifications in terminal exams. *Socialisation* refers to the school's part helping learners gain social competencies needed for functioning within societies and understanding the expected social norms, behaviours, and values in society. Whereas, *subjectification*, a somewhat elusive concept, provides a counterpoint to *socialisation* and concerns the agency of the learner to take action in the world, independent of existing orders (Biesta, 2009, 2015, 2020). In terms of these three functions of education that schools are engaged in furthering, it might be assumed that secondary schools may place more weight than primary schools in *qualification*. School culture has been linked to learners' perceptions and behaviours (Kalkan *et al.*, 2020), and so a focus on qualification and high stakes may be expected to affect pupils' perceptions of soft failure.

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[134] The names of the school and all participants have been changed

The explicit reference to its selective admissions policy within the name, 'Anbury *Grammar,'* signifies that high attainment is a key focus of the school. Admissions to Anbury Grammar are made through ranking the highest scoring girls on the county-wide 11+ examination, earning the local moniker, 'super-selective'[135]. Anbury Grammar teachers are clear about the remit of the school. Keira, a Science teacher at Anbury Grammar confidently explains GCSE option choices at Anbury in contrast to other local schools:

Kiera (Science teacher, AG): *"We don't have a massive range of choice of subjects at GCSE because we are an academic school, we very much concentrate on the core academic subjects."*

As might be expected with an intake of very high-attaining pupils in Year 7, Anbury Grammar's pupils are extremely successful in national terminal examinations. 74% of their 2019 GCSE scores (pre-pandemic) were grades 7, 8 and 9 (published school data[136]). This is compared with the national average of 20% awarded these grades (Ofqual, 2020). Indeed, pre-pandemic, 51% of all GCSE results at Anbury were awarded a grade 8 or 9. This is compared with national average of 11%.

Primary schools also hold *qualification* aims. The published pre-pandemic results from national tests indicate that Burcastle Primary's progress scores are average for England, but with above average scores in reading. Julie, a literacy lead, discusses recent changes in the school reading policy that have led to improvements in reading, including pupils reading for ten minutes a day at school and discussing with teachers what they are reading:

Julie (Y5/6 teacher, BP): *[Pupils] have kinda all said that this has made a huge difference, just the fact that we paid attention and we cared enough to actually listen to what they were reading. They actually said that, and it was 'oh my goodness.' It was a surprise. All their scores had gone up.*

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[135] Recently, 143 grammar selected girls were turned away from the school.
[136] To preserve the anonymity of the schools, only national data will be referenced in this chapter.

Here, Julie recognises the impact of relationships in the classroom and how personal engagement with pupils, supports their academic progress. However, this focus on the individual learner is later at odds with Burcastle Primary's more utilitarian policies that do not seem to serve the interests of the child. The "contemporary obsession with the domain of qualification" that Biesta bemoans (Biesta, 2020 p.102), appears to affect the organisation of learning at policy level in Burcastle primary to the extent that it could be argued that the Burcastle educational aims include that of performativity (Ball, 2003), where Standardised Assessment Tests (SATs) results are the outward expression of the quality and value of Burcastle's teaching. Joanne (Y5/6, BP), in discussing the mid-year introduction of attainment sets for English (which she refers to as 'boosting') points to a tension between what is pedagogically best for pupils' learning and wider accountability concerns (Ball, 2003) to ensure she 'proves' Burcastle is meeting targets for English and Maths:

Joanne (Y5/6 teacher, BP):	*We will split into groups that need very scaffolded writing and worked examples and things. And the more able will be in a slightly different group. Um, mostly, well, half the year, English is not set, which, I think works better because I think everyone benefits from the ideas from each other. So, if we do all that lovely talking before we write - we want the children with all the ideas and great vocabulary, because they learn from each other, they don't just learn from the teacher. And it is important to give them those experiences.*
Elicia:	*But you are still going to 'boost'?*
Joanne:	*Yeah, sadly that's a fact of having to deliver the SATS results. If we did not have SATs, we would not do that at all. We would keep them in mixed ability groups....it is purely so we can deliver the SATs data.*

Despite Joanne having clear ideas on what might be educationally valuable for pupils in the core subjects of English and Maths, Burcastle Primary teachers instead prioritise

what will be measured and accountable. 'Delivering results' appears to be the key organising principle for teaching the core subjects. An educational triage (Gillborn and Youdell, 2000) appears to be practised where teacher access for higher achieving Y5 and 6 pupils is rationed in service to preserving SATs scores. Julie discusses teaching an extra-large English set to ensure SATs score are not dampened.

Julie (Y5/6 teacher, BP):   *"[We] free up a little group of Year 6s that are weak Year 6s, so that we can get them through SATS really well. And then all the TAs are put in that group and those children are in a much, much, smaller group."*

Burcastle Primary's ability grouping strategy reflects a recent trend towards "practices of division" (Bradbury, Braun and Quick, 2021 p.148) in English schools, where pupils who risk not meeting age-related expectations in the SATs are targeted by schools for differential treatment in English and Maths. A similar emphasis on school accountability was absent from discussions with Y7 teachers at Anbury grammar where GCSE does not begin until Y9 for Science and Y10 for other subjects. However, it is important to note that had I spoken to the teachers in their capacity as GCSE teachers, a very different data set may have materialised.

Anbury Grammar teachers appear orientated towards fostering the triple goals of *qualification, socialisation* and *subjectification*. Although Biesta (2020) claims that subjectification cannot be planned for in schools, it can be argued that Anbury's commitment to developing independent thinkers and learners who can challenge the status quo, appears to align with the aim of subjectification. The cornerstone to this vision is Anbury's adoption of the International Baccalaureate (IB), with the IB Middle Years Programme and compulsory IB diploma flanking the GCSE years. The academic character of Anbury is therefore tempered by the IB ethos that Anbury wishes to instil in pupils:

Keira (Science teacher, AG):   *"We are an IB school...our pedagogy and work ethic is very much around resiliency, rather than focusing on high achievement. It is about preparing them for life, rather than teaching them the*

Similar references to a more holistic vision of education occurred in other conversations with teachers, with the development of critical, caring, and creative thinking a priority to develop pupils' independence of thought and independence in learning skills. This was supported through a broadly constructivist orientation to learning. For example, in science, pupils' engagement in the trial-and-error processes of the scientist was prioritised above the retention of content. This aligned with the strong commitment to growth mindset principles and ethos statements in the school literature. The mission statement includes a commitment to a climate where pupils can learn from mistakes, as well a focus on developing confidence, resilience, and courage. My first impressions of the school, seen in the field note (FN) below, reflects this more holistic picture of education, rather than the academic "hot house" which I might have expected considering examination results:

"A stroll around reception reveals little outward expressions of success, such as trophies and awards. Instead, sculptures and artwork from pupils sit alongside photos that communicate an engagement with life outside the classroom. One series of photos show a recent Sixth Form overseas service trip to a majority world country. The visual ethos created through the school's curation of realia communicates to the outsider values of care, community, persistence, and resilience."   *[Anbury Grammar, FN2]*

A holistic, educational approach to child development was confirmed when talking with Kathy, a Senior Leader at Anbury Grammar (AG). In discussing the reasons for IB accreditation, she initially explained the decision in terms of *qualification* aims highlighting the academic profile of their students and the need for an academically rigorous programme that also nurtures wider skills and dispositions needed in adulthood:

Kathy (Assistant Head, AG):   *"The IB challenges these girls, leaving doors open for university – they are all-rounders. But it also encourages resilience, and independence."*

However, *socialisation* aims, such as contributing to society[137] also featured highly in our conversation. Service is a thread weaved within the IB academic programme and observable in school pastoral practice. Younger pupils are engaged in charity work through their forms, whilst older years serve the school community. For example, senior pupils run Y7/8 Wednesday afternoon activities and assist with form time.

However, within Anbury Grammar classrooms, away from the window-dressing of the reception area, evidence of different *socialisation* aims were evident. Each door displayed a glossy poster for the acceptable usage of mobile phones, details of which suggested the school's attempt to hold in balance digital opportunities with personal, social, and behavioural risks. Also visible were motivational posters that affirmed body positivity, growth mindset principles, and contact details for mental health support. These were a first indicator of some of the issues that were heightened for Anbury Grammar pupils and staff in relation to pupils' reactions to soft failure.

In contrast to Anbury Grammar, Burcastle Primary's *socialisation* aims revealed both collectivist and individualistic orientations. Burcastle style themselves as a school family, and my initial impressions concurred with this perspective. In my fieldnotes I noted the *'homely learning environment'* that the school had created:

"Classrooms are vibrant and spacious, with ample carpet space as well as tables for six to eight pupils. Bright blue pots sit at the centre of each table. Unlike other schools, where these may hold resources, in this classroom, large yellow flowers serve a decorative, rather than utility function."   *BP, FN3*

Classroom values and priorities, captured in *'crisp displays'*, furthered twin aims of fostering pupil agency and building community. 'Golden rules' for class behaviour were clearly displayed at the front of the class. On other walls, pupils' own work was showcased. Whilst the balance between community and individualism felt weighted towards community within the classroom, in ethos statements and policies, a strong individualistic orientation was evident. Notable events for pupils, such as birthdays

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[137] Whilst England is regarded as an individualistic nation (Holfstede, 2021), the current government orientation towards 'reponsibilising' citizens also encourages community contributions (e.g., DDCMS, 2018).

provided a reminder that a class community is made of individuals. Moreover, 'self-love,' 'personal success', and 'happiness' were championed in the school vision, rather than more collectivist underpinnings, although, more cooperative values, such as inclusivity, were promoted in the 'golden rules.'

Burcastle teachers, like those at Anbury Grammar, directly expressed a pedagogic orientation towards constructivism in interviews. Y5/6 teacher, Julie, for example, impressed the importance of developing pupils' skills and dispositions in art, as opposed to a focus on artistic outcomes:

Julie (Y5/6 teacher, BP): "It's about the exploration of art, how they experience the materials, not what they produce".

Similarly, Mel discussed the importance of an exploratory and problem-solving approach to learning computing. This aligned with the school's subjectification aims that focused on developing learners' dispositions towards learning and pupil agency. Claxton's 'Building Learning Power' (BLP) programme, which communicated classroom goals of empowerment (Claxton, 2002; Claxton and Lucas, 2015), had been recently relaunched with staff and were in evidence in teacher-designed displays. This holistic learning programme indicated a school culture shift towards cultivating independent learning behaviours and dispositions relating to cognitive, social, emotional, and strategic strands of learning. A focus on developing a climate that embraced challenge, built resilience, and recognised the power of metacognition, was a clear school priority.

Summary:

Despite the obvious differences between Anbury Grammar and Burcastle Primary (e.g., phase, size, gender, and ability range), the schools shared a range of similarities. Both schools, to greater or lesser extents, engaged in the three major functions of education that Biesta outlines: qualification, socialisation, and subjectification. These were interweaved into the practices, values, and outputs of the school. However, this is not to imply all school activities fitted within these areas neatly. Other aims, such as

fostering creativity -not as easily captured within Biesta's framework- were in evidence for both schools. In relation to the error climate, the overall impressions of these institutional identities were ones where pupils were encouraged to see beyond academic results, understand the power of their own agency in driving their own learning forward, and to take academic risks. Taken in isolation, these commitments form the basis of a positive culture towards soft failure. However, there were clues within other school practices and values that threatened to destabilise positive classroom error climates. For example, Burcastle Primary's driving focus to "get pupils through" SATs successfully, indicated a narrow 'teach to the test' approach, with a performativity focus, rather than one based on developing pupils' dispositions, improving learning skills, or flourishing as a person. It is unsurprising that this pedagogic shift in approach occurred between the core (examined through SATS) and foundation (non-examined) subjects. In the next section, I will explore this further, considering how aims and policies shape institutional practices that affect pupils' experience of soft failure.

Institutional practices that lead to competitive classroom goal structures

The origin of many school practices and climate is found in the school vision, with school aims "bind[ing] together all teachers in a school" (p.53), directing the planning focus and instigating action (Allen *et al.*, 2018). In chapter four, international research on the error climate revealed an association between competitiveness and pupils' fear of negative evaluation. There was evidence of pupils' competitive practices at both schools, although these were more evident at Anbury Grammar. These stemmed from pupils' desire for social comparison but was fed also by organisational practices that focused on *qualification* aims encouraging a competitive response, such as the public nature of grade surveillance by teachers at Anbury Grammar.

Observed lessons at Burcastle Primary were collaborative in nature, and so it is unsurprising that few indicators of competitive practice were evident, apart from a keenness to demonstrate knowledge through pupils' rapid response within whole-class questioning. However, in interviews three girls referred to their competitive practices in maths, where their aim was to *"finish first – finish before the others"*. Meanwhile,

exceptionally high levels of social comparison in lesson observations indicated competitive behavioural tendencies at Anbury Grammar. Teacher Laura, described pupils' information-seeking behaviours that facilitated relative positioning awareness:

Laura (Latin teacher, AG):   *"You tend to find when you are giving tests back, they will say, 'what did you get?' So, they know who the top students are because they for every test, they ask each other how everybody has done. Or they hear 'so-and so- got 100%, and the news travels."*

Pupils' awareness of achievement and ability was echoed by Keira and Hailey:

Keira (Science teacher, AG):   *"They all know exactly who the clever ones are, and who is not so clever."*

Hailey (Science teacher, AG):   *"They are now all very aware of -and it is quite consistent in their tests and assessment pieces, quite consistent - who is middle-of-the-road, who is not, who are the higher attainers, and now they are all aware of it. And it has affected them".*

The Anbury Grammar teachers demonstrated awareness and concern at the subculture of competition in the classroom, acknowledging pupils' drive to compare themselves with peers. However, teachers positioned these outcomes as a peculiarity of the school cohort, rather than a joint construction between the school, teachers, and pupils. From teachers, there was no awareness of complicity in the creation of the classroom error climate where competitive classroom norms and performance goals drove pupil behaviours that served to reinforce this position. Yet, many teacher and school practices could be seen as initiating or facilitating pupils' competitive concerns and goals. I shall illustrate constructions of competitive classroom goal structures by focussing on three main areas: *grading work, labelling pupils,* and *ability setting*.

Graded work

The Y7 classroom goal structure had a strong competitive orientation, as indicated by pupils' interest in social comparisons of achievement. However, Y7's preoccupation with results and grades were not limited to threats relating to the classroom social stakes. Pupils also felt threatened by other high-stake concerns, such as the communication of assessments to parents:

Laura (Latin teacher, AG):   *"They will always ask when have given them, when you are doing a piece of work they will ask, 'is this a test, is it going on our reports?' And that is what drives a lot of them".*

In each lesson observed at Anbury Grammar, pupils directly asked whether their scores contributed to their report grade, such as Niamh's query in science, *"will the write-up be graded?"* However, pupils' indirect questions often also disclosed an apprehension around grading. For example, Laura understood well the real concern behind Millie's tentative query:

Millie (Y7, AG):   *"Does it matter if we get something wrong?"* [asked during a quiz]

Laura (Latin teacher, AG):   *"I'm not doing anything with this information, if that's what you mean."*   [Y7 Latin lesson, AG, observation]

For Millie, a connection between mistake-making in testing scenarios and high-stakes consequences was firmly linked. As part of the wider school policy at Anbury Grammar, graded work fed into a summative reporting structure with consequences for those deemed to underachieve:

Keira (Science teacher, AG):   *"They are very competitive about that [test scores] because they do know we take in the scores and put them on track if they are referred to in reports, so they are sensitive about that."*

With the threat of marks revealed to parents through reports, and subsequent 'tracking' (increased surveillance by teachers) procedures initiated for pupils not meeting the standard required, even minor tests were regarded by many Anbury Grammar pupils as a high-stakes event and led to what some pupils described as *"hard-core"* or *"hell-for-leather"* revising. Pupils were aware that teachers would collect, record and average test scores to arrive at an overall grade for each reporting period. Elodie (Y7), who dreaded the prospect of reports, likened the overall grade to a *"stain that you can't get rid of until the next report"*. The process of finding the overall grade from averaged test scores, led to a conflation of formative and summative assessment opportunities for pupils; that each test held weight in terms of the terminal judgement led to an omnipresent fear of making mistakes in tests for some pupils at Anbury, and a preoccupation with measurement rather than how to improve further:

Hailey (Science teacher, AG):   *"The comments that we write - they are not fazed by the comment. They are very interest in their levels...they don't necessarily see the comments as a way to move up a level. They just want to know what they have got".*

Pupils' goal structures appeared orientated towards performance rather than mastery. This desire for grades over 'steps to success' was recognised by all Anbury Grammar teachers interviewed. Target setting was a key thrust of the school, and Keira discussed the difficulty of training Y7 pupils to use the feedback to generate personal targets:

Kiera (Science teacher, AG):   *"But yeah, quite often, especially in the beginning, they won't even read your comments, they will just look at the grade. It's normal, really".*

In perceiving the trend to ignore comments as the norm, Keira showed little signs of problematising pupils' magnetism towards grades. However, within her own practice, she too emphasised the importance of gathering test data to pupils. For example, Keira's reminder to bring in a forgotten exercise book was not framed in terms of organisational improvement, but related to data collection needs:

Keira (*Science teacher, AG*):   "*Well next time, could you bring your book in as I have feeling I have not written your test score in my book – I do need those grades!*"   [Y7, science lesson, AG, observation]

Here, Keira could be viewed as propping up the norm through making clear that grades are a priority. For pupils within a selective education system, already sensitised to high-stakes evaluative practices, further references to 'needing grades' for another high-stakes assessment system is likely to cement pupils' value of grades.

Pupils' grade obsession was an area of concern for teachers, even if they were unaware of how this pre-occupation had been shaped. However, even where interventions designed by teachers to shift pupils' goal orientation from performance to mastery, the opposite effect was generated. Hailey (science teacher), in a bid to ensure pupils' engagement with feedback and minimise the emphasis on grades, described her feedback process which included temporary mark withholding:

Hailey (*Science teacher, AG*):   "*I don't put the levels in their books. They have to come and find me. They don't like it, but I am not changing it. Otherwise, the comments don't even get read.*"

Elicia: "*That's interesting. Do pupils find you?*"

Hailey: "*Oh, yeah, always! [laughs]. Whether it is late for P2, or break, or lunch, they will come up and find me and their level...*"

Elicia: "*Are there any girls who do not collect their level from you?*"

Hailey: "*No, they all come, they all want to. Some of them won't come and find me until everyone else is done, but they all come and find me. All of them*".

The literature on feedback indicates that there are sound reasons for Hailey to withhold the grades. Whilst the utilisation of feedback to enhance performance is firmly

supported within the AfL literature corpus[138], it is also recognised that many students focus on the grades where comments and grades are presented simultaneously (Jackson and Marks, 2016). For example, Mensink and King's (2020) study, where grades could be accessed independently to the comments, 42% of students did not open the written comments. Accessing and benefitting from feedback is complex (Pitt and Norton, 2017); receiving feedback is emotional work (Pitt and Norton, 2017) and a learners' affective response to grades can determine the uptake of feedback. Results, whether negative or pleasingly positive, can give rise to emotional states that preoccupy the learner (such as shame, pride, pleasure, embarrassment) which can lead to disengagement (Kahu *et al.*, 2015), cognitive interruption (Boud and Falchikov, 2007), and distraction from the difficult job of deep engagement with feedback (Shields, 2015). Thus, the potential within comments that may aid learner progress can be rendered useless when accompanied by a grade, should an emotional response be triggered. Studies attest to increased attention to written comments when grades are withheld (e.g., Sendziuk, 2010; Kuepper-Tetzel and Gardner, 2021), and even increased performance (Kuepper-Tetzel and Gardner, 2021).

Burcastle Primary teachers, reflecting on their recent accidental move to marking without grades, also recognised pupils' increased attention on the comment, and with this, a shift in focus from ego to learning:

Joanne (Y5/6 teacher, BP):   "*We got to a point where the children used to be very aware of what level they were... 'I am a Level 3 writer', and that...but I think the children now no longer know what level, if you like, they are working at.*"

Mel (Y5/6 teacher, BP):   "*rather than thinking ... 'oohh, I am a 5C or a 4A, [they are] focused on achieving the next step*".

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[138] Hattie, Biggs and Purdie, 1996; Black and Wiliam, 2001, 2010; Hattie and Timperley, 2007; Hattie, 2008

Mel, proudly referred to one child who, upon written feedback, remarked: *"I am going to make sure I do that now in my work"*, indicating how quickly pupils can adopt mastery goals and begin to think about their academic progress in a different manner.

On one level, Hailey's intervention to withhold grades does not suggest a divergence from the literature. On the contrary, she felt that she had been successful in increasing pupils' engagement with their targets. However, bearing similarity to the literature on grade withholding which centres on performance outcomes and the examination of cognitive and emotional dimensions, Hailey ignores the social impacts of grade withholding. That Anbury Grammar pupils prefer receiving grades to comments is not controversial[139]. Indeed, during the interview many pupils indicated with wry smiles that they preferred receiving grades to the comment (although, as some pupils pointed out, only when the results were good!) However, Hailey's 'hide-and-seek' grade collection procedure risked inadvertently increasing the allure of grades to the collective. In Chapter Two, I explored the role of uncertainty and curiosity as intrinsic motivators[140]. Unwittingly, by withholding results to break times, the perceived importance of the grade may be raised. Firstly, suspense builds as pupils wait for the arrival of break, imagining the grade that accompanies the comment. Secondly, in having to find their teacher, they engage in a grade chasing game, presumably, with several girls seeking their teacher together. Together, this may increase the desire for the grade.

Burcastle Primary's pilot to remove grades appeared successful in focusing pupils on learning, rather than their measurement. Joanne felt that this approach was "*healthier*" for the children, with Mel summing up the experiment as "*different, but a good different*". In contrast, graded work at Anbury Grammar was understood by pupils as threatening. With no room to make mistakes in small tests or evaluations without this contributing to overall grades, marking was viewed by pupils as a high-stakes event. Arguably, this simultaneously increased pressure on pupils to succeed whilst reducing

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[139] Lipnevich, Berg and Smith, 2016; Kuepper-Tetzel and Gardner, 2021
[140] E.g., Lomas et al., 2013; Abuhamdeh, Csikszentmihalyi and Jalal, 2015

pupils' engagement with the tools to enable success, constructing an inhospitable error climate.

Labelling pupils and ability grouping

The construct of ability grouping overlaps with pupil labelling, as grouping often confers a label upon pupils (Campbell, 2021). As discussed earlier in the chapter, ability grouping was borne out in Burcastle through 'boosting' (setting) practices from the middle of Year 5 in response to the threat of KS2 SATs results with Burcastle teacher Joanne commenting that pupils, *"all get very obsessed with which table they are on."* Whilst this was seen as a necessary organising structure within the classroom, pupils were very aware of the subtext of the group they were placed in. Andrew's worry about whether he would pass the 11+ was linked to his location outside the top group for English.

Andrew (Y5, BP):   *"I might not pass. I'm pretty good at maths, but I am not on the top table or nuthin' in English".*

Andrew viewed assignment to the 'top table' as a signifier for success in the 11+, almost as a proxy for a pre-selective examination process. Similarly, Ava interpreted her seat on the top table as a vote of confidence in her ability to succeed in the 11+ exam:

Ava (Y5, BP):   *"I feel confident about passing as I am on the top table in both Maths and English."*

For both pupils, their grouping provided them with comparative information which they interpreted as a litmus test revealing the likelihood of success in high-stakes exams. Within a Bordieusian framing, it is argued that the practice of teachers 'funnelling' learners into different bands may be thought of as an act of symbolic violence (McGillicuddy and Devine, 2017; Archer et al., 2018), reproducing social cultural privilege and reinforcing cultural norms where differential practice is perceived as natural and inevitable (Bourdieu, 1973; Archer *et al.*, 2018). For Andrew and Ava, their predictions of success in the 11+ was treated by them as a foregone conclusion and linked to their ability group placing, rather than external factors such as tutoring.

Jenna, too, understood ability grouping semiotically. Like Charlotte, in drawing upon her positioning as a 'top table' pupil, she perceived a link between different groupings and their differential treatment in the classroom, specifically that her teacher had different expectations for her group above and beyond the 'normal' work:

Jenna (Y5, BP):   *"I couldn't get away with doing the normal work, even if I wanted as I am on the top table and teachers expect me to do the super-spicy challenge'.*

That several Burcastle pupils also referred to being on the 'top table' in interviews was an indicator of how embedded deterministic language and practices were within the classroom. Interviews with teachers in both schools revealed a wide array of labels for pupils that suggested fine-tuned ability stratification. Many terms were steeped in determinism, such as 'naturally, supremely, brilliant', 'intelligent' and 'clever'. Graded variations on 'bright' and 'able' were made through the use of qualifiers (such as 'not very' 'quite', 'more', 'very', 'super', 'extremely' and 'off-the-scale'). In terms of previously lower achieving pupils, the predominant terms were 'weak', 'struggling', 'the lowers' and 'less able'. It was notable that the terms 'lower and higher *attainers'* were only used by teachers immediately after I had referenced it in my questions. Where I had not used that term, teachers referred instead to 'lower and higher *abilit[y]/ies*". The deterministic assumptions implied by such terms can be considered problematic considering studies that indicate that teachers' behaviours and practices stem from their beliefs[141].

Moreover, there is evidence that ability grouping structures may both reflect and foster teachers' expectations of their learners[142]. Teachers' attitudes towards pupils can be shaped by policies such as ability labelling (which arguably is a key outcome of the 11+), reducing or increasing their expectations of pupils. For example, teacher Keira, is confident about the overall ability of pupils at Anbury:

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[141] Pajares, 1992; Wilkins, 2008; Thoonen et al., 2011
[142] Muijs and Dunne, 2010; Boaler, Wiliam and Brown, 2013; Hart, 2016; Campbell, 2021

Keira (Science teacher, AG):   *"Obviously, they are heavily crammed for the 11+, but you still have to have something about you to get through all of that, you know...There are that core who are naturally, supremely, brilliant".*

Whilst Keira is not naïve about the endemic coaching of prospective pupils to the school, there is a sense that the selection is justifiable; that the 11+ fulfils a function of sorting the intellectual chaff from the wheat. This expectation of pupils' abilities risks creating self-fulfilling prophesises whereby high and low expectations become predictive of performance (e.g., Rosenthal and Jacobson's, 1968, seminal study, "Pygmalion in the Classroom"). This may alter pupils' educational experiences, constraining or facilitating both learning opportunity and self-efficacy, with the result that some pupils are caught in a loop of high or low expectations (Gentrup *et al.*, 2020). For example, in an observed lesson with Keira's Year 7 class, opportunity to engage with a high-level thinking was enhanced through accelerating the curriculum. Pupils were introduced to balancing equations, work that Keira explained is usually reserved for GCSE Chemistry, but she can introduce early at Anbury as pupils are *"all bright girls."* For the pupils successful in completing this advanced work, both their range of strategies and self-efficacy is likely to be enhanced, and Keira's perception of their ability reinforced. Whilst those placed in high groups may be rewarded with challenging work and increased opportunities (Rubie-Davies and Peterson, 2011), those in lower groups may be subject to an increasingly narrower curriculum offer. The 'glass ceilings' of restricted knowledge and opportunity to develop skills can lead to a reduction of pupils' performance and development (Borgonovi and Montt, 2012). Studies have demonstrated that teachers' interactions with pupils vary according to their ability judgements (Bressoux and Pansu, 2016; Good, 2016), with pupils who are deemed of higher ability receiving more positive feedback than peers (Chen *et al.*, 2011). Certainly, there was a tendency in science lessons at Anbury Grammar for the teacher to engage with lengthier discussions with those labelled as the 'most able' in the class, in line with findings from Good and Brophy (2007). Where a 'hands down' policy in lessons was implemented, the most challenging questions were directed to these pupils, with those identified as comparatively 'weaker' targeted with the more basic questions. This

differential practice may be viewed in two ways. On the one hand, this may indicate restricted opportunities for some pupils based on their perceived ability. However, this practice may also be justified through a discourse of protection. In targeting easier questions to some pupils, Anna (Latin teacher, Anbury Grammar) suggested that pupils' confidence is supported through their likelihood of getting the answer correct. At both Anbury Grammar and Burcastle Primary, other differential practices slipped in, clothed in the presentation of choice. For example, whilst pupils were, in some subjects, presented with three levels of question complexity which they were allowed to mix-and-match in their independent work, this choice appeared to be illusory for some pupils, with teachers ensuring the *"correct choice"* (Anna, AG; Joanne, BP) was made. Burcastle Primary pupil, Charlotte (Y5), similar to Y5 pupil, Jenna, above, demonstrated her awareness, not only of the absolute control of teachers to override pupils' personal choices, but that this is tied to teachers' perception of pupils' ability.

Charlotte (Y5, BG):   *'Cos I am on the top table we are not allowed to go for Challenge 1 as it is too easy."*

The pretence of choice was not limited to those deemed 'higher ability', with several teachers discussing the need to intervene where lower-achieving pupils made the *"wrong choice"* and redirect them back to the easier work, lest pupils *"end up in a muddle"*. The tension between teachers' understanding of pupils' motivational need for autonomy with their concern that pupils' assimilation needs may sway their task difficulty choices (Gray and Rios, 2012), was resolved through privileging teachers' judgements on pupils' capabilities. Teachers reclaiming control of pupils' choice had the unfortunate result of communicating differential expectations for pupils, with the risk of placing a glass ceiling on pupils' learning and undermining the growth mindset message that they had tried hard to instil.

Whilst maths setting occurred only in Y9 at Anbury, already in Y7 the threat of sets concerned pupils. As sets were determined on averaged test scores, pupils identified a need for consistently good scores. Anna, for example, remarked that, *"by messing up a test, you could end up missing out."* Setting at Anbury Grammar and Burcastle Primary

may be considered a social high-stakes practice. Mcgillicuddy and Devine (2017), note that ability grouping structures lead to the establishment of hierarchies within the classroom where learners' standing in the eyes of their peers may be established and reinforced. However, for Anbury pupils, setting may be an academic high-stakes practice also, threatening not only their social status, but limiting future academic opportunities: GCSE Further Maths is reserved for the top 1/3 year, despite the exceptional levels of achievement in GCSE maths in most sets. The effects of ability grouping practices can therefore be far reaching. At Anbury Grammar this might be seen in the constraint or facilitation of academic opportunity, the social impacts of hierarchy reinforcement and the intrapersonal effects, which can create what Boaler (2005 p.125) likens to a 'psychological prison' which shapes and fixes the learner's conceptions of themselves.

Summary

With the assumption that classroom practices, emanating from institutional aims, can affect the goal orientation of a classroom, the concern of this chapter has been to explore some of these antecedents that have shaped pupils' responses to soft failure.

In this study, these included the averaging of assessment marks to generate a high-stakes grade, building grade suspense, labelling students, and organising learning through ability grouping. With the aims and vision of each school (that which is explicitly and implicitly communicated) overlapping, but distinct, the extent to which the above practices were observable in the data differed, impacting their evaluation and the emphasis placed on describing them in this chapter. The differing assessment school structures is one such example. Burcastle Primary, who recently had stepped back from graded work, focused only on pupils' next steps, with the result that pupils' talk around progress had shifted from performance to mastery. This is contrasted with Anbury Grammar, whose marking policy included grades and was tied to home reporting structures that led to a pupil preoccupation with grades. Other institutional policies, such as the use of ability grouping also differed, with Year 7 at Anbury Grammar taught

only in mixed ability groups, and Year 5/6 at Burcastle Primary in 'boosted' sets. However, in both schools, institutionally prescribed practices, even though different, encouraged a competitive orientation which increased levels of social comparison and affected pupils' behaviours in the classroom, impacting academic risk taking and their interactions with other students. In Part 2 of this chapter, I turn to examine the impact of the home microsystem upon pupils' attitudes and responses to soft failure. This will be exclusively viewed through the lens of the 11+, as perceived by pupils and teachers.

Part 2: The home microsystem

6.3 Parents' involvement in 11+ preparations

Parents' role in 11+ preparations mediated their children's attitude towards the high-stakes examination, and selective education in general. The significance of the 11+ for pupils, growing from Year 4 onwards, was recognised by Burcastle Primary teacher, Mel: *"…it does become a big part of their lives and what they think about"*. Teacher, Joanne, whilst acknowledging the impact of the 11+ upon pupils, was quick to distance the school from the potential role it might play in influencing parental and pupil perceptions of the 11+, placing the emphasis firmly within home boundaries:

Joanne (Y5/6 teacher, BP):

"Yeah, it's [11+] such a big thing, and they will have had it at home. We don't really, it is not a school thing, the 11+… we don't, aside from the conversations at Parent's Evening, bring it up at all. We are not deliberately allowed to teach towards the 11+. But the perception by parents is that Y5 is far more important than Y6 because that is the run up to their 11+ year. Where obviously, the teachers, we very much feel the importance of Y6 [laughs]."

A divergence of priorities between home and school emerges, although for both, the gravitational force of high stakes examinations is visible in their creation, with competition and performativity as key drivers. For teachers, 'delivering' secure SATs results is paramount. The pressure to perform appears to have created an uneasy compliance that materialised in a pedagogical shackling of Y5 and Y6 lessons. Within a climate of intense educational accountability, it is easy to only value that upon which schools will be measured. 11+ results carry no value for a school in terms of league tables, and consequentially, disappears from the teacher's radar. Whereas poor SATs results have high-stakes consequences, such as triggering an Ofsted Inspection, forced academisation, or potentially the loss of the Headteacher's job (Bradbury, Braun and Quick, 2021). This abandonment of pupils and parents through the 11+ process leaves parents bearing the weight of responsibility for 11+, from registration for the test through to test-readiness.

With school accepting no responsibility for 11+ preparations, pupils' descriptions of their 11+ practice regimes implied parents stepped into the shoes of teachers, as assessors of the likelihood of success, and directors of studies. Comments from a few Burcastle Primary pupils suggested that their 11+ preparations were to gauge the feasibility of grammar school selectivity, such as Charlie, whose tutor was employed to *"just see if I can do it...because I find it hard".* Other pupils' parents appeared to take a longitudinal approach to 11+ preparation, indicated by pupils' recounts of the duration of coaching, suggesting engagement in insurance strategies to mitigate the risks of failure (Doherty and Dooley, 2017). Whilst Burcastle Primary teacher Julie jokes, *"there are definitely parents that definitely start [tutoring] in Y1 (laughs)",* other pupils confirmed this was not too far off the mark. Seb, (Y5) admitted started practicing for aspects of the 11+ in Year 2:

Seb (Y5, BP)   *"My brother was really bad at non-verbal. So, I've been doing non- verbal for four years now."*

Seb's comment suggests a parental fear of a repeat experience of 11+ difficulties with subsequent siblings, resulting in a home tutoring programme casting its shadow over a third of his life. Whilst most pupils were not as extensively trained as Seb, it was noteworthy that every pupil interviewed indicated their engagement in significant levels of (parentally organised) 11+ preparation. This level of coaching aligns with data from other studies that shows the prevalence of shadow education in the UK (e.g., Ireson and Rushforth, 2014). A Sutton Trust reports 18% of all UK tutoring was in preparation for a school entrance exam (Kirby, 2016), and high levels of tutoring have been found for the Kent 11+ test (e.g., Hajar, 2020). At Burcastle Primary, all but two pupils had paid tutors engaged. The most common model was private tutor sessions once or twice a week in Year 5, with additional homework in the form of test practice. However, some children had tutors for two or more years. The two children without paid tutors were tutored by parents, supported by commercial 11+ preparation books. Matt's parents were in-service teachers, and so could perform a paid tutor's role. In contrast, Seb was tutored by both parents, whom he viewed as experienced in 11+ preparation, drawing attention to his

brother's 11+ on several occasions. Moreover, his presentation of his mother characterised a confident advocate for Seb's education, requesting additional support for him in class.

Parental involvement in the 11+ was universal across all 25 pupil participants in this study, as indicated by pupils. This is unsurprising: the low rate of children eligible for free school meals at Anbury Grammar is an indicator that parental involvement in their child's education may be high. The percentage of pupils eligible for free school meals is a key index of deprivation for English schools. Whilst at Burcastle, the percentage at the time of fieldwork (11.7%) was slightly below national average for primary schools (14.5%; DfE, 2016), the gap was not as significant as at Anbury Grammar, where there was a stark statistical difference between the school percentage of 2% compared with the national rate for secondary schools of 13.2%, DfE, 2016). Therefore, it may be assumed that Anbury's school community largely encompasses the middle classes. It is widely recognised that social class and socio-economic status is associated with parents' level of involvement in their children's education (e.g., Lareau, 2007; la Placa and Corlyon, 2016), with knock on effects upon scholastic outcomes[143] and adolescent healthy emotional functioning[144].

The parents in this study appear to act in a responsibilised manner (Peters, 2005) as their children's educational decision makers (Cunningham and Davis, 1985) to maximise their child's chances of success in the 11+. This is in line with the neoliberal agendas that place parents in the role of citizen-consumers[145]. In the next section, drawing upon Hill and Tyson's (2009) three dimensions of parental involvement (*home involvement, school involvement and academic socialisation*), I will explore how these parents engaged with the 11+ process.

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[143] Jeynes, 2014; Benner, Boyle and Sadler, 2016; Hornby and Blackwell, 2018; Strømme and Helland, 2020
[144] Wang and Sheikh-Khalil, 2014; Chen, Jiang and Liu, 2021
[145] Peters, 2005; Campbell, Proctor and Sherington, 2009

Parents positioned as skilful navigators of the 11+ process

Interviews with pupils in both schools positioned parents as knowledgeable and skilled navigators of the 11+ process, with parents' 11+ preparation engagement centring on *home involvement* and *academic socialisation*. In addition to financially supporting tutoring and facilitating time for this to occur, *home involvement* also comprised parental time management support and resource provision. For Anbury Grammar Y7 pupil, Elodie, who lacked intrinsic motivation to study each day, her mother was instrumental in ensuring she maintained a regular 11+ routine during the holidays:

Elodie (Y7, AG):   *"My Mum kept telling me to do, like a bit, to make sure I stayed focused on it".*

Parental awareness of the importance of regular practice was reflected in many pupils' study schedules. Dylan's (Y5, BP) regime since September had comprised of *"a paper every day - it takes me an hour"*. For some pupils like Emily, the level of daily study required by her parents during the summer lead up to the 11+ examination was considerable:

Emily (Y7, AG):   *"I had to do a paper or two every day basically through the summer holidays".*

In contrast to Emily, some pupils, like Cassie, had a more relaxed programme of study, although, this also appeared controlled by her parents:

Cassie (Y7, AG):   *"My Mum tutors, so I had my mum, but she didn't make me work with her every day".*

That shadow education practices were evident for all pupils across both schools, typically, through paid tutoring, suggested these pupils are socio-economically advantaged[146]. However, many pupils with tutors also had additional support from parents. Several Burcastle Primary interviewees (Seb, Sophia, Charlie, Matt, Immy and Esther) referred to their additional practice during the week, often working through *"old*

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[146] A trawl of 11+ parent forums (e.g., Mumsnet, 2019; 11+ Guide; 11 Plus Exams Forum; Atom Learning 11 Plus Forum) suggests that £40 an hour is not uncommon.

papers", "CPG" and/or *"GL books"*. Madison's (Anbury Grammar, Y7), discussion of her 11+ preparation regime indicated the involvement of parents on many levels:

Madison (Y7, AG):   *"I did a lot of revision for the 11+. I had two tutors, an hour each a week. Until Y4 I was not very good with maths, and so I got a Maths tutor and then I had a tutor for everything else as well...But I went away for two weeks in the summer. So, I woke up early and did revision and then I came in in the afternoon and did some as well. But I have two older brothers and sisters, so my Mum kind of knew how much you need to do. So, we also had the past papers that my brother and sister had done...I did a lot of mock tests, about six altogether.*

Here, Madison presents her mother as an experienced navigator of the 11+ system and orchestrator of Madison's future success. From the activity within the mesosystem at Year 4 onwards that prompted the engagement of the first tutor, Madison's mother demonstrates specialised knowledge of the typical trajectories of successful pupils at super-selective schools, the financial and logistic means to oversee the 11+ project and her commitment to securing her daughter's future success. Madison's mother is comprehensive in ensuring that no stone is left unturned in the preparation for her daughter's 11+, with no holiday from test preparation and a twice-a-day revision structure established. This extract positions Madison's mother, not simply as a parent engaged in supporting her child, but as one who authoritatively has taken ownership of the 11+ process.

This maternal orchestration of 11+ preparation on several levels was common across pupils' accounts, even where pupils had existing tutors. Brianna and Hattie refer to supplementary work provided by their mothers over and above tutor homework:

Brianna (Y7, AG):   *"I started having my tutor and doing papers a year and a half before the 11+. Erm, but my Mum did extra stuff with me as well."*

Hattie (Y7, AG): *"We had someone who lived a road away from us that I had as a tutor. I only went once every two weeks, but I got a lot of homework from her...I had quite a lot of homework that summer from my tutor! And my Mum looked up the internet and found some practice tests for me too.*

However, it was not only mothers who, in the eyes of their children, were invested in 11+ preparation. Five participants also referred to the support from fathers in terms of both resource provision and academic assistance; preparing for the 11+ in many cases was a family effort.

Esther (Y5, BP): *"My Dad bought me lots of books home, so I've been doing them. And I've got a tutor as well to help me."*

Meredith (Y7, AG): *"My Dad gave me practice questions and my Mum was helping me and stuff. My Dad helped me a lot.*

Children's confidence in their parental decisions and deference to parental guidance was clear in all cases. No pupil participants disagreed with parental choices made in the run-up to the 11+, however onerous they became. India, in discussing her "hard-core" 11+ revision, referred to her mother's structuring of revision for the holidays in addition to work from her tutor.

Elicia: *"So, what is 'hard-core revising'?"*
India (Y7, AG): *"Literally, I had to revise all of the summer holidays."*
Elicia: *"Every day?"*
India: *"Every. Day. [Emphatic and resigned]. My Mum was really pressuring me, and I am really happy that she did 'cos I came to this school."*

India, despite feeling the intensity of her study programme, communicates an underlying deference to parental wisdom and a recognition that 'mother knows best,' even if it did not appear that way at the time. However, this came at the cost of feeling pressured by her Mum during 11+ preparation.

Without the support of parents, it seems unlikely that pupils would prepare for the 11+ examination. To this end, parents offered financial, motivational, academic, and logistic support, the role falling particularly to the mothers of pupils. The coordination of such resources required both parental willingness, and know-how, aside from the ability to financially resource the project. In some cases, this led to increased pressure, but also secured an advantage over pupils' whose parents who lacked knowledge or resources.

Under pressure

Children's perceptions of being placed under pressure from upper KS2 onwards was a recurring theme in interviews and, for some pupils, like India, was associated with a direct parental pressure to achieve. For others, pressure was related to previous sibling success:

Seb (Y5, BP):   *"My brother goes to [named grammar school] so I want to too."*

Cassie, (Y7, AG):   *"I was thinking the whole time before, "My sister goes here', so I was really thinking, I want to get to Anbury, so I just have to get the mark...it was nerve wracking because I knew if I didn't try as hard as I possible could, I may not have gotten into the school".*

Brianna (Y7, AG):   *"I really wanted to go to Anbury and my brother did really well in the 11+. So, well, I needed to, you know, you know, do that as well. So, it was quite a lot of pressure".*

Whilst Cassie frames her 11+ experience as operating under the shadow of her sister's success, it is still unclear as to which drivers underlie the perceived pressure to gain an Anbury Grammar Selective score. Her anxious anticipation at failing to gain a place at Anbury, for instance, could be due to a desire to be at a school that her sister has enjoyed, or to spend time and share future experiences with her sister, rather than feeling that she has to live up to her sister's example. Brianna's reasoning appears to be clearer cut. She also stressed a 'need' to achieve highly, like her sibling, and gain a place

at Anbury Grammar, placing weighty demands upon herself. However, as grammar school places in the area are single-sex, Brianna's sense of pressure appears to be directly tied to her brother's previous high achievement, and whether she can match this. Her strain may be rooted in response to several factors such as parental expectations or sibling rivalry. However, her later comments on achieving well in tests in Y7, suggests that she feels a duty to achieve, which may account for the pressure which she feels under:

Brianna (Y7, AG):   *"My Mum helps me revise a lot and stuff. And I guess other people's parents probably don't help them revise for tests and things. So, I've had an opportunity, and if I am not doing as well as them, even though I've been given a really good opportunity then I get a bit upset".*

Brianna's debt of gratitude to her parents for their support shapes her conceptualisation of achievement. Failing to achieve is seen as a wasted opportunity in the light of her advantage, with guilt seeping in where she perceives she has lacked success. However, other children in this study who felt under pressure, did not always identify the source. Amelie explained, *"Before the 11+ I felt like I was being pressured – it wasn't in that no one was telling me to do well, I just felt like I should."* Amelie's internal pressure, which she found hard to articulate, suggested that she had been academically socialised to value success in the 11+, implying the indirect role of her parents in contributing to her perceptions of pressure. The role of academic socialisation also appears to be implicit within Talia, Dylan, Bella and Molly's comments which indicate their value of a high 11+ score in terms of *qualification* aims.

Talia (Y7, AG):   *"I did get worried about that [the 11+]. Just because I know it would, like, affect quite a lot more years of my life."*

Dylan (Y5, BG):   *"I don't mind which [named selective schools] I go to, but I can't go to [named non-selective] school as they are no good academically".*

Bella (Y7, AG): *"I was nervous as this is something that will affect me as I get older".*

Molly (Y7, AG): *"I was so nervous!...It was my future -my next school. Because if I hadn't done as well, I couldn't come here and that would have affected my GCSEs and my A Levels – my whole life".*

With the impression that the trajectory of her life turns on her 11+ result, Molly's sense of pressure and anxiety around sitting the 11+ is palpable. However, the weight of pupils' future selves was not universally linked to the 11+ by all. Whilst most Burcastle Primary pupils referred to being very nervous about taking the 11+[147] *"it's nerve-wracking",* Charlotte, BP), they were less clear at articulating why this was so. Several Burcastle Primary pupils acknowledged they may 'fail'[148] the 11+, presenting their options for second choice schools, which indicated that not a non-selective outcome was an accepted possibility. Two Burcastle pupils saw the upside of a non-selective outcome. One pupil indicated that if they were not selected for grammar school, they would be with their friends elsewhere, and another pitched the proximity of the non-selective school to home as a robust consolation prize.

That pupils from Anbury Grammar presented a more consistent picture of pressure from their 11+ experience than Burcastle pupils is understandable. It may be expected that tutoring and practice regimes, aimed towards pupils qualifying for a super-selective assessment score, will be more intense than for those 'just' aimed towards passing the 11+, leading to greater pressure on pupils. The orientation of pupils looking forward towards the impending exam, and those reflecting upon their experiences may also have affected their outlook. Emotional valence has been demonstrated to affect memory encoding and retrieval[149]. High arousal events (such as the actual 11+ exam, anxiety, and

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[147] The exception was Sophia who indicated that she felt "no doubt that I am going to pass. I've got the confidence that I will".

[148] The outcome of the 11+ is a 'selective' or 'non-selective' judgement, rather than 'pass' and 'fail'. In theory, it is not possible to fail the 11+, although the use of the term 'fail' by Y5 pupils indicates how they perceive grammar school suitability judgements.

[149] Lavoie and O'Connor, 2013; Bowen, Kark and Kensinger, 2018

stressful preparations) are more likely to be remembered and raised by Year 7 than low arousal events, such as discussions around alternative schools. For the Year 5 pupils, the tangibility of the 11+ may have also affected responses. With the exam occurring at the beginning of autumn, but with sufficient distance from the summer to come when the practising schedules typically begin to intensify, it may have still felt to some as merely an abstract possibility.

Academic socialisation

Both teachers and parents played a role in the socialisation of pupils towards differing 11+ perspectives. Although Burcastle Primary teachers largely distanced themselves from the 11+, teachers prepared children for disappointing results carefully, pre-empting the catastrophisation of a *'not-selected'* outcome that is indicated in the responses above. For example, Mel shared that, *"we talked a lot before the results came out, kind of emphasising it is not the school that they go to that makes the difference, it is their attitude to learning".* Evidence for academic and *11+ socialisation* by parents did not appear directly in pupil interviews but was inferred indirectly through pupils' communication of the value of a selective grammar assessment. Sophia (Y5) admitted to *"trying harder"* due to her impending exam, *"cos I really want to be able to pass", whilst* Esther (Y5) shared that she was excited about the prospect of taking the exam "*as I want to see what it's like ...I just wanna do it to see if I can get in, to do well".* This evokes perceptions of 11+ entry akin to that of an exclusive club, where kudos is gained just from being considered to have a shot a passing the examination. Indeed, the value of attending a grammar school appeared to surpass other transition concerns, such as the continuation of friendships. For instance, although Seb (Y5) recognised his success in the 11+ would mean that his educational path would diverge from his friends, he still indicated his desire to grammar school.

Ultimately, whether parents directly communicated their desire for their child to gain a selective place, the protracted process of preparation for the 11+ itself communicated the parental value of grammar schooling implicitly and was an academic socialisation

factor. Entry and preparation for the 11+ may be assumed to be an indicator of aspiration for the future, with teacher and parental confidence that the child will fall within the top 25% of pupils in the cohort. However, examples of *academic socialisation* could also be gleaned from subtler indicators of 11+ cultivation, where it seemed that no opportunity for developing 11+ skills was wasted. Here, stealth was employed to further children's academic development, in contrast to the directness of tutoring. My fieldnotes record how parents likely engineered additional 11+ learning opportunities through controlling pupils' 'reading for pleasure' choices:

Y5 and Y6 readers can be identified by the genre of their books. Whilst Y6s are reading fiction typical of the Y5-7 I regularly observe [as a teacher educator], e.g., Alex Rider or Harry Potter, Y5 tackle classic works of children's literature. I recognise authors from 11+ recommended book lists[150]: Arthur Conan Doyle, Arthur Ransome, Rudyard Kipling and Robert Louis Stevenson".   *[FN8, BP]*

In their mission to provide their child with the greatest chance of success at selection for grammar school within a competitive field, parents therefore appeared to provide a multi-layered, coordinated response to the foreseen challenge of the 11+. Beyond paid tutoring, parents strategising to augment pupils' overall 11+ profile included targeted parental support, additional resources, the establishment of routines, as well as harnessing everyday opportunities, such as reading in service of the 11+ project.

Summary

In this section, participants' parents emerge as skilful navigators of a complex selective system. Through the 11+ preparation regimes outlined by their children, parents demonstrate how both their knowledge and means were wielded to maximise advantage for their children in the high-stakes examination. In the absence of school support for their child's 11+ preparation, parents adopted multiple roles as funders, teachers, assessors, and project managers, suggesting sufficiencies of capital to enable such

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[150] E.g., https://www.11plusguide.com/11-plus-exam-preparation/reading-succeed/classic-book-list-children/

support. That shadow tutoring was near universal for pupils from both schools, provides an indicator of how rife paid preparation for the 11+ is among the middle classes, with parental economic advantage used to lever their children's educational advantage. However, pupils' comments suggested that many parents in this study appeared unwilling to hand over full responsibility for 11+ preparation to their employed tutor and strategised to develop comprehensive complementary programmes for their children. This programming included mock tests, scheduled study, additional resources, and practice with parental support. In this way, parents also acted as insurance providers mitigating possible obstacles that may arise in the test.

Although a couple of Y5 children in this study seemed weary of such programming, such as Charlotte, who admitted that *"when it happens to you, you kind of regret that you're doing it"*, pupils, such as India, who emerged successfully from selection process, felt that despite the pressure at the time, these efforts were worth it. Indeed, pupils' confidence in their parents 11+ strategising therefore does not seem misplaced. The 11+ parentally devised and controlled preparation programmes suggest their assurance in understanding the hidden 'rules of the game' (Lareau, 2016) that operate in terms of a successful outcome in the 11+. These children, socialised to respond positively to the 11+ viewed the situation as just a *"part of their lives...like they have been to the dentist" (Julie, Y5/6 teacher, BP).* However, unlike a trip to the dentist, for many, the anxiety regarding the procedure, led to longer term pressure and adjusted worldview.

Chapter conclusion

Parts 1 and 2 of this chapter have considered the school and home environments within the ecosystems of Y5 and Y7 children who attend Burcastle Primary School and Anbury Grammar School, and how these might impact children's responses to soft failure. Examining the institutional identities of the schools within the children's microsystem is an essential starting point in understanding the origins of the error climate of the classroom. The initial picture drawn of the schools is characterised by complexity. The qualification, socialisation, and subjectification aims and values of the schools, at times

conflicted and were unbalanced. The culture of performativity at Burcastle Primary, which lead to the sorting, categorising, and labelling of children, or the grading policy at Anbury Grammar, I have highlighted as potentially problematic disrupters to school's attempts to build a positive error climate. These practices fostered social comparison which can lead to a competitive classroom goal orientation and affected pupil reactions to soft failure.

Stemming from the exosystem (Bronfenbrenner, 2004), the influence of the local selective education system was also felt keenly by pupils through parentally prepared shadow education programmes. Parents who had learnt how to navigate the system nimbly, facilitated their child's academic advantage in the zero-sum game of the 11+ selection test. However, for many pupils, these efforts came at a cost: pupils, particularly at Anbury Grammar reported a pressure to succeed and nearly all the Y5 pupils all shared their anxiety about the impending exam. In the following chapter, I will examine the impact of such competition and pressure in terms of pupils' responses to soft failure in the classroom.

Chapter Seven: Establishing a dignity-safe classroom

7.1 Introduction

I have argued in Chapter six that the high-stakes environment, stemming from school and teacher values within a selective education system, have led to pupils' perceptions of threat and pressure, priming pupils' responses to soft failure. This chapter continues to explore the classroom conditions under which pupils cope with soft failure, and when it slips into fear, focusing on how the teacher's 'invisible hand' in the classroom (Cairns and Cairns, 1994) shapes the error climate, in their role as a "de facto leader of the classroom social system" (Farmer, McAuliffe Lines and Hamm, 2011 p.249). Building on the contextualised understanding of pupils' responses to soft failure, I begin this chapter by exploring pupils' responses to soft failure in terms of the organisation of learning into collaborative, independent and whole-class episodes. I explore how the classroom might be understood as a safe space that preserves pupils' dignity, and the difficulties teachers may encounter in achieving this alongside challenging, risk-filled learning. As the chapter closes, I identify some examples of teachers' adaptive error-handling.

7.2 Challenges to the classroom safe space

Many pupils feared making public mistakes in this study, their exposure in erring related to a socially perceived threat which was underscored by questions of classroom safety. As we have seen in the previous chapter, some pupils, such as Charlie and Clara, were socially intimidated by their peers' possible reactions (*Charlie, Y5, BP: "[I] don't really want to [raise my hand in class] in case they would make fun"; Clara, Y7, AG: "I think…if I get the wrong answer people will laugh at me"*). Charlie and Clara's perspective sat in contrast with their teachers, Mel, Joanne, and Julie, who insisted that the classroom environment was safe for pupils to take academic risks. Sharing a recent anecdote where a boy blended the spelling of two homophones to incorrectly form the

word 'cerial', Mel noted how supportive the class were: *'if something goes wrong, they certainly don't snigger or anything like that over it'*, raising the question of whether pupils' perceptions of peers reactions were accurate, or whether the whispering simply goes unnoticed for the teacher. Julie also felt that pupils were *"particularly supportive"* of each other and would not *"laugh or any of those things"* at peers' errors. However, Mel later admitted that support for others was not universal, with pupils *"smirking"* at the mannerisms of an autistic boy, who clearly had been 'othered'[151] by his classmates. This indicates the presence of classroom social hierarchies and raises questions of whether all peers are accepted equally in the classroom. However, it also suggests that teachers may not always be the best judge of whether classroom safety has been established.

Whilst peer cultures contribute to the construction and reinforcement of the classroom error climate, as we have seen in Chapter Four, it is the teacher's hand that arguably is strongest in shaping classroom social dynamics (Farmer, McAuliffe Lines and Hamm, 2011) and classroom safety. Teacher-pupil interactions have been found influential upon peer behaviours[152]. During episodes where pupils experience soft failure, pupils may be affected twice: not only through the direct response of teachers, but indirectly, through teachers' influence on peer ecology. Therefore, it is essential to consider how teachers' classroom actions and interactions affects the safety of teaching spaces.

However, pupils' fluid, complex, and at times, enigmatic responses to soft failure in this study complicates an easy deconstruction of teachers' error-related practice. Pupils were often seen to respond buoyantly to soft failure, using errors and impasses as a springboard for learning, but at other times, soft failure appeared to become an emotional barrier to the same pupil's progress. This often occurred within the span of one lesson. In attempting to identify the relationship of pupils' responses to perceptions of threat and classroom safety, I will first consider the impact of teachers' organisational

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[151] Labelled as not fitting in with norms and thereby subject to marginalisation
  (Krull, Wilbert and Hennemann, 2014; Chatzitheochari, Parsons and Platt, 2016)
[152] Luckner and Pianta, 2011; Endedijk *et al.*, 2021

structuring of lessons, examining pupils' responses to soft failure in terms of collaborative, independent and whole-class learning episodes.

Classroom safety and collaborative learning

During collaborative tasks in both schools, there were little signs of anxiety observed when pupils encountered impasses or made errors, with laughter frequently punctuating the industrious classroom atmosphere. During science and computing lessons at Burcastle Primary, soft failure encounters and difficulties were often publicly expressed, indicating pupils felt little shame in encountering obstacles to learning.

Frank:	*"Nooooo, it's a disaster!"*
Ethan:	*"I have made a MAJOR mistake!" [leans back in his chair and exhales in frustration]*

[Y5/6, observation, computing]

Even where Bryony (Y5, BP) directly used the language of failure during the lesson: *"You know what, I could have done something really cool, but I really failed!",* her accompanying smirk revealed emotional detachment and her acceptance of failure as part of the learning process. Problem solving appeared to be prioritised over one-upmanship when working in small groups. In a computing lesson, pupils were positioned as models of good practice for each other. Whilst Mel (Y5/6 teacher, BP) communicated an explicit expectation at the start of the class to, *"help each other",* collaboration was built into the lesson, with pupils instructed to move around the class to look at other's designs. Notably, after this task, pupils began to take greater interest in their own and others' work, offering suggestions to each other for improvements, collaboratively problem solving and piggybacking from others' ideas to further their own designs. The level of challenge effectively levelled the class, with barriers of hierarchy effectively dismantled through collaborative structuring. The collegiate atmosphere led to a gritty, but positive environment.

At Anbury Grammar, during Latin, pupils also enjoyed the opportunity to work in pairs, acting in a supportive manner, and demonstrating sensitivity with peers' errors and impasses. Guided by Mercer's typology of peer talk, referred to in Chapter Two, the character of peer dialogue was found to be largely exploratory (as with Burcastle Primary lessons), rather than disputational (Mercer, 1995) with pupils effectively scaffolding and modelling work for each other. For example, in translating 'servī fēminās spectābant', Roisin, in spotting the translation error, gently corrected Leona as they worked collaboratively to revise their work:

Leona:	"Then slaves watched the spectacle -"
Roisin:	"Is spectābant, spectacle? I think it means to look at. Look here, at the word order [points at the subject-verb-object of the sentence] the slaves watched the females."
Leona:	No, I don't think it is watched."
Roisin:	Yes - it is a 'bant' [indicating the imperfect, rather than the perfect tense] - watching!

[Y7, Latin lesson, AG observation]

Good natured cooperative enquiry was echoed throughout the classroom during paired work. Although sometimes direct corrections were made by a peer in Latin, e.g., *"No, it's slaves, not slave!"*, peer work never slipped into disputational talk (Mercer and Littleton, 2007), which is characterised by a more competitive response filled with disagreement and individual assertions, nor was social loafing observed. However, whilst no partner attempted to arrest control from the other in Latin, in science, there were examples of knowledgeable chemists dominating an investigation.

Classroom safety and independent learning

There were different approaches to independent work between and within the schools with different teacher approaches moderating pupils' responses to soft failure. At Burcastle Primary Art was the only lesson observed where pupils worked independently. Within a chatty and relaxed environment, pupils worked in parallel, but still were on hand to advise each other *(Tim: "Yes, but if you choose stippling, you will need to do loads of them [dots]")*, offer help *(Nathan: "What is hatching? I'll show you")* and reassure

(Maisie: "No, it's really good!"). A glimpse of independent work at Burcastle Primary was gained through interviews. Sophia, revealed a classroom focus on self-efficacy where impasses were reached:

Sophia (Y5, BP):   *"We have these maths boxes, or a literacy box with dictionaries and things. You can use the resources to help, 'cos there's one over there with rulers and resources and all of that - kind of counting things, sticks…they say, 'if you need the help, just go and get them'".*

Sophia indicates the presence of classroom mastery goals where reaching an impasse is an accepted part of learning, and independently working through an impasse is an expectation. However, this perspective was complicated by pupils' comments that indicated personal performance goals, with independent work seen as an opportunity to demonstrate the speedy of completion of work.

At Anbury Grammar, independent work functioned differently in science and Latin. In science, observed independent work involved writing up an experiment and designing a space rocket. Like Burcastle Primary, independent work still involved collaboration, with peers providing the primary source of advice, support, and scaffolding throughout the task. Whereas in Latin, all independent work was undertaken under *"test conditions" (Laura's interview, AG)* to be evaluated by the teacher. Laura suggested a *"lack of [pupil] confidence"* explained pupils' retreat into guesswork during independent tasks, in response to the evaluative conditions:

Laura (Latin, AG):   *"When you give them something to do on their own, they feel like they are being judged and so they get these inhibitions come into play and they come into pressure."*

Although Laura did recognise the link between the collapse of pupils' known strategies and their helplessness within the evaluative situation, Latin pupils' reactions during independent work were not problematised by their teachers. Pupils' reactions to soft

failure and academic risk taking when faced with independent work appeared to relate to the purpose of the activity. Pupils appeared to be sensitive to, and to understand their teachers' intentionality in setting independent work and responded accordingly. Where pupils felt evaluated, the stakes of making errors rose, affecting pupils' reactions, leading to pressure, tension, and their ability to utilise their problem-solving strategies effectively.

Classroom safety and whole-class learning

As with independent work, pupils' reactions to soft failure within whole class learning episodes varied considerably. Pupil responses were mediated by their understanding of the purpose of whole-class work, and the handling of soft failure by the teacher. For example, a Burcastle Primary science lesson on classification with Joanne had an exploratory rather than evaluative orientation, with Joanne's error handling supporting Tim's continued thinking, rather than pronouncing a judgement:

Joanne (BP, Science teacher):	*We now need to think about which features are most common and use this to help us group them… Who can think of a question we can ask to help us classify the Allsorts on our key?*
Tim (Y6, BP):	*You could ask about the colour [wait time of 2 seconds] - has it got black in it? [3 seconds as Tim looks down at his sweets]. Oh, they all have black in them, so maybe, whether there is more than one colour [wait time 1 second] – is there more than one colour?*
Joanne:	*Ok! Shall we try that one?*

[Y5/6, observation, science]

Joanne's suspension of judgement upon Tim's error (including the absence of praise) and use of 'wait time 2'[153] after she posed a question (Rowe, 1974, 1986), and during Tim's

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[153] 'Wait time 2' refers to the pause between the pupils' response and the teacher's subsequent comment (Rowe, 1986).

answer, supported his auto-extension and revision of his response. Rowe, (1986) argues that wait time 2 leads to improvements in pupils' logic and language, with responses increasing in length between 300% and 700%. Ingram and Elliott (2016) suggest a possible mechanism for this effect: pupils may interpret wait time after their response as an indicator that their answer requires correction or development, thereby initiating a self-repair through auto-extending their response to include reasoning, examples, or explanations. Tim's control of the situation (including his choice to contribute), and Joanne's communicated aims of enquiry, rather than evaluation, may have contributed to his ability to think aloud and take academic risks and contributed to his lack of self-consciousness during the episode.

Exploratory episodes such as these stood in contrast to others, where the teacher's communicated intention was to evaluate understanding and address misconceptions. In one example, teacher Anna's identification of Lucy's (Y7, AG) tense error in Latin (*"Look again at your endings carefully, it isn't 'walked'"*), placed her under scrutiny to articulate the correct answer:

Lucy stares at her book with glazed-over eyes silently – her frozen response makes interpretation difficult. Is she inwardly working out the answer, or has her thinking stopped in panic? What is clear is that her response to the error is clouded by the public nature of its identification. Only ten minutes ago, through the prompt of her partner, she revised her translation, using the textbook for reference. Her response in front of the class, therefore, appears to be less about the experience of erring, than Anna's evaluation of her in front of others under the pressure of time. [FN42, AG, Latin]

Teachers understood well that some pupils feared answering in whole class scenarios and approached the situation with differing levels of sensitivity. Kiera (Science, AG) explained that *"although I know some pupils dislike it [answering in front of others], I can't pander to it, if you know what I mean."*

In line with Callan's discussion of classroom safety, discussed in Chapter Four, Keira appears recognises the importance of 'intellectual unsafety' within learning (Callan, 2016). The threat to learners' intellectual unsafety is considered acceptable by Callan, so long as learners' "dignity safety" (p.64) is preserved. In other words, humiliation is

considered only within its moral context, and learners are 'dignity safe' if they are protected from the risk of belittlement from others or being perceived as less than others. For Esther (Y5, BP), who disliked contributing in class lest others hear her making a mistake, leaving her under pressure, *"upset and embarrassed"*, there is no sense of a moral wrongdoing by peers. Therefore, by this measure, Esther's situation may be considered as appropriately safe, even though it may be distressing to her. A different conclusion may be reached for Seb (Y5, BP), who feared raising his hand in class:

Elicia:	*"Why does putting up your hand make you worry?"*
Seb (Y5,BP):	*"In class, at the back, there's people normally in every single class I've been in, at the back, there's been people, if you get it wrong, they will whisper about what I have said – about what everyone has said."* *[Seb, Y5, BP, interview]*

Seb's reference to *"people normally in every single class I've been in"*, who whisper at mistakes made, captured his perception of threat lurking at the back of each class. Seb's participation in class under such threat, where his error making may be the source of ridicule, scorn, or belittlement, suggested he is at risk of humiliation, or at the least, at risk of having humiliation concerns. If this was the case, a moral boundary may have been crossed, Seb's dignity would be threatened, and the classroom would no longer be regarded as safe.

However, ascertaining whether a classroom environment is dignity-safe is often more difficult than might be imagined from the clear examples provided above. In a Y7 Science enquiry, pupils' interest, piqued through considering toileting arrangements in space, raised many questions, some of which revealed misconceptions. For example, when Saffie asked whether excretions would be frozen in space, Hailey provided a direct response:

Hailey (Science, AG)	*"No, that wouldn't happen [scoffs, frowns, and shakes head, wrinkling her brow and nose] - that happens inside the spacecraft, not outside!"*

Hailey's negative non-verbal expressions are tantamount to a dismissal of Saffie's question and thinking, communicating that she 'should have known better' than to suggest something so ridiculous. Saffie does not volunteer to comment for the rest of the lesson.   *[Science lesson, AG FN24]*

Here Hailey appears to straddle the acceptable safety borders of the classroom climate. Her direct response to Saffie not only addresses a misconception, but as we have seen in Chapter 4, through not employing hedging devices, she normalises the mistake making process. According to Callan, Saffie is "intellectually unsafe"(2016 p.65), but this is deemed acceptable within a learning context. However, it could also be argued that Saffie's "dignity safety" (Callan, 2016, p.64) has been compromised through Hailey's tone and negative body language which reveals traces of Hailey's processing of Saffie's answer, and potently speaks of Saffie's unacceptable response. This shifts pupils' focus from considering the quality of the question to Saffie's inherent qualities, such as thinking and ability. This social evaluation can lead to achievement-related emotions (e.g. shame, embarrassment, disappointment and anxiety) that affect motivation and behaviour (Vogl and Pekrun, 2016). Should this occur, then Saffie's dignity is at risk.

Several processes, such as social appraisal theory[154], attribution theory (Weiner, 2000) (see Chapters One and Two), and emotional contagion theory[155], when combined, may explain how this shift may occur. In line with social appraisal theory, the emotional expressions of others are thought to help us make sense of social situations (Parkinson and Manstead, 2015). Expressions act as affective signifiers, carrying social information[156] that can be used in social appraisals. Therefore, pupils, listening to Hailey's response to Saffie, not only listen to the content, but are likely to read her emotional output to reach a more developed understanding. Hailey's non-verbal communication can be seen as modifying the effects of her verbal correction, not only strengthening the rejection of Saffie's answer, but altering it through the additional affective information provided. This may affect pupils' causal beliefs regarding Saffie's

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[154] Manstead and Fischer, 2001; Kleef, 2009; Parkinson and Manstead, 2015
[155] Hatfield, Cacioppo and Rapson, 1993; Howard and Gengler, 2001; Hsee *et al.*, 2008
[156] Weiner, 2000; Kleef, 2009, 2010; Kleef *et al.*, 2011

overall competency. Furthermore, there is a risk that the social appraisal process (Parkinson and Manstead, 2015), may act as a conduit for an emotional convergence (Hatfield, Cacioppo and Rapson, 1993) between teacher and pupil. Emotional contagion theory describes how the 'transmitter' of emotions (Hailey) can 'infect' 'catchers' (pupils) (Hatfield, Cacioppo and Rapson, 1993 p.6). Therefore, Hailey's own beliefs about Saffie's competency, as signified through her facial expressions, may be directly transferred to the pupils in the room.

Other teachers, such as Laura (Latin, AG), demonstrated a desire to provide an environment where pupils felt that they were able to take risks. To further this aim, she used the software 'Plickers', for its facility to preserve the anonymity of those giving answers to all but the teacher. In the subsequent interview, in discussing the rationale for utilising Plickers, Laura remarked:

Laura (Latin teacher, AG):   *"and of course, it's secure...you don't want the weaker ones to think that everybody knows they are getting it wrong".*

However, this intention was undermined by Laura's use of Plickers, where individuals' academic positioning in the assessment was still revealed to the class:

Laura: *"One student has got this wrong, but they will see why in a minute..." [Furtive glances silently check who is looking guilty].*

"Not everybody getting it right this time. 26 out of 30 did, so well done!" [Jubilant responses from many, including smiles, and thumbs up to others.]

"Who said this was a verb?" [Girls raise their hands] Cor-rect!
[Y7, Latin lesson, AG observation]

Whilst aiming to provide a safe environment for assessing learning through answers that were anonymous to all but herself, in revealing to individuals their comparative

levels of competence, Laura facilitated the development of class hierarchies and competition. Pupils' keenness to make social comparisons was evident later in the lesson with many student requests to unmask the pupils with correct or incorrect answers, such as Daisy:

Daisy (Y7, AG):   *"Who was wrong? Tell us!" [excited tone]*

Even though Laura refused to comply with these requests, the erring pupils still could feel the unhappy weight of negative comparison with their peers through Laura's response:

Laura: *"The point is that we do not need to single them out –*

will know".   *[Y7,Latin lesson, AG observation]*

Despite her commitment to not 'single out' pupils, Laura appears to have unwittingly done so. Although the revelation of who was incorrect was not in the public arena, the individual pupils concerned were likely to keenly feel the effects of being told they were in the minority of those who are incorrect. Laura's response, *"we do not need to single them out - they will know"*, implies that pupils who are incorrect will, and should, internally recognise their lower position in relation to those in the class. Where individual attributions do not point to an external reason for getting answers wrong (e.g., failing to revise for a test, or being absent for the initial learning), internal attributions may centre around their comparative ability with peers, and possibly impact on self-esteem.

Whilst whole-class teaching was far more likely to generate negative perceptions of, and responses to, soft failure, when compared to collaborative or independent work, this was related to teachers' communication of the purpose of the teaching episode (whether performance or mastery based). Where dialogic or collaborative strategies were built into whole-class episodes, pupils more readily accepted and were able to learn from their errors. However, many whole-class teaching episodes were performance-focused

and characterised by teacher evaluations of pupils, peer comparisons and competition (which I shall return to later in this chapter and Chapter Eight). Under these conditions, pupils' sensitivity to the potential of threat during soft failure experiences increased. Therefore, teachers' organisation of lesson, strategy choice, and handling of errors, is critical to pupils' emotional responses to soft failure, determining whether safety or threat is perceived. However, as I will show in the next section, even for teachers who recognise the role of soft failure in levering learning, securing safety in the classroom is a challenging enterprise.

7.3   The fuzzy edges of dignity safety

Whilst it was easy to establish where teachers had shifted pupils into a zone of intellectual unsafety it was trickier to ascertain whether pupils' dignity-safety had also been preserved. In the following excerpt, Latin teacher Laura, in identifying that Leah may not be fully comprehending what she is reading, recognises the importance of drilling deeper into Leah's understanding through further questioning, but in doing so, may risk not only her intellectual safety, but also her dignity safety:

Laura (Latin teacher, Y7):	*"OK, so mostly everyone is getting this all right. So, why is it declensions? Explain to us how the plurals work. Give an example, like formula/formulae [short pause] - Leah? [a 'hands down' approach is used to select Leah].*
Leah (Y7, AG):	*[two seconds' wait] "Nouns change their ending from the singular to the plural, and the declensions depend on whether it is first, second or third. Plural verbs –"*
Laura:	*"That is lovely reading, but we are not interested in verbs, are we? We are doing nouns. So, you started well, but then you started veering off on the wrong path. I want you to explain to me. You don't need to read from your book."*

[Leah sits hunched with brightening cheeks as Laura reveals to the class that Leah is reading. She sits up from her book and looks at her teacher. The eyes of the class immediately turn to Leah – all silently wait].

Laura (Latin teacher, Y7):   *"What do declensions tell us? You were starting to get it, but explain it in your own words" [2 seconds' silence]. How do we know the plural of cactus is cacti – with an i- that you have to put an 'i' when you do the plural? [3 seconds' silence]. So, did you get this one right? Did you put an 'I' at the end?"*

[Leah nods and looks as if she may commit to comment after a sharp intake of breath but says nothing. She stares, with wide eyes and a tight pointed mouth that won't let words escape].

[Y7, Latin lesson, AG observation]

Leah, in parroting an answer directly from the textbook is 'caught out' by Laura, who wastes no time in identifying that a wrong turn has been made. There is no intellectual safe place of hiding for Leah – Laura's direct style cuts straight to the issue, laying bare for Leah and the class where her weakness of understanding lies. Leah treads on intellectually unsafe grounds as she publicly is invited to engage in the liminal space between knowing and not knowing in the interests of furthering understanding. In preparing for her to take these steps, Laura paves the way for Leah to demonstrate success and reach intellectual safety again through questioning prompts and examples. Words of encouragement *("you were starting to get it")* demonstrates Laura's faith in Leah's competence and ability to work out the answer. However, Leah thinks twice about taking the next steps and remains silent.

Within the exposing context of whole class questioning, Laura attempts to preserve Leah's intellectual safety through a scaffolded and supportive approach, although, running parallel is a recognition that learning entails risks that cannot wholly be mitigated. However, whether Laura has been successful in ensuring Leah's dignity remains intact is questionable. Whilst the class do not respond with laughter or ridicule, in laying bare Leah's answering strategy of reading from the textbook to the class *("That is lovely reading, but we are not interested in verbs"),* Laura divulges information that is likely to cause Leah embarrassment and is not necessary for furthering the class'

understanding of declensions. Laura's subsequent attempts in engaging Leah to speak (*"Did you get this one right? Did you put an 'i' at the end"*) serve little purpose but to fully unmask Leah's pretence of understanding. This places her in a precarious position regarding class intellectual hierarchies and potentially may jeopardise her sense of dignity.

Whether Leah's dignity has been compromised, according to Callan's delineation of safety, is dependent on whether Laura has committed a moral offence. For Callan (2016), it is immaterial whether a learner is more sensitive than others to experiencing feelings of humiliation, pointing to a learner's conceptual confusion between feeling humbled (where shame may occur at the point of legitimate correction) and humiliation (where we are treated as, or are anxious that we will be considered, intrinsically inferior to others). On first reading, although Laura has clearly embarrassed Leah (firstly, through telling the class that those who are incorrect are in a minority - *"mostly everyone is getting this all right"*- and secondly in exposing Leah's guesswork), she does not appear to have crossed a moral line. Nevertheless, this classroom interaction does highlight a conceptual fuzziness surrounding what might and might not constitute sufficient grounds for learners' humiliation concerns: this reasoning turns upon whether the episode risks leaving a learner reduced as an individual in the eyes of their peers. It may be argued that this episode relegates Leah's status with her peers. Laura, in declaring that that most pupils have experienced success, has thereby separated her from the peer group. This is particularly significant within a grammar school context which is orientated towards high achievement. Correlates for peer status can be determined by the academic orientation of the cohort. Within high achieving contexts, such as grammar schools, high achievement and sociometric popularity (how well-liked an individual is, in contrast to being the most popular person) are correlated (Titkova, Ivaniushina and Alexandrov, 2013). For example, a study by Garandeau, Ahn and Rodkin, (2011), in the context of a German Gymnasium (Grammar school equivalent), demonstrated an association between the rank within the classroom social hierarchy and high achievement. There is some evidence that this may be particularly true for girls (Adler and Adler, 1998). Leah's attempts to fudge an answer further position her as one who is floundering in contrast to other learners. Whether this is sufficient to downgrade

her status on a more permanent basis is questionable, but not impossible. For this, we would need to know more about the peer group and adolescent mentalizing, which I shall return to in the discussion chapter.

A final illustration from Laura's Latin lesson also highlights the difficulties of interpreting "dignity safety" within real classroom interactions. In contrast to the illustration above, the responses of the teacher, class and pupil are inverted: in response to Olivia's floundering response to a question, the teacher says little, whilst the class responds with laughter. Yet, despite the classes' reaction, Olivia's dignity may remain intact with classroom trust acting as a buffer.

[Teacher Laura, asks pupil Olivia to explain how she reached the correct answer (c) to the multiple-choice question.]

Laura (Year 7 Latin teacher):	*Why is 'C' the correct answer – tacitus, or quiet – is not a noun? - Olivia?*
Olivia (Y7, AG):	*"Because it is an abject? adj? verb? adjective?"*

[Y7, Latin lesson, AG observation]

[Olivia appears to change answers based on cues from her teachers' raised eyebrows. Pupils respond with lots of laughter. It feels like friendly laughter, and Olivia does not seem outwardly upset, a touch of a wry smile emerging as she engages further into guesswork. Although, maybe the faintest flush around her cheeks reveals an element of self-consciousness also. Teacher, Laura, maintains composure throughout the interaction. Even though verbally silent throughout, her warmth is communicated through her patience and smiling eyes. Her facial responses indicate mock surprise at the answers presented, helping Olivia reach the correct answer eventually. Latin lesson, FN23].

As the class' laughter is triggered by Olivia's staggered response, it would be easy to conclude from immediate impressions that she is not safe from fear of ridicule or judgement, thus indicating that this is not a psychologically safe environment where her dignity is protected (Jackson, 2017). According to the superiority theory of humour (e.g., Bardon, 2005; Dadlez, 2011; Morreall, 2014), but with roots in Plato, Aristotle and

Hobbes, mirth is felt when recognised ignorance leads to enjoyable feelings of superiority over others. With this framing, pupils' errors and mistakes can become a source of schadenfreude, regulating social hierarchies (Lange and Boecker, 2019). Other classroom episodes observe Olivia procrastinating when completing independent work in Latin and attempting to manipulate when she is called upon to answer questions in class. These behaviours may be an indication of her struggling to keep pace with other pupils in Latin and could indicate that she is a lower attaining pupil in the class. Viewed in this light, her reaction to the teacher's question (where she appeared comfortable in revealing repeated guesses) and the classes' response may fulfil the expected role within the social rank that has been established previously. Although low status individuals do desire respect and influence (Durante and Fiske, 2017), stereotyping of those low in social status may result in behaviours that conform with the group expectations, reinforcing the individual's position (van Laar and Sidanius, 2001). In this case, a self-sabotaging strategy emerges where to protect the ego from the consequences of failing to achieve, a disassociation with academic engagement occurs. However, this is but one scenario. It is impossible to know from limited observation exactly what Olivia and the class were feeling, her rank in the social hierarchy, and whether it was under threat. However, other theories of humour, such as the Relief Theory (a venting of nervous energy[157]) and Incongruity Theory (a breach in normal mental expectations[158]), provide alternative ways of thinking about the role of humour and laughter as responses to the class' reaction to Olivia's blundering.

Relief theorists, in considering Olivia's episode, may view the class' laughter, not as a mark of their feelings of superiority, but, following Morreall's example (2014), as a release of built-up feelings of vicarious embarrassment which are inappropriate to express in class for fear of making the situation worse. Feelings of awkwardness, pity, or embarrassment may have arisen in her peers, given that the question targeted fundamental grammatical concepts that Olivia might have been expected to answer correctly. Laura's non-verbal communications might be seen as a potential mitigator of such emotions, bringing a light humour to the moment, and reducing the potential

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[157] Berlyne, 1972; Baber, Donnelly and Morreall, 1984
[158] Berger, 1976

gravity of such a lapse of basic concepts in Latin for Olivia's status within the class hierarchy.

Viewed with the framing of incongruity theory, the class may have found Olivia's initial jumbled attempt to pronounce "adjective" as "abjective" as unexpected, with the subsequent guessing charade enacted by Olivia furthering the levels of absurdity. It is plausible that the class may not have been reacting to Olivia's failed attempts to correctly answer, but Olivia's multiple attempts to answer in synergy with the teacher's body language to guess the correct answer – an unexpected, gamified transaction between teacher and pupil. This would point to incongruity as a cause of the laughter. Interestingly, Cassie, also in Olivia's Latin class, in discussing which mistakes are salient in a whole-class scenario, refers to her class' laughter when a "silly" mistake is made *("our class is quite friendly, so we will just laugh about it").* Here, she interprets her class' laughter as stemming from the cohesiveness of a friendly group. Classroom laughter related to 'silly' responses was echoed in a Latin lesson with teacher Anna, where cascades of pupil laughter occurred in response to Asha's (Y7, AG) explanation of how she derived the meaning of the word 'luna' – from a 'My Little Pony' cartoon rather than through Roman mythology. These examples lend support to the incongruity theory in the context of this class.

Although it remains unclear as to which theory adds interpretation of this vignette, it is evident that laughter must be understood as situational (Shanks and LaFollette, 1993). In this short interaction, understanding the context is key to assessing the causal roots of the class' laughter. For the classroom observer, context may not be readily discernible. Laughter erupts, not from within a vacuum, but arises within the mesh of pre-existing relationships and a shared historicity: work by Reis and Shaver (2018) on intimacy, underline the dynamic, transactional processes involved. Contextual understanding may enable the observer to know whether the laughter had a disparaging edge, rooted in theories of superiority, and therefore was unconducive to the classroom error climate and maintaining Olivia's dignity. Conversely, context may equally determine whether the laughter indicated the positive quality of relationships within the classroom. Although it is impossible to be sure that Olivia's lack of outward distress reflects her

inner situation, her handing of the event may indicate that trusting relationships have been established in class. In trusting others, there is an acceptance of one's own vulnerability as trust necessarily carries a degree of risk[159]. Olivia clearly revealed her vulnerability to the class, but we might infer that in her marking the laughter as acceptable through her responses, she trusted the situation a safe one. This contrasts with other incidents of pupil errors within the Latin lessons where pupils refrained from laughing. Shared laughter is linked to safety in two important ways. Firstly, shared laughter may have a possible evolutionary function in primates (Gervais and Wilson, 2015), facilitating relationship development through inducing feelings of safety (Kurtz and Algoe, 2015). Secondly, shared laughter indicates similarities of worldview (Kurtz and Algoe, 2017), furthering the cohesiveness of a group. Where our mental models of the world cohere with those of others, it is easier to find ground on which to unite (Morgan, 2016). A shared framework of understanding within the class, temporally situated, may be gleaned from the verbal and non-verbal exchanges between teacher and pupil: Olivia and Laura appear to work in communion to muddle through misunderstanding to arrive at the answer. Seen within this context, the class' laughter may be taken as a barometer of wellbeing (Kurtz and Algoe, 2015; 2017), trust and unity within the group, and not an indicator of a space that is 'dignity-unsafe'.

Taken together, the two examples of soft failure within Laura's teaching highlight the ambiguities in the conceptualisation of humiliation and dignity within an adolescent classroom context, which make it difficult to know if a classroom space remains a safe one for learning. Whilst conventional wisdom may indicate that a respectfully silent class is less threatening to self-worth than one that laughs at classroom struggles, the twist within the vignettes is that the opposite may portray the experiences of Leah and Olivia. The error and risk-taking climate is heavily context reliant and its understanding cannot be gained through first impressions. The exposure of Leah's lack of understanding, despite the role of her class as a silent audience, is more likely to be an imminent threat to her dignity through a loss of classroom status than Olivia's open confusion within a trusting environment. Whilst the answer to preserving pupils' self-

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[159] Meyer, Davies and Schoorman, 2006; Alarcon et al., 2018

worth cannot be for the teacher to shy away from the feedback needed to enable pupil progression, teachers also need to understand the weight of their words within the social arena of the classroom and carefully consider the framing of their feedback, particularly in whole-class episodes.

7.4   Facilitating intellectual unsafety and dignity safety

In Chapter 2, I argued that challenge was central to learning, in terms of both pupils' cognitive development and motivation. However, in meeting the human need for challenge, the possibility of soft failure necessarily slips in by the back door. This means that to learn, pupils must become 'intellectually unsafe' – challenge is disruptive, and undermining, prompting cognitive dissonance, and revision of schemas. For teachers, the challenge that providing for challenge brings, is to ensure that pupils' dignity remains safe whilst they dwell in cognitively uncertain grounds. This section will be divided into two sections. In the first section, I shall look at some examples of teachers' error handling where pupils have been challenged. In the second part, I will look at how challenge might be harnessed as a buffer to threat and fragile competency beliefs.

Teachers' error handling and the preservation of pupil dignity

In Mel's computing class, where pupils were engaged in designing their own digital art gallery, the lesson was characterised by pupil frustration, failed attempts and impasses:

At each turn I make, pupils are stuck – some silently persist - eyes narrowed, hunching over their laptop - pupils striving to work out where they have gone wrong in their building orientation. Others spend little time before seeking help – from Mel, a peer, or a video tutorial. There are those, however, who make their frustration clear to all; "Oh man!" shouts Stephen, throwing himself back dramatically in his chair.

[Y5/6, computing lesson, observation, BP, FN40]

However, the lesson was also characterised by a playful timbre, with pupils celebrating each other's successes: on the resolution of Bryony's impasse, her two friends struck up a chorus of Cliff Richard's song, "Congratulations."

Interestingly, in contrast to some teachers, Mel modelled a direct approach to impasses, with no softening of language through hedging devices. For example, during carpet time, when Y6 pupil, Sean, volunteered to demonstrate to the class how to create the walls and roof of the gallery on the interactive whiteboard. When Sean chose a sub-optimum procedure, Mel intervened quickly to ensure the correct procedures were modelled for the class, joining him at the whiteboard to walk him through procedures:

Sean (Y6, BP) :   *"Then you get the moon tool, so that -"*

Mel (BP Y5/6 teacher) :   *"No. If you do it there, you are not going to be able to see the end [gestures with hand]. Look at this end here [points]. Keep going. [Sean comes away from the board to look at what Mel is doing and then experiments whilst the class look on]. View it from this side [points again] so you are happy. [Sean spins the building to examine it from all angles and adjusts it]. Ok? It should snap on the axis in the middle [Mel waits again]. Now orientate and check your work. Well done!"*
                                                            [Y5/6 computing lesson, BP observation]

Sean, having initially volunteered to support the class but ultimately requiring support himself, did not appear to develop self-consciousness. Although, personal characteristics, including personality and genetic traits may account for his reaction, his teacher's handling of the episode also may have contributed to the retention of his dignity whilst his understanding developed. The first contributing factor to Sean's lack of embarrassment in the face of his teacher's critical reaction may have been the retention of his autonomy. Above, and in Chapter 2, we have seen how Self-Determination Theory explains how motivation can be sustained in the face of everyday setbacks. Support for the three key principles of Self Determination Theory (autonomy, competency and relatedness; Ryan and Deci, 2000) are identifiable in this classroom episode, with the three psychological needs working not separately, but merged to provide a buffer to challenge and soft failure. Mel ensured that Sean remained the key actor in this episode, preserving his autonomy, whilst providing the necessary feedback to facilitate his progress. Her reference to whether he was happy with the outcomes

before finishing and allowing him ownership of the design and control of the computer, underlined her adoption of a facilitative teaching role where pupils were in control of their learning, were expected to make mistakes, and were encouraged to strive for excellence. Therefore, the outcome was still owned by Sean, allowing him to feel increased competence, even though it was heavily scaffolded. The climate in Mel's class (Burcastle Primary), can be characterised as intellectually unsafe (Callan, 2016), but where dignity safeguards appear to have been established and embedded, leading to respectful encounters between peers where supportive relationships were evident.

Trusting relationships within the class also underscore Sean's positive response to his wrong turn, and the classes' reaction. Trust between Mel and the class was evidenced in several ways that cannot be condensed into one IRE event, indicating the importance of the overall error and classroom climate in determining pupils' responses to soft failure. Positive relationships (relatedness) could be gleaned, not only from her overall positive approach to the lesson and the praise which rounded off each of her interactions with pupils, but Mel's use of humour when an error was made. For example, in an aside to Stephen (Y6), who was struggling to resize his downloaded object appropriately, she joked that he had included furniture in anticipation of a visit from *"Tom Thumb"*. The joke was appreciated by Stephen, with the humour alleviating his temporary frustration. Mel's positive relationship with the class was also implicit through the competency messages that were communicated to her class through the encouragement of pupil independence and the high expectations set. This was externalised through the promotion of metacognitive skills, such as self-awareness, resourcefulness and problem-solving. At the mid-point of the lesson, Mel froze the class to remind pupils to continue to push their learning further: *"Ask yourself, what changes can I make to improve my art gallery?"* The expectation of pupils' continuous refinement of their work was clearly communicated, and pupils were encouraged to be self-critical.

A Burcastle Primary science lesson on classification also provided several examples where pupils' understanding of challenging concepts were supported, whilst providing a dignity safe environment. In the following extract, teacher Joanne uses skilful prompting to facilitate Daniel and Tim's identification of their misconception:

Daniel (Y5):	*We're stuck. I thought it was the Sycamore as they have five bits and they are kinda spiky, but it isn't, because it is also the Horse Chestnut. Which one is it?*
Joanne (science teacher, BP):	*Ok, let's compare the leaves again. Shall we list how they are similar and different?*
Daniel:	*Well, they have five bits*
Joanne:	*What are the bits called - Tim?*
Tim (Y5):	*Er, [checks sheet] lobes. And they are a bit spiky and green and are not long and thin.*
Joanne:	*Now, how are they different? Shall we look at these 'lobes' more closely?*
Tim:	*Oh, so the lobes go to a point in the middle with this one.*
Joanne:	*So, are they lobes or something else?*
Tim:	*They are separate little leaves on a stem.*
Joanne:	*So, can they be lobes?*
Daniel:	*No, they are leaflets! I know! It is a Horse Chestnut!*

[Y5/6 science lesson, BP, observation]

In this interaction, Joanne does not rush Daniel and Tim through their impasse, but using scaffolded questioning, assists them to resolve the difficulty for themselves. In prompting Daniel to define the "*5 bits*", the pair's misconception becomes visible, facilitating a precise re-examination of the leaves, differentiating between lobes and leaflets. Whilst this episode would have undoubtedly could have concluded more quickly if Joanne had provided the answer they were seeking, in privileging confusion as a learning tool, allowing for intellectual unsafety, she prompted learning on a deeper level. In resolving the confusion, Daniel and Tim were required to process their understanding at a greater level, revising their existing mental models (D'Mello *et al.*, 2014) whilst their dignity remained intact.

In Anbury Grammar too, there were many instances of teachers scaffolded interactions

where pupils remained responsible for learning as they mastered their understanding (Wood, Bruner and Ross, 1976). In interviews, Meredith and Cassie both describe their teachers' constructivist approaches to impasses:

Meredith (Y7, AG):   *"First of all they don't tell you the answer. They come over and explain it with another question. They will give you a question, but it will be in a different circumstance so that you can work out the question for yourself afterwards".*

Cassie (Y7, AG):   *"At first they kind of gradually lead into it. So, see if you can get the answer yourself, but if you have no clue, they will just normally not tell you the whole answer, but tell you a part of it, so you can work out the rest."*

Cohering with pupil accounts, science teacher, Hailey, too, described her approach of active surveillance to impasses:

Hailey (Science teacher, AG):   *"They [pupils] are very good at helping each other as well. There will be someone saying 'oh, you have to do this, then you get there like this'...quite often I will stand there and listen to them explain it, and then if they are still not getting it, I will step in, or if they say something that is not the clearest you just reiterate."*

Hailey's careful monitoring of peer scaffolding is an indicator of her contingent teaching practices, where she allows pupils to do as much as they can before carefully calibrating the right levels of support that enable pupils to take the next steps without her. This approach of a responsive practitioner was not characteristic of all observed lessons. There were instances in both schools where there was little evidence of the shared responsibility between learner and teacher that scaffolding entails. Where this occurred, teachers' responses failed to adequately diagnose the roots of a misconception or lack of skill, and scaffolding slid into 'rescuing' pupils (Lewis, 2017; Thompson, 2017), such as in science where rescuing typically took the form of 'Bermuda triangle' error

correcting (Oser and Spychiger, 2005; Tulis, 2013), where other pupils are asked to provide the correct answer to a pupil who answers incorrectly or is struggling to answer:

Cassie (Y7, AG): *"They [teachers] normally say 'if you don't know the answer, do you want to ask, do you want to give the question to another person?'"* [Cassie, Y7, interview, AG]

Whilst Cassie was citing this practice as an example of classroom safety, premature rescue from impasses and errors removes the opportunity from pupils to engage with challenge and errors, communicating that they have little to offer the learner, and leaving the pupil with a firmer sense that they lack the internal resources to improve, threatening their self-worth. Examples of non-contingent teaching (the level of control is too high or low for learning to occur) was also seen in a Burcastle Primary art lesson where there were no less than 19 examples within one lesson where the teacher completed pupils' work directly. My fieldnotes recorded Kieran's reaction, when after being asked by his teacher, Julie, to find a piece of charcoal, he returns to his seat to find her sitting there, completing his drawing:

Upon his return, Kieran sits in the empty seat next to his own one, passive, with his hands in his lap as his collage is completed by his teacher. He eventually looks away from his work. It is noticeable that no children (in this very polite class), thank her [Julie] for the help she has imposed.

[Art lesson, BP observation, FN 45]

Upon Julie's departure, Kieran expressed defeat, as he stared at the now thickly layered charcoal, and remarked, *"my picture is ruined now"*. These examples illustrate how ensuring a dignity-safe learning environment cannot be provided through the employment of a quick-fix strategy, but involves a multi-layered pedagogic approach where challenge is met with autonomy supportive practices that build the learner's self-efficacy and competency beliefs within an environment of trust.

Challenge as a buffer to dignity

Challenge appeared to provide a protective function for pupils. Whilst it might be assumed that greater challenge would induce threat, in many cases, challenge, which thrust pupils into intellectually unsafe grounds, also appeared to reduce the risk to self-worth. A link between dignity and self-competency beliefs has been found by Stikholmen, Nåden and Alvsvåg, 2022), with control and mastery experiences important in building self-confidence. Challenge offered pupils three ways that buffered competency beliefs: firstly, through desensitising pupils to the experience of failure, secondly, by slowing down learning to facilitate accuracy, and thirdly, by reducing the expectations of others.

Firstly, several pupils shared in interviews that they were initially afraid of making mistakes, but had found that over time the fear had reduced, such as Bella and Meredith:

Bella (AG, Y7):	*"Once you do it once or twice [raising your hand in class] you get more used to it and are a bit less hesitant...I am a lot more confident now, but when I started, I hated the idea!"*
Meredith (AG, Y7):	*"Once you start making more and more mistakes, and you are still getting better, then you realise that it is ok to make them".*

These comments appear to contrast with the research discussed in Chapter 3, suggesting that making more mistakes, rather than fewer, will damage self-efficacy. A key thread of Self Determination Theory concerns the relationship between competency beliefs and meeting challenge[160]: competency and challenge are enmeshed, with learners motivated towards mastering challenges (Deci and Ryan, 1985) and taking appropriate risks to accomplish tasks. The intrinsic motivation that drives a learner towards taking optimal challenges may be hampered through damage to competency beliefs, such as may be experienced through repeated mistakes which may shake confidence. This, in turn may undermine self-efficacy (Bandura, 1997) and hamper academic risk taking in

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[160] E.g.,Deci and Ryan, 1985, 2013; Ryan and Deci, 2000, 2017, 2020

the classroom. Past research also illustrates how disengagement may arise from a level of challenge perceived to be too high[161]. However, research in other paradigms, such as Productive Failure (PF) (e.g., Kapur, 2014), show that impasses, errors and repeated setbacks do not necessarily lead to negative affect (e.g., Savelson and Muldner, 2021), with uncertainty spurring curiosity, rather than eroding confidence (Lamnina and Chase, 2019). In line with results from PF studies, but drawing upon a different framework, these comments suggest that making more mistakes in response to challenge does not necessarily lead to negative affect, nor is detrimental to competency beliefs, but support pupils' acceptance of fallibility. Bella and Meredith's comments suggest that soft failure experiences provide pupils with an increased familiarity of mistake-making that may lead to desensitisation. The principles that underpin Cognitive Behaviour Therapy (CBT), used to provide treatment for anxiety in therapeutic settings, may lend support to this effect. Drawing upon the concepts of counterconditioning, where fears are lessened through exposure (Wolpe, 1958), or habituation, which leads to the increase of coping skill, CBT is said to increase can bolster learners' confidence that they can accomplish future tasks (self-efficacy) and decrease threat (Kendall *et al.*, 2005). In a similar way, threats to pupils' academic self-concept or self-esteem through making mistakes may be lessened through exposure and habituation.

A second way that challenge confers protection to competency is through the facilitation of accuracy that leads to an increase of confidence. Sophia's (Y5, BP) teachers appear to use challenge as a strategy to force her to slow her pace and focus on her accuracy:

Sophia (Y5, BP)   *"I was, like, rushing too much and getting them [answers] wrong, and so they [teachers] gave me a harder challenge to help me slow down...I would get them [answers] right because I had slowed down and it had got harder. So, I just kept on picking that [super spicy challenge] as I found I got most of them right when I did something harder."   [Sophia, Y5, BP, interview]*

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[161] E.g., Csikszentmihalyi, 1997; Fong, Zaleski and Leach, 2015

challenge – carefully calibrated by Sophia's teachers - acted as a desirable difficulty (Chapter 3) facilitating her concentration so she could successfully meet the challenge, and thereby increasing her levels of self-confidence and self-efficacy.

The third way that challenge offered pupils a protective function, is through increasing the level of stretch to a point where expectations of success from others are lowered, and so facilitating a safer environment for pupils to take academic risks. Anna (Latin teacher), in discussing pupils' tendency to selectively contribute to lessons, identified a shift in contributions and contributors when challenging questions were asked:

Anna (Latin teacher, AG):	*"Some of them know it, but don't like to - plenty of them know it and don't like to put their hands up…there is a difference if it is something that is a real challenge. Then they might put their hand up… Quite often, I will ask a question which I don't think many people, or any will know the answer. And then you will get a few hands up, and then you may get different hands up as it is a no-lose answer; they are not going to feel stupid if they don't know. It is when, where I say, it is the more mundane kind of questions, when you are just trying to elicit the responses and get that kind of feedback, you know, AfL kind of thing, there are those who have a low profile".*

Anna's comments align with pupil interview responses. Teacher and peer negative evaluation appeared more acute for pupils where there was a perceived expectation that pupils should answer correctly. Several pupils alluded to the fear of making 'stupid', 'silly' or 'obvious' mistakes in front of others, leading them to withhold responses. However, by volunteering to answer a question that pupils are not expected to get right, pupils' fears of being judged as not meeting the required standards may be neutralised: answering incorrectly is unlikely to result in a social penalty. However, should pupils get the answer correct, then the social rewards are great. Studies on academic risk-taking[162] suggest that Anbury Grammar students act strategically where the pay-off (value for a correct answer) rises with difficulty level (Clifford, 1988; Clifford and Chou, 1991). Hattie, a Y7 Anbury Grammar student indicates her awareness of the additional

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[162] E.g., Clifford, 1988, 1991; Clifford et al., 1990, 2014; Clifford and Chou, 1991

kudos that comes from attempting to answer difficult questions, compared to the lesser rewards when easier questions are asked:

Hattie (Y7, AG):   *"If you take the risk, if you do get it right, then you get quite a lot of - you feel quite good. But then with the easy work, you get it right and feel good, but it is expected."*

[Hattie, Y7, AG, interview]

The shift in contributors when challenging questions were asked was only seen at Anbury Grammar. This may suggest a correlation with the unique profile of the cohort. Given that all pupils at Anbury Grammar are intellectually capable and high achieving, the likelihood of highly stretching questions being both asked and answered is increased. During lessons at Burcastle Primary, questions were typically aimed at checking understanding, rather than extending knowledge. However, the high calibre of the cohort at Anbury Grammar enables highly stretching and divergent questions to be asked at an increased volume. Pupils at academically super-selective schools are considered to have hidden resources of knowledge and skills - or at least have an increased awareness of these- as well as superior metacognitive knowledge (Clifford and Chou, 1991), and so are more likely to assess the risk of answering a challenging question as worth taking. Through their cognitive engagement and desire for mastery[163] they may be driven towards answering these challenging questions. However, the desire to establish themselves in the class as academically able also indicates the presence of performance approach goals.

Anna and Hattie's comments suggest that successfully accomplishing challenging work can be viewed as a public measure of high performance, a sought-after after prize for pupils to bolster their position in the class academic hierarchy. This position indicates pupils' vulnerability in class: where pupils perceive that their worth turns on what they 'do', then their dignity as a 'being' becomes threatened (Stikholmen, Nåden and Alvsvåg, 2022). However, other comments from Bella, Meredith and Sophia imply that engaging with challenge can also be dignity-supportive. In simultaneously facilitating pupils'

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[163] Atkinson, 1957; Clifford, 1990; Pintrich, 2000; Abercrombie, Carbonneau and Hushman, 2022

mastery of skills and reducing a perception that perfection is needed, the risk to pupils' self-worth is limited and their self-competency beliefs, increased.

7.5 Chapter conclusion

The concern of this chapter has been to explore the teachers' role in shaping pupils' responses to soft failure. In examining some examples of teachers' error handling practices, I have highlighted some of the tensions in establishing a safe learning environment that also facilitates progress and challenge. I have argued that existing guidelines from the literature on safe classroom spaces for adults and younger children cannot be automatically transposed to the adolescent classroom. Maturational processes that result in a unique combination of adolescent vulnerability to social evaluation, intensity of emotional responses, and a need to belong, reframe our understanding of dignity safety in an adolescent context. Such is the strength of the teachers' invisible hand in directing the social dynamics of the classroom (Cairns and Cairns, 1994), that should this be ignored, then teachers' error-handling may place adolescents at a greater risk of peer dislike, rejection, and psychological jeopardy, aside from influencing future responses to soft failure. However, I have also shown the contribution that teachers made towards a constructive and supportive error climate, with trusting relationships and challenge providing buffers to negative responses to soft failure.

These findings point to the complexity in the formation of the error climate, where the teacher has significant bearing over the error climate construction, but the role of pupils in its assembly should not be underestimated. However, the final findings chapter indicates that the teacher and pupils do not have full agency its construction but are conduits for wider influences. In Chapter Eight, I shall discuss how traces emanating from the distil discourses of the macrosystem, such as neoliberalism and gender, amongst others, permeated the proximal processes of the microsystem, contributing to the continual construction, renewal, and reinforcement of the error climate.

Chapter Eight – Under threat: seeking protection from shame

8.1 Introduction

Fear in the classroom, the learner's response to the perception of threat (Martin, 2011), is commonly experienced as anxiety (Covington, 1992). Cognitive, emotional, social, and behavioural impacts upon pupils span the superficial to the profound, and sometimes may even have a positive influence on the learners' motivation. However, it is often a debilitating experience for pupils (Bledsoe and Baskin, 2014b), with classroom fear commonly leading to an array of negative outcomes. The previous chapter explored the complexity of pupils' reactions to soft failure, where the organisation of the classroom, or the teacher's error handling, instigated fearful, as well as safe learning environments. This chapter continues to make sense of the messiness that presents with such unbounded classroom variables and identifies triggers and buffers that impact reactions to soft failure and academic risk taking. The starting point for this chapter is the exploration of pupils' reactions to soft failure in the classroom, which I shall consider through a gendered lens. Pupils' maladaptive behavioural responses to soft failure are identified, such as procrastination and selective contributions, that are inimical with learning and which I will argue are driven by a fear of shame. Pupils' attempts to protect their dignity from the social threats of the classroom are explored in terms of their interpersonal behaviours, including the adoption of a perfectionistic persona, and the competitive practices pupils engaged in to elevate their status within the class.

8.2 Embracing soft failure

When asked whether making mistakes bothered them, most interviewees from both Burcastle Primary and Anbury Grammar, brushed this possibility aside with a breezy insouciance, indicating that soft failure was not threatening. Pupil responses were in line with observations in Chapter Seven, where pupils sometimes responded positively to soft failure (e.g., Leona and Roisin's diagnosis and remedy of errors in Latin).

Typically, pupils, accepted that they make mistakes frequently, but also acknowledged the mistakes of others, regarding them as a universal phenomenon. Comments from pupils Lola, Emily and Elodie characterised a common refrain that I was to hear in nearly all interviews:

Lola (Y5, BP): *"Everyone makes mistakes, so I don't mind!*

Emily (Y7, AG): *"There are 30 people in the class and they must have gotten things wrong too..."*

Elodie (Y7, AG): *"Obviously not everyone will know everything at first, 'cos obviously, everyone will start at different places... So, it really does not matter [if you make mistakes]."*

Whilst Lola and Emily pointed to the universality of mistake-making, Elodie considered mistakes as a product of individual profiles of experience and skill. Framing her response in terms of the different curricula and experiences that pupils were exposed to in primary schools, for example, languages, Elodie believed that mistakes were to be expected *"at first"*, but progress will be made over time.

Matt, in Y5, was one of many pupils who not only accepted that he often made errors, but viewed soft failure as a positive event, embracing mistake-making as an opportunity for learning:

Matt (Y5, BP): *"If I get everything right, I'm not gonna learn anythink more."*

Like Matt, several pupils presented soft failure as a barometer to gauge sufficient challenge in the classroom: should mistakes not occur, then the work set was regarded as too easy, and so learning would not be able to occur. Errors, mistakes, and impasses were perceived as a lever for learning. Charlotte (Y5) and Talia (Y7) both articulated their rationale for the acceptance of mistakes in terms of the positive messages gleaned from their teachers regarding mistakes and learning:

Charlotte (Y5, BP):	*"I don't really mind making mistakes…when I, like, I make a mistake, I find it alright, 'cos the teacher's always telling us that making mistakes is good, it is just basically learning".*
Talia (Y7, AG):	*"I think you have to make mistakes to get better. That's what they tell us, so we kind of know it's alright…*
Elicia:	*"Who tells you that?"*
Talia	*"Well sometimes our teachers say, "it is ok to make mistakes as you will learn from them and stuff".*

Whilst Charlotte appears persuaded by the reasoning from her teacher, Talia hints at an internal dissonance that suggests that although she knows the 'correct answer' to share, at some level she remains uncomfortable with erring. Talia's later admission that she selectively contributes to the teacher's questions also suggests that there is some reticence over the possibility that she may make mistakes, particularly in front of others:

Talia (Y7, AG):	*"If I am confident that I am right, then I will put up my hand."*
Elicia:	*"And if you are not confident?"*
Talia:	*"I would wait and let everyone else put up their hand."*

There are many possibilities in accounting for the discrepancy between Talia's espoused position on mistakes, and her selective contributions that indicate conflicting beliefs about making mistakes: the path from beliefs to behaviour is convoluted and complex, often with little predictive value (Wicker, 1971).The tendency for individuals to behave in ways that are contrary to their attitudes has been an interest of social psychology for near a century[164], despite a paucity of research on reasons for the inconsistency between beliefs and behaviour in school students. Research with adults has given rise to a variety of overlapping frameworks, such as the belief-action gap (Kretzschmar, 1997), the intention-behaviour gap (Godin *et al.*, 2008), attitude-action gap (LaPiere, 1934; Wicker, 1971) and the theory of planned behaviour (Ajzen, 2002). These highlight the role of

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[164] E.g., Hagger, 2019; Grandin, Boon-Falleur and Chevallier, 2021

cognitive, affective, and social processes in accounting for behaviour that does not correspond directly to beliefs. Whilst models differ in operational details, these constructs recognise the moderating influence of personal characteristics, social and situational factors on behaviour. For example, it is argued (e.g., Ajzen, 2002) that attitudes or beliefs do not directly lead to behaviour, with the formation of intentions a critical intermediatory stage. Whilst pupils in this study presented their beliefs about mistakes as positive, as with Talia, and as we will see later in the chapter, their actions betrayed contradictory reasoning.

The belief-behaviour gap and learner ecologies

Applying the lens of Bronfenbrenner's Bio-ecological Systems Theory (Bronfenbrenner and Morris, 2006), which frames this study (Chapter 2), aids understanding the belief-behaviour gap. Pupils' resource and force characteristics[165] interacted with their understanding of the importance of errors for learning, modifying their responses to soft failure and academic risk taking. For Elodie it was not a social fear that held her back, but a reflective and reserved participation style which limited her voluntary contributions in the classroom:

Elodie (Y7, AG):   *"I find it easier if I am not so sure just to listen and understand what other people think. Then I use that to improve myself."*

Elodie, revealed an awareness of her learning preference, with her personality traits indicating introversion. Her class discussions suggested neither inaction nor reluctance on her part. Rather, her participation in learning was full and free from tension. Elodie's response contrasts with Y7 pupil, Clara, who admits to shyness. She shared her social anxiety of speaking in class:

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[165] These terms are used to describe a person's mental, material, and emotional resources and dispositions.

Clara (Y7, AG):	*"Sometimes, I know the answers, but I am just afraid to say them."*
Elicia:	*"What makes you afraid to say them?"*
Clara:	*"I think it might be because sometimes if I get the wrong answer people will laugh at me, even though I know they won't. I don't know, I just get that feeling."*

Clara identified that her fear to speak in class was due to her perception of peer's possible reactions to mistakes. This fear is consistent with (Sun et al.'s, 2019) observation that shy individuals have a greater inclination than others to avoid disapproval. Cooley's (1902/1983) concept of the 'looking-glass-self' provides a useful lens to understand Clara's response. For Cooley, our identities are shaped through our dialectic encounters with other people – we are social products. Our constructions of identity therefore arise in reference to other people, resulting in a continual self-monitoring (Scheff, 2003) and awareness of self-presentation. This may be heightened for shy people (Scott, 2007). As part of this imagining, we appraise others' likely reactions to us, resulting in a self-emotion (e.g., shame, pride, embarrassment etc.). Although Clara knows the likelihood of a peer laughing is minimal, she still envisaged her peers' negative appraisal of her and responded to this by staying silent. Clara has been socialised through the cultural constellations of which she is a part (the wider culture of the macrosystem, the school, classroom and specifically, the error culture) to develop her sense of what may be judged negatively, although through the prism of shyness and other personal characteristics, this may be magnified.

Psychological characteristics, such as an intolerance for cognitive dissonance may also affect individual's evaluations of beliefs where multiple, competing beliefs are held. For those who desire restored internal harmony (Festinger, 1957), the stronger belief may lead to the eventual action. For Talia, who kept her hand down unless she was confident of the answer, the desire to preserve her dignity and save face in the classroom may have trumped her competing belief that making mistakes aid learning. If so, Talia's affective and cognitive beliefs would be out of sync; her proportionately larger affective beliefs would influence her evaluation of the situation (Millar and Tesser, 1986), and resulting behaviour. The reasoning that leads to the endorsement of soft failure in service of

learning, may be outweighed by the affective considerations, such as the vulnerability of raising a hand in front of others or vice-versa.

It is noteworthy that 21 pupils out of 24 still expressed some reluctance to raise their hand in class if they were not certain that they had a correct answer, despite the endorsement of mistakes as a positive force for learning. This division between belief and action indicates a complexity in how pupils relate to mistakes. Pupil comments that celebrate the error, must then be read in context alongside their actions and comments, in line with a bio-ecological approach, to better understand what motivates pupils' reactions to soft failure.

8.3 'Boyed' and 'girled' responses to soft failure

Notwithstanding any differences of response to soft failure that may simply reflect dissimilar school phases, I did not need to look far beneath the surface to see the expression of gender in the complicated behaviours of pupils. Girls in both schools, with their predominantly well-groomed and maintained appearances, embodied a stereotypical female aesthetic associated with the pursuit of conventional heterosexual attractiveness (Cobbett, 2014). In fieldnotes, whilst noting boys *"smearing each other's faces with charcoal"* in art, the girls remained *"clean and tidy"*, with *"immaculately brushed hair that bore a range of ribbons and adornments" [BP, registration, FN 6].* I was struck by a similar picture of feminine presentation at Anbury Grammar where:

"a medley of grooming accessories was visible on desks and even in use during lessons: hairbands, lip balm, hairbrushes, concealer, and compact mirrors highlighted the importance of maintaining an appropriate, feminine, appearance. It is unclear whether the teacher has not noticed or is turning a blind eye.

[Latin lesson, AG, observation, FN 14]

Heterosexual gender displays[166] were apparent at Burcastle Primary during episodes of soft failure. For example, Ethan, sitting on the other side of the classroom, noticed Florence's puzzled expression as she slid back in her seat in silent frustration. Although she did not vocalise her impasse, nor request help, Ethan loudly announced his intention to *"come over and help",* as he confidently strode across the class to 'rescue' Florence; his efforts rewarded with a coy smile and a blown kiss. In this performance, Ethan lived up to hegemonic masculine traits, such as 'assertiveness', 'control' and 'knowledge' (Kenway and Fitzclarence, 1997: 121), whilst Florence enacted the emphasised feminine traits of 'dependency' (Kaestner and Malamud, 2021), and quietness (Julé, 2004). The narrowly ascribed male and female classroom presentation of the 'quiet girl' and 'loud boy' was repeated by Burcastle Primary teacher, Mel. Whilst noting that she was making a generalisation, Mel discussed the more subdued vocalisation of impasses in girls compared with boys' reactions to soft failure:

Mel (Y5/6, BP): *"I think some of the girls are more likely to be kind of, more quiet about their frustration, and not voice it as much...the boys would be more- 'urgghghghgh' [frustrated tone] – more vocal about it. I think the girls will suffer in silence a little but more. And that is a sweeping statement, but it's the make-up of my class".*

This cohered with my observations at Burcastle Primary, where boys did not seem worried about publicly responding to impasses, whilst girls, (with a few exceptions) tended to keep these quiet.

At both schools, girls were also seen to be dependent upon the teacher. At Anbury Grammar, even though girls were in the summer term of Year 7 with well- established routines, teaching was slowed by questions about how to lay out information, or where to find glossed words, indicating an over reliance upon the teacher. Burcastle Primary teacher, Joanne, viewed the girls in her class as needing "a bit of attention" and a desire for greater reassurance than boys when faced with an impasse:

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[166] Reay, 2001; Renold, 2002; Gonick and Conrads, 2022

Joanne (Y5/6 BP):   *"it is difficult to know whether they are genuinely stuck, or whether they just need you to go 'no, no, no, that's fine, keep going, keep going".*

This lack of confidence contrasted with boys who, in the words of Julie, *"just get stuck in"*. Girls' displays were bolstered by other behaviours that were typically associated with gendered presentations in the classroom, such as cooperation (Geist and King, 2008), diligence[167], and sensitivity (Bem, 1974), such as occurred in the earlier example of paired work during a Latin lesson at Anbury Grammar. In this way, pupils' gendered performances appeared monoglossic, conforming to binaried societal gender norms (Francis, 2008; Skelton, Francis and Read, 2010).

Whilst observed gendered performances at Burcastle Primary predominantly were broadly in line with hegemonic characterisations, gender constructions at Anbury Grammar were marked by greater contradiction in their academic risk-taking behaviours. Whilst the girls at Burcastle Primary were active contributors, fieldnotes capture the passivity of Anbury Grammar students in both Latin and science lessons:

"Despite the bonhomie and intense chatter that accompanied the start of the lesson, pupils are slow to contribute answers. One to three girls volunteer to answer the teacher's questions (although at one point this rose to five). Pupils do not look disengaged, rather they sit passively and tend to answer only when selected by the teacher. When this happens, the answer is invariably correct."

[Science lesson, AG, observation FN13]

"In comparing modern and Roman family life, Laura asks pupils how they like to spend their leisure time. Only one or two hands are raised at a time. Despite questions relating to personal interests, no one is in a hurry to contribute."

[Latin lesson , AG, observation FN7]

This passivity was hard to reconcile with pupils' overall ability, curiosity to learn, and willingness to risk soft failure within smaller groups. Alternative explanations for pupils'

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[167] Walkerdine, 2006; Clark, Thompson and Vialle, 2008; Burušić and Šerić, 2016

lacklustre responses to the teacher's questions could be found in the timing of the lesson, the context of the school day, or the relationship with the teacher, although given that the class was seen on different days, times, weeks, and subjects, this was unlikely. Further possibilities, such as ennui, poor classroom climate, physiological barriers, and fear of negative evaluation were still in question. Again, I discounted most of these through cross referencing with other lessons observed and interview comments. Additionally, I considered my impact upon class contributions negligible given that contributions did not increase in line with their increased familiarity with me.

Pupils' admissions that a fear of negative evaluation directed their classroom contributions, aligned with a reflection from Laura indicating that pupils needed assurance that they were correct before committing an answer before the class:

Laura (Latin teacher, AG):   *"it is different if I have helped pupils to translate that line – then they are the first to raise their hands to volunteer the answer."*

Laura's comment positioned girls at Anbury as participation strategists, weighing up the likelihood of success in answering a question with the risk of getting the answer incorrect. This aligns with pupil interview data where nearly all pupils - girls at both schools, and boys at Burcastle - admitted to strategising before taking an academic risk, indicating that soft failure could be perceived as threatening. Much of the time, girls and boys were observed to conform to hegemonic gendered behaviour (Connell and Messerschmidt, 2005a) in response to soft failure, with girls presenting as needing reassurance, rescuing, and enduring soft failure silently, with Anbury Grammar girls additionally acting passively when contributions were required. Girls' responses contrasted with boys' more demonstrative behaviours, and public ownership of their errors at Burcastle Primary. However, this simplistic characterisation was to be contradicted by Burcastle boys' contribution strategising and Anbury girls' engagement with competitive practices.

8.4 Pupil reactions to errors: experiencing shame and embarrassment

Whilst pupils sometimes took soft failure experiences in their stride, as we have seen in chapter seven, at other times, soft failure experiences in the classroom led to pupils sharply feeling the sting of embarrassment and shame. However, these emotions were not always well articulated by pupils, whose experiences exposed the churned ground between shame, embarrassment, and guilt. Pupils in both schools disclosed feeling these complex emotions in relation to soft failure, although this was heightened at Anbury Grammar where classroom socialisation practices associated with high stakes achievement and a pressure to succeed were more prevalent.

Despite pupils' positive comments about mistakes, all but three pupils revealed selective contribution strategising in whole-class teaching scenarios where mistakes were at risk from being exposed. Pupils' calculations of the safest moment to offer an answer, and thereby ensure that the teacher did not return to them quickly, could be read from the question type and pupils' body language. For example, in a Y7 science lesson, Felicity, volunteered answers only for speculative questions, rather those based in knowledge or analysis. When Felicity committed to comment, her eyes kept firmly fixed on the teacher in anticipation, with her hand raised high. This strategising from a pupil majority suggests a widespread false embrace of soft failure. For example, Bella, who responded to my introductory question about mistake making with the unequivocal answer, "*No, I don't mind making mistakes*", later contradicted herself where she admits the threat of making a mistake in front of the class increased her reticence to contribute.

Elicia:	*"Do you put up your hand in class?"*
Bella (Y7, AG):	*"I wouldn't say that I do it a lot...if I know the answer I will put up my hand".*
Elicia:	*"Why is that, do you think?"*
Bella:	*"Because I am mostly scared of getting it wrong, which is really wrong - I should have my hand up. Because, if I get it wrong it is fine, but...I know it's fine, but ...yeah.*

Bella reveals a tension between what she has been taught (that mistakes are natural and acceptable), with what she feels – fear of getting work wrong in front of others. In acknowledging that the correct position to hold is the acceptance of mistakes, she invalidates her real feelings regarding making mistakes in front of others. Her trailing off at the end of her sentence reflects the lack of resolution in closing the gap between her knowledge from school and her deeper held beliefs. Bella's reluctance to put up her hand in class signals feelings more complex than social anxiety or fear. Her comments indicate a cognitive dissonance between her shared belief with her teachers that it is fine to get answers wrong in front of the class and her emotional reaction, that this is, in fact, not fine. The combination of evaluative practices from teachers, clear cultural norms for raising hands in class, and Bella's incapacity to meet these norms places her at risk of feeling shame.

Within the social setting of the classroom, Bella has understood what constitutes a 'good' student: one who is not afraid to make mistakes and contribute to classroom discussions. In referring to her fearful feelings as 'really wrong', she gives a sense that she has morally failed in some way - shame has been conceptualised by some researchers as a moral emotion, conceptualising morality in its broadest sense of a violation of the ethics of community (Tangney, Stuewig and Mashek, 2007). Whilst a transgression of a rule that is avoidable would signal guilt, Bella's inability to meet the requirements of her teacher more indicates a global failure of personality. Where unattainable expectations of shy children to contribute to class are made by teachers, shame may be triggered, leaving the individual feeling that they are incompetent.

From fear of failure to shame

Reflecting upon their classroom experiences of soft failure, pupils referred to a variety of self-evaluative emotions, such as embarrassment and guilt. However, as with the extract with Brianna (a reserved, high-achieving Y7 pupil) below, they did not directly mention feeling shame. In explaining why she does not like to volunteer answers in class, it is notable that shame permeates Brianna's explanation in terms of her

comparison of herself with others, the pressure she feels to succeed, and the relational consequences if she does not. However, she classifies her feelings as embarrassment:

Brianna (Y7, AG):   "I am scared of getting it wrong [lilting, disappearing voice] and if I, yeah... I don't want to get it wrong in front of all my classmates, especially if it's like something really easy, and I get it wrong. They all will know what it is, but I don't.

Elicia: "How does it make you feel if you do get it wrong?"

Brianna: "Embarrassed, and like, I'm not as good as everyone else and I'm not really, er, worth, like a place at Anbury [voice trails off]".

Brianna identifies that her fear of failure is socially rooted. This is particularly so in situations where a question is perceived to be easy by the class, leading Brianna to imagine her peers' negative evaluations of her ability. She identifies a relational risk in the event of getting something wrong where she will be separated from her peers, both through her lack of understanding *("They all will know what it is, but I don't")*, and her deserved place in belonging to the group (*"I'm not worth, like a place at Anbury"*). These perceptions are consistent with the imposter phenomenon[168], whereby individuals, despite evidence of their success, attribute their high achievements to external factors, resulting in self-doubt, feelings of inadequacy, and fear of being exposed as a fraud, or imposter (Bravata, Watts, *et al.*, 2020). It is significant that Brianna is not talking about a specific event: her fears are generalised to any situation, indicating her pervasive feeling of inadequacy in comparison to others in her class. Her labelling of the feeling during error commissions as 'embarrassment'. However, as the global nature of the feeling she describes is not a perceived flaw, but one she fears is of personal inadequacy, it is likely instead that she is referring to shame concerns. By looking beyond Brianna's words to capturing a fuller sense of her communication in the interview, her fear of failure and shame becomes palpable. Although she owns up to making mistakes, and even confusion at times, her tone and volume when speaking about soft failure indicates

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[168] E.g., Clance and O'Toole, 1987; Kolligian and Sternberg, 1991; Bernard, Dollinger and Ramaniah, 2010; Bravata, Madhusudhan, et al., 2020; Yaffe, 2022

her difficulty in admitting these to me, and perhaps herself. Her voice softens and fades when discussing that she is not as 'good' as others, and upward inflection, which indicates insecurity (Warren, 2016).

A similar ascription of embarrassment to the experience of making mistakes is given by Esther, a Y5 Burcastle Primary pupil. However, like Brianna, it is more likely that she anticipates shame. Esther works in a climate of perceived intellectual threat. Whilst the interview opens with her clear admission of mistake making, doing so publicly leads to her feelings of judgement from peers and pressure:

Elicia: *"Do you make mistakes in class, Esther?"*

Esther (Y5, BP): *"Definitely!"*

Elicia: *"Does it matter to you if other people hear you making a mistake?"*

Esther: *"Yes it does [emphatic response]! I really don't like making a wrong answer in front of other people, especially when they say, 'it's this answer, it's this answer!' and I say the wrong answer or something."*

Elicia: *"How does this make you feel?"*

Esther: *"Upset and quite embarrassed...I try to act 'yeah, it's fine', but inside it's, 'no, no, no!' I feel stupid when I make mistakes."*

Although Esther initially presents a front of nonchalance regarding her errors, internally, she feels their unacceptability, attributing them to her ability, in contrast to those pupils who have corrected her. This concern prevents Esther from participating as much as she would like. She keeps her hand down, with the reasoning that:

Esther: *"I don't want to chance getting the answer wrong in front of them and them knowing I am wrong".*

Taken together, Esther's fear of negative evaluation of her peers appears directed in others' ability judgements of her, affecting her self-esteem and self-concept. Cassie, who

begins to tease out when mistakes become emotionally salient, also shares that she feels embarrassed when making mistakes in front of others. However, unlike, Brianna, this feeling seems to be tied to an event, rather than permeating her self-identity and is more likely to be an expression of embarrassment, rather than shame:

Cassie (Y7, AG):	*"If it was a silly mistake, our class is quite friendly, so we will just laugh about it. But, if a big mistake, I would be- if it was kind of an obvious mistake- I would be embarrassed, but I would get over it."*

The impact of the mistake upon Cassie, is dependent upon the nature of the mistake made in front of others. This reinforces the evaluative role that peers play in the classroom. Cassie begins to construct a typology of mistake acceptability that includes *'big'*, *'silly'* and *'obvious'* errors. The reference to a *'silly mistakes'*, indicates that the flaw was an impermanent, minor one, with silliness attributed to the mistake and not the individual. Cassie later qualifies that "everyone makes them", indicating that these do not provide information about an individual's permanent qualities or skill. Therefore, although the class will find these funny or surprising, there are likely to be limited consequences due to the temporary nature. On the contrary, *'big'*, mistakes seem more significant. These glaring errors expose a weakness of understanding that defy others' expectations of her. Whilst Cassie considers teachers not minding *silly* mistakes due to their ubiquity and fleeting presence, she perceives teachers as more concerned about the bigger mistakes that may indicate a wider problem. Even so, she perceives that *big mistakes* do not necessarily result in an insurmountable obstacle, even *obvious mistakes*, which may raise surprise in others.

Even though these are embarrassing, they too are impermanent, allowing Cassie to "get over it" as they have not revealed permanent flaws that indicate a lack of overall capacity. In a similar vein, even though Matt (Y5, BP), recognises that others evaluate his mistakes, he is able to shrug off the incident, leaving his sense of self intact:

Matt (Y5, BP):   *"Just 'cos they think it is weird, like I got it wrong, I can still*
                                    work round that".

Matt and Cassie appear more resilient than Brianna and Esther in the face of errors in whole class situations. Following Bronfenbrenner's increased emphasis on the role of personal characteristics within responses to proximal processes, it is reasonable to presume that personality traits and dispositions, whether inherited or learned, are likely to moderate a fear of failure, and which self-evaluative emotions are ascribed upon soft failure.

8.5 Self-protection strategies

In Chapter 3 a link between fear of failure and protecting the self from self-evaluations that lead to shame was discussed[169]. Self- protection strategies, such as self-handicapping, energises the individual to avoid the reduction of self-regard (Sedikides and Alicke, 2012). Pupils at Burcastle and Anbury Grammar were observed to use, or discussed, a range of self-protection strategies during episodes where challenging work was provided. These included mistake avoidance through self-handicapping (e.g., procrastination); retreating from threatening situations (through selective contributions to lessons, 'hiding' from the teacher; not seeking help from the teacher when needed and reducing effort) and tendencies towards perfectionism (refusing to engage with errors or spoil books through marking incorrect answers, failing to hand in work to be marked, and working under their level). Although some pupils from both schools engaged in some of these practices, these practices were far more acute at Anbury Grammar, particularly procrastination and perfectionism.

Procrastination

Lesson observations at both schools revealed occurrences of strategic procrastination to avoid or delay engaging with difficult work. Felicity, a comparatively low achieving Year

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[169] E.g., Atkinson, 1957; Covington, 1992; Martin and Marsh, 2003

7 student, was seen to procrastinate in both Latin and Science lessons. For example, in Latin, when individual translation was set as a task after finishing copying the table from the board, Felicity only managed to complete the copying.

"The class show concerted concentration, with nearly everyone now finished copying the table and engaging with the translation. Felicity, is the exception, who is occupied with outlining her table in several colours with extravagant borders."   *[Latin lesson, AG, observation, FN 17]*

During the 15 minutes allotted, Felicity alternated between decorating the table and organising her coloured pens on her desk, never reaching for her Latin book. In a Chemistry lesson, her analysis of results was delayed by her slow packing up of practical equipment. Whilst this may just indicate a slow, methodical worker, other signs indicated she struggled with self-doubt. Although, she was not an interviewee, her selective contributions to lessons were noted. During Latin, Felicity managed to avoid each opportunity for independent working, which is significant given that all independent work set appeared to be summatively assessed (and so more threatening than paired translation or other activities). A similar pattern was seen with a small handful of girls in each class:

"It is interesting that three girls are choosing to begin their work with a restyle of their hair. With only five minutes set for the task, this busyness with personal grooming is likely to prevent the task's completion – or is this their plan?"   *[Latin lesson, AG, observation, FN25]*

Significantly, only during independent work were procrastination-type behaviours observed, such as restyling hair, rearranging pencil cases, producing elaborate titles and wandering around the room to sharpen pencils. These public displays provided an excuse for pupils' non-completion of work, conferring protection against the threat of exposure should they have tried and failed.

In contrast to Anbury Grammar, at Burcastle Primary, there was comparatively little procrastination observed: only two pupils, Frank, and Nathan, were seen to exhibit behaviours that could be construed as procrastination, occurring in the first computing

lesson introducing the software, 'SketchUp'. These occurred during impasses, after attempts were made to complete the work, rather than delaying the start of work. After struggling to manipulate their art gallery to the desired angle, accompanied with much noisy vocalisation of frustration (E.g., *Frank, Y5, BP: "I can't do this! I can't work it"; Nathan, Y5, BP: "Man! What is wrong with this thing! It won't go!"),* the pair (seated together) found excuses to wander around the room, or 'hide' their lack of work under the pretence of looking for tutorial videos, generally completing little, and chatting about football, until after carpet time resumed. However, in Art, Seb seemed unable to get started on his work in both lessons:

"The illusion of busyness is perfected by Seb. His paper is covered with pre-cut steampunk images, although these do not appear like they have been positioned carefully, nor stuck down. His charcoal is poised in his hand, ready for action, but Seb is yet to commit to making a mark on his paper".

[Art lesson, BP, observation FN 32]

Seb, positioned on a table behind a pillar, was largely hidden from view. Although from afar it looked like work was underway, his teacher failed to see that he committed very little to his collage. He finished the lesson with nothing to show.

These procrastinating pupils were among the lower achievers in their subjects, consistent with (Haghbin, McCaffery and Pychyl, 2012) findings that perceived competence moderated the relationship between fear of failure and procrastination, with a positive relation only for lower achievers. Haghbin and colleagues (2012) hypothesise that emotional and cognitive threats caused by both the cognitive challenge and the fear of failure is likely to result in negative effect and the engagement of less stressful activities. It is plausible therefore, that these pupils used procrastination as a strategy to avoid negative evaluation and prospective shame, protecting themselves from further dents to their self-esteem.

Concealing errors and impasses

Students at Anbury Grammar, and to a lesser extent, Burcastle Primary, strategised to hide errors and impasses. It has been theorised that this behaviour is an emotional coping strategy when dealing with shame. In terms of Nathanson's (1997), 'Compass of Shame' (a model that describes four different maladaptive coping responses to the experience of shame: Attack Self, Withdrawal, Attack Other and Avoidance), a common Anbury Grammar response to anticipated shame was 'Withdrawal'. When a situation is acknowledged as negative, but simultaneously accepted as valid, shame may arise. This prompts the individual to withdraw or hide to limit the opportunity to feel shame.

Brianna, a Y7 pupil, was fearful of failure and felt shame readily. Her primary response to shame was to withdraw and hide from its potent effects and limit further opportunities for negative evaluation. In this extract Brianna's anxiety that she is perceived as coping with her work, led to her panicking in classroom situations:

Brianna (Y7, AG):   *"Sometimes I panic a bit...like not really thinking about what I am doing, just putting it down as it is something to put down...I had a Spanish, like it was an open book test. It was kind of an end of year test and it was like, quite big, it was all we had done that year. And, erm, I just kind of ran out of things to say, and I was like way under the time, way under the word limit and stuff. I wasn't sure what I was meant to be doing, I was looking though my book randomly for stuff to say."*

When faced with an impasse under a time limit, Brianna's coping and cognitive strategies seemed to collapse into helplessness (Maier and Seligman, 1976; 2016), such as her ineffective technique of resorting to writing down random answers, lest she be seen struggling and rushing work. As well as communicating her feelings of inferiority that are characteristic of shame experiences (Goss, Gilbert, and Allan, 1994), Brianna's actions in class, such as her tendency to hide her struggles in class to prevent attention

being drawn to herself, may also indicate that her experience of shame may have developed into a trait (Budiarto and Helmi, 2021).

For Esther (Y5, BP) too, the psychological impact of being judged by others not only limited participation and caused anxiety, but also affected her performance. Esther admitted to making more mistakes when there was easier work due to the perceived pressure of needing to get it right:

Esther (Y5, BP):   *"I know it is easier work, but I get it wrong because everyone says, 'it is easy' and so I can't think of it...it puts me off!".*

This fear leads to rising panic where she is unsure how to complete work. Panic also set in where she made too many errors:

Esther: *"I freak out and think, 'WHY DIDN'T I GET IT RIGHT [uttered through clenched teeth]?*

Esther's inability to *"shake off"* mistakes and blame herself is indicative of the global sense of soft failure, characteristic of shame, rather than a more localised event which could be described as embarrassment.

Although shame may be more readily identified in Brianna and Esther through their comments, this is not a reliable method for identifying shame in all learners. Outward expressions may indicate shame, such as averting eyes (Herman, 2018) and blushing (Crozier, 2014). However, shame, when internalised, is invisible, and therefore difficult to identify (Monroe, 2009). The nature of shame itself leads to a desire for its concealment, meaning that its detection may lie underneath the radar of both observation and interview. This will have implications for the results of this study where fieldwork may only pick out the shape of the iceberg above the surface and may remain ignorant of what lies beneath.

Appearing 'perfect'

Appearing 'perfect' was a preoccupation for girls at Anbury Grammar that increased steadily from Year 7 until tailing off after Year 11. However, it is important to separate *being* perfectionist, from the desire to *appear* perfect. Whilst perfectionism, as discussed in Chapter 3, suggests a quality woven into the fabric of identity, it is questionable whether perfectionism was an aspect of Anbury Grammar girls' identity work, or whether their efforts to appear perfect was instead an exercise in maintaining a suitable academic profile. Teachers at Anbury Grammar identified the *"perfectionist attitudes"* of pupils as both a concern and an oddity, marking the school out as different from others where the teachers had taught. Indeed, there was little in the findings from Burcastle Primary to suggest that perfectionism was a significant issue in their setting, and any perfectionist tendencies were associated with individuals rather than a class or school-wide phenomenon.

In lesson observations at Anbury Grammar, perfectionist practices manifested in several ways, including procrastination, rushing, panicking, self-sabotage, failing to hand in work, and refusing to engage with mistakes and errors in their written work. Science teacher, Hailey, discussed the girls' need to have 'perfect exercise books':

Hailey (Science teacher, AG):   *"They want their notes to be perfect. So, they have to have perfect notes with no mistakes. And they don't even like you marking in their books as it ruins them".*

When pressed, Latin teacher, Anna indicated that she had not seen evidence of this in her teaching. However, the tendency towards perfect written output was also identified by Latin teacher, Laura:

Laura (Latin teacher, AG):   *"They don't like to have something crossed out in their books, which is a phenomenon that I have not seen in any other schools I have worked in, only in this one. If they have written a mistake whilst they are working, they use Tippex, rather*

than cross it out and move on. And, yeah, we try to discourage that kind of attitude, that perfectionist sort of attitude".

The importance to pupils of appearing correct, rather than a focus on learning through errors was also commented upon by Laura:

Laura, (Latin teacher, AG):   *"But I find it slightly strange that they would rather leave work incorrect in their book because it looks like it is correct. So, it is not like they are ticking it all, or anything, they will just leave it blank so there is no appearance of things looking untidy or things looking wrong. Yeah, I think that is a peculiarity of some of our students".*

This practice was acknowledged to be widespread across year groups, beginning in Y7 and spreading through classes and year groups during KS3 and KS4. A related, but even more concerning practice was described by Laura, who noticed that pupils refuse to risk committing to paper anything that may be considered incorrect:

Laura (Latin teacher, AG):   *"We get students that leave gaps. So, if they don't know what the answer is, they won't put anything down. They are not willing to put something that might be wrong".*

These gaps were left even in knowledge of the positive marking strategy in Latin where answers gain credit for both grammar and vocabulary, where errors did not invalidate the translation. Covering up mistakes has been shown to be a key focus for perfectionists in their image management (Frost *et al.*, 1995). The act of self-sabotage that these Latin students engaged in, so as not to present any mistakes in their books, indicates the importance to Anbury Grammar pupils of impression management and appearing perfect to others. This may be described as perfectionistic self-presentation, a facet of perfectionism for some perfectionists (Hewitt *et al.*, 2003) which involves the twin goals of concealing imperfections from others and the self-promotion of perfection[170].

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[170] Flett and Hewitt, 2014; Hewitt and Hewitt, 2020

Written work may provide the best opportunity for pupils to achieve perfectionistic self-presentation aims. In terms of perfectionistic self-promotion, an exercise book may represent the permanent 'face' of the academic student, offering a distilled version of their academic selves that may be safely evaluated by others and themselves. Upon looking through the exercise books of some girls, most presented work impeccably, and on inspection, few indications of errors were present. I noted that they were indeed marked by their neatness, use of colour and flawless diagrams. However, I was also struck by the books' comparative thinness. Examining the bindings, it was clear that many pupils had torn out pages from their books. When I questioned why their exercise books were so thin, pupils' blushing responses and averted gaze suggested that they knew that this practice would be frowned upon by teachers. However, only a couple of pupils admitted to the maintenance of a perfect written presence:

Elicia: *"Your exercise book looks really thin!*
Girls (Y7, AG):   *[sheepish grins and sideways glances]*
Elicia: *Why is it so thin compared to some of the others?*
Alex (Y7):   *"Well, if it is messy or not well done, well, I just rip it out."*
                                                      [Science lesson, AG, observation]

In their books, Anbury Grammar pupils presented their 'perfect' self to others, concealing imperfection and crafting responses carefully to provide a filtered, permanent record of their success. Seen within the context of Self Determination Theory (Ryan and Deci, 2000), discussed in Chapter three, the exercise book provides the learner with autonomy and control of their work, becoming a site of safety for self-presentation.

As part of this impression management work, Anbury Grammar pupils engineered opportunities for success. Teachers noted that pupils, when given the option, pitched for tasks easier than their prior achievement level would indicate. Science teacher, Keira noted: *"nine times out of ten they [pupils] will choose a lower level than they actually are"*. This contrasts with Burcastle teachers, who felt confident in pupils' own choices:

Joanne (teacher, BP):	*"By Y5/6 they are pretty good at it. They are able to judge".*
Mel (teacher BP):	*"I have got two that I look at. The rest of them 100% - they pick the right challenge for them.*

Studies that indicate pupils are not adept at selecting appropriate tasks for themselves (e.g., Nugteren *et al.*, 2018), chime with Y5 pupil, Immy's admission, that she opts to complete a large volume of easy work over more challenging work that was less voluminous, when allowed the choice *(Immy, Y5, BP: "I'd go for the easy work and get through lots of it!")*, hinting at a desire to publicly display success. However, Burcastle Primary teachers suggest that the appropriate self-selection of tasks is a learnt skill, a process which develops over time. Mel (BP) qualifies her endorsement of pupil selection with an acknowledgement that *"at the beginning of the year, [pupils were] not always [able to make the right choice]",* whilst Joanne (BP) alludes to the process requiring *"a certain degree of training"* throughout KS2 that pupils undergo. The need for training is implied in Anna's (Latin teacher, AG) comment, where she suggests that the reason that Anbury girls choose challenges under their level, is because" *they don't realise how able they are".* However, Hailey and Keira (Science teachers, AG) reasoned that pupils' choices stem not from ignorance of their own ability, but are strategically made:

Hailey (science teacher, AG):	*"They would rather be right doing this one, then have a go and sometimes make a mistake.... So, one completely right, rather than a higher one. 75% would rather have a page of all ticks even though it is a lower ability task."*
Keira (science teacher, AG):	*"Ultimately, all of them do not want to appear to get things wrong – none of them do".*

Hailey's and Keira's comments indicate that there may be no difficulty in pupils' ability to self-select tasks, however, pupils' performance orientation holds a greater importance for them than mastery. In other words, pupils' desire to curate an image of success is more important than learning from the task.

If the appearance of perfectionism is more important than high results to pupils, this would indicate that a driving force for this practice is the approval of others and a fear of negative evaluation, both which are associated with socially ascribed perfectionism (Sunkarapalli and Agarwal, 2017). Fear of negative evaluation also highly correlates to a lack of academic risk taking (Çetin, İlhan and Yilmaz, 2014). Academic (or intellectual) risk taking describes learners' willingness to engage in academic activities that may have an uncertain outcome to further skills or understanding, risking soft failure (Beghetto, 2009).Whilst academic risk taking is associated with positive outcomes for development, increasing engagement; (Devonshire *et al.,* 2014); problem solving skills (Tay, Özkan and Tay, 2009); retention of information (Devonshire *et al.*, 2014); creativity (Budge and Clarke, 2012); cognitive engagement (Abercrombie, Parkes and McCarty, 2015); and a desire for challenge (Meyer, 1997), conversely, the consequences of a lack of academic risk taking can lead to limitations for development. Whilst a lack of academic risk may protect learners from experiencing pain, fear, and disappointment (Neihart *et al.*, 2002), Neihart (1999) reveals the devastating flipside: learners "may not learn, change, love, grow or live" p.289. That Anbury Grammar students leave gaps in their work so as not to risk incorrect work marring their books, select work under their level, and (alongside Burcastle Primary students), fail to raise their raise their hands to answer a question in class, are indicators that they are intellectually risk-adverse, and therefore limiting what they might achieve otherwise.

8.6 Redefining 'girled' practices: competing for social rewards

Gaining social recognition for academic ability acted as a protective barrier to future threats of negative evaluation from others. Whilst for many pupils at Anbury Grammar, this was considered achieved through wearing a cloak of perfection, this brand of social approval was also pursued through pupils' competitive practices. Competitiveness was present in both classrooms, across both genders. In Burcastle, little of this was observable, aside from the haste to raise hands when questions were asked by the teacher – a desire to be acknowledged as knowledgeable and intelligent. However, several pupils also recounted their tendency to rush work so that they would be the first

to finish. Despite this leading to more mistakes than if they took work at a steady pace, Immy (Y5, BP) relayed that coming first brought "*glory*", and so a group of girls always competed to finish first in maths. At Anbury Grammar, pupils' competitive practices were not initially apparent. Earlier, I discussed pupils' lackadaisical approach to classroom contributions, which was marked by its contrast to the keenness displayed by Burcastle pupils to answer questions. Whilst it is possible that the classes at Anbury Grammar lacked overall demonstrativeness, contrasting classroom episodes indicate that this default position could be overturned. Increased contributions occurred in two circumstances. Firstly, an uptake in contributions arose during exciting topics, such as the science lesson on space travel, where the ownership of the direction of the lesson was dictated by pupils. Secondly, pupils' contributions increased when other pupils got an answer wrong in front of the class, in a *kiasu*[171]-styled move appearing to exploit other pupils' vulnerabilities to bolster their own social academic image:

"...the sudden increase in contributors appears to have been triggered by Adele's incorrect answer. Flanked by a ring of girls keen to supply the correct answer, Adele appears to shrink as these pupils' eyes shine with purpose with hands shot high in the air."   *[Latin lesson, AG, observation FN 36]*

These performances were striking for two reasons. Firstly, they were geographically located around the erring student – few pupils volunteered to offer the correct answer who were not located in the 'horseshoe' around the original mistake-marker. Secondly, the rapid change of ambiance was palpable, with a charged classroom energy. The cooperative support characteristic in paired sessions was set aside in a gender transgressive move in favour or masculine presentations of fierce, competitive, practice.

Anbury Grammar teachers Laura and Kiera alluded to similar pupil behaviours:

Kiera (Science teacher, AG):   *"they all start talking over other people and that kind of thing when someone is trying to give an answer".*

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[171] *Kiasu*, a Singaporean term with a literal translation of 'afraid to lose', refers to a desire to secure advantage for oneself by getting ahead of others (e.g., Ho et al., 1998; Hwang and Francesco, 2002).

Laura (Latin teacher, AG): *"If you get a student where they get something wrong, and then you ask them, 'look at it again or think about this', the others tend to pounce and want to pounce. And sometimes you need to say, 'hang on, let her do it, let her work it out'. The others are very keen to help, but I suspect they want to show off that they know it. That happens quite a lot, where I want that student to get to the answer eventually, and the others will jump in".*

This phenomenon of predatory behaviour, observed on several occasions in both Latin and Science classes at Anbury Grammar, but not seen at Burcastle Primary, may be subject to different interpretations. One plausible inference is that pupils, who admitted in interviews to selective contributions through fear of negative evaluation, felt able to risk failure once they had company in doing so. However, if this were so, a less assured response may be expected: such behaviours were typified by a boldness embodied through arched backs, rigid hands, and arms straight as a die. In Kawabe et al.'s, (2014) motion analysis of a hand raising gesture in class, confidence related to swift and high hand raising. Alternatively, using the same lens, the revelation of an incorrect answer may have reduced the possible answering options sufficiently for pupils to raise their hand with confidence. Whilst this appears convincing, it would not explain the localised nature of peer response nor the fervour with which it was conducted. A third possibility may be viewed, not through the lens of fear, but that of neoliberal ideological discourses which position achievement and success as a rationed commodity. Educational and school policies which are structured as a zero-sum game (Wilkins, 2012), such as ability setting and highly restricted selective education places, may encourage an orientation towards competition and individualism. Pupils, through their schooling experiences over consecutive years have learnt to associate academic success, not through progress in learning indicated by ipsative measures, but through the rewards and costs of high-stakes practices. With this reading of the phenomenon, Latin teacher Laura's interview reflection, that *"the majority make very few mistakes, if any",* may provide a clue that explains pupils' sudden change from passive to active participator, from supportive peer to ambitious competitor. Pupil, acting as strategists to seek symbolic awards within the competitive arena, such as teacher approval and status gains with peers (Wilkins, 2012),

will gain little from participation in class where it may be assumed that the majority will get the answer correct. However, a public incorrect answer leaves a gap for jostling within the social hierarchies of ability and success, providing an incentive for girls to compete with others to demonstrate that they can successfully answer the question and be seen as ahead of others. Girls' responses may be seen in contrast with other situations where the girls are the company of each other and there are no stakes at play - no wider audience to hear their answer, and no reward in acting in a competitive manner. In this way, Anbury Grammar students redefine 'girled' practices. From performances discussed earlier that fit the emphasised femininity norms of an internalised 'quiet struggle' with soft failure, a need for reassurance or rescuing, attention-seeking and dependency, these pupils emerged as shrewd and bold opportunists, ready to seize an opportunity to be acknowledged as ahead.

8.7 Chapter conclusion

The fluctuation of pupils' responses to (and anticipation of) soft failure in this study were associated with their detection of the level of threat to the self and social status: where threat was low, pupils responded to soft failure in an adaptive manner. However, pupils, restrained by the fear of shame and the threat of negative evaluation from others, such as their peers or their teacher, also felt afraid to show academic weakness in the classroom. The anticipation of shame from public soft failure led to some pupils perceiving a pressure to appear perfect, often manifesting through the adoption of maladaptive perfectionist self-handicapping strategies. This was pervasive and felt more intensely felt by the girls of Anbury Grammar but was also present at Burcastle Primary in relation to the profile of individual children.

The need to protect self-worth from potential threat also led to competitive behaviours. I have shown how the competitive goal structure intersected with context and identity characteristics, such as gender, to produce strategic and opportunistic pupil behaviours that aimed to protect the self and increase their social rank. In doing so, fear, even if not omnipresent, became a companion to learning, increasing pupils' perceptions of

pressure and threat, and directing responses to soft failure away from the mastery approaches that facilitate learning. However, again, such classroom responses were more prominently observed for the pupils at Anbury Grammar than pupils at Burcastle Primary. Understanding why this was the case will be addressed in the next chapter, as I move to examine more closely the micro and macro factors that have led to pupils' responses to soft failure and academic risk taking in the classroom.

Chapter Nine – When soft failure becomes salient to learners

9.1   Introduction

In this discussion chapter, I draw together the findings presented in Chapters Six, Seven, and Eight, in which I have sought to uncover and explain, pupils' and teachers' perceptions of, and reactions to, soft failure within an 11+ context. Through this study's bioecological framing[172] (Bronfenbrenner and Morris, 2006), and other theories in this theoretical framework, an understanding of the influence and interplay of personal, contextual, social, and situational factors upon pupils' complex responses to soft failure is facilitated.

The synergistic (Tudge *et al.*, 2009) and iterative relationship between the 'Process-Person-Context-Time'[173] factors within Bronfenbrenner's model (Bronfenbrenner and Morris, 1998) prevents any sharp delineation of chapter section around the P-P-C-T divisions. In cognisance of the overlaps between factors, the chapter will be divided into three parts with 'Context' discussed within each section, particularly the cultural factors within wider systems that have a structuring influence upon everyday interactions and individuals. The first section of this chapter will focus on Bronfenbrenner's 'Process'. By this, I refer to the proximal processes, or interactions, within the classroom and home microsystems that socialised children towards demonstrating success, leading to effects such as competitiveness. The second section will consider, 'Person'. The effects of the error climate arising from social, interpersonal effects discussed in the first section will be considered in terms of the intrapersonal effects on the child's emotions and sense of dignity, when comingled with genetic and personal factors. Here, I shall argue that dignity needs to be understood in an adolescent context. The final section draws together a discussion of when mistakes matter for pupils. I will conclude by presenting a model of error adaptivity to explain pupils' divergent responses to soft failure.

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[172] Chapter One

[173] See Appendix A for diagrams that contextualise Bronfenbrenner's model within this study.

9.1 'Process'

Proximal processes, the "engines of development" (Bronfenbrenner and Evans, 2000 p.118) are central to the PPCT model, which I have discussed in Chapter One (see the diagram below for a recap of relationships within the model). Over time and through repetition, reciprocal interactions (Bronfenbrenner and Morris, 1998) are assumed to become increasingly complex, shaping the individual positively (Bronfenbrenner and Evans, 2000). However, critiques of Bronfenbrenner[174] point towards the possible dysfunctional outcomes of proximal processes. Taking this contemporary understanding of proximal processes, this section will consider the outcomes of interactions within the classroom in relation to soft failure, whether building competence or fostering dysfunction. I begin with a consideration of the effect of gender upon pupils' responses to soft failure.

Figure 1: Bronfenbrenner's Person-Process-Context-Time (PPCT) model (Bioecological Systems Theory)
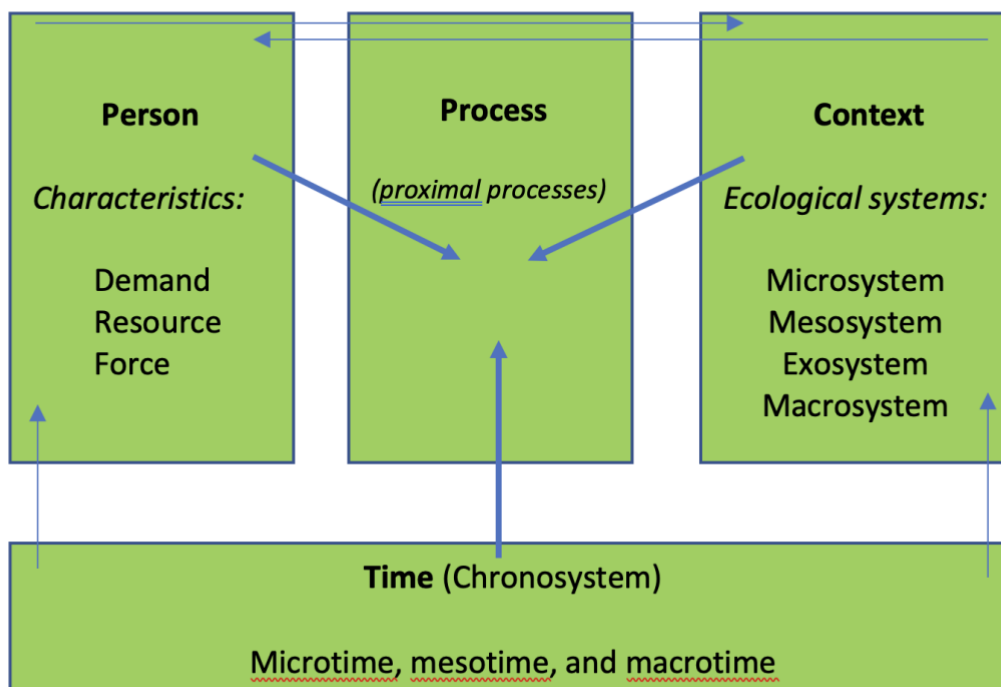
Intersectional, gendered responses to errors

Whilst constructions of masculinity and femininity were not a focus for fieldwork, Boldt (2004 p.12) reminds us that gendered performances are ever-present in the classroom: "everything that happens in our classrooms can be understood to have a gendered connotation, even if that connotation is not foregrounded, even it is not the most important thing that is going on". Observed through a gendered lens, Burcastle Primary pupils' responses to soft failure were largely observed to follow hegemonic lines, with boys' robust vocalisations of their frustration, but girls "suffering in silence" (Teacher, Mel, BP), lacking confidence (Teacher, Joanne, BP) and requiring rescuing (by both teachers and peers).

Butler's post-structural theorising reveals the illusion of gender as a stable and fixed category, emanating from the individual's biological sex (e.g., 1990). For Butler, gender identity is not seen in terms of attributes that an individual holds, rather it is the result of repeated performances of gendered norms that give the appearance of stability. These performances have a performative function. That is, they are not simply actions but ones that contribute to the creation of realities. Performances of gender prop up, support, and alter gendered norms and the construction of the actor's identity. This implies an agentic role for the individual who is not wholly subject to macro-discourses but is involved in their continual reconstruction. In this way, gender becomes a negotiation between the constraints established through historical norms and future social realities (Butler, 1990). Whilst Butler argues that we are assigned gender at birth through the expectations placed upon us by others (1990; 1993), she is clear that the assignment of gender is a continual one, dynamic, and subject to constant revision through social and cultural practices. Burcastle teachers' expectation that girls require help and support when encountering soft failure, and their swift reassurance in response, or girls' modelling silent stoicism, therefore may quickly become a self-fulfilling prophecy.

The picture at Anbury Grammar differed in important ways from Burcastle Primary, illustrating "individual productions of gender...shot through with contradiction" (Francis, 2012 p.3). My observations noted girls' changing gender patterns under

different task conditions, with girls' enactments of the supportive and sensitive friend during collaborative paired and small group work. However, under more competitive and individualistic conditions, girls were observed to 'do boy', with girls seizing the opportunity for academic one-upmanship and a chance to increase their rank in the social stakes. To account for contradictory and fluid gender performances, (Francis, 2008, 2010, 2012) has retheorised gender to reject static binaries. In applying Bakhtin's (1981) notions of monoglossia and the disruptive heteroglossia (a micro-linguistic level that is fluid, responsive and dialogic) to gender, a nuanced reading of gender performance is facilitated. The use of this theoretical tool provides explanatory power when interpreting the masculine and feminine behaviours of the Y7 girls in this study, complicated by situation, embodiment, and positioning[175].

The competitive and predatory opportunistic behaviours of Anbury Grammar girls' therefore, need to be interpreted contextually. Comparison with other studies indicates that Anbury girls' behaviour was not entirely unexpected. Booth and Nolen's, (2012) controlled experiment found that girls in U.K. single-sex environments behave more competitively than in co-educational settings, concluding that "girls from single-sex schools behave more like boys" (p.542). Drawing upon Akerlof and Kranton's, (2000) work to explain the difference in girls' behaviour in the two settings, Booth and Nolen consider that girls in co-educational contexts are subject to conflict in their gendered performances. For girls, emphasised femininity[176] has been associated with the pursuit of conventional heterosexual attractiveness (Cobbett, 2014), sociability (Jackson, 2006), high status (Paechter, 2018), and in the classroom, a distancing from academic strivings. Adopting these subjectivities runs contradictory to also pursuing monoglossic (socially dominant forms of language that represent hegemonic worldviews; Francis, 2008; Bakhtin; 1981) characteristics associated with male hegemony, such as rationality and competitiveness (Renold and Ringrose, 2012:47), emotional stoicism, self-sufficiency, and heterosexual dominance (Brown and Stone, 2016: 123). Booth and Nolen (2012)

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[175] Francis' (2008) example of the crying footballer, who is regarded as masculine, indicates well how readings of gender are multi-layered and imbued with context.

[176] Emphasised femininity has been conceived as the subordinated counterpart to hegemonic masculinity, "focused on compliance to patriarchy" (Connell and Messerschmidt, 2005 p.848).

suggest that in a single-sex environment, girls would not be subject to such conflict and pressure to maintain a feminine identity and therefore could demonstrate competitive behaviour without fear of rejection[177]. This may explain how girls at Anbury Grammar negotiated their classroom identities, crossing hetero-normative borders to assume stereotypical 'male' practices in the classroom. However, contrary findings may question this explanation. In their study of pupils in Seoul, Lee, and colleagues (2014), found that single-sex education *increased* the gender gap in competitive behaviour. These anomalous results may point to a possible heterogeneity between countries, which given the assumed role of social learning in gender construction, is plausible. However, Lee et al.'s (2014) preferred explanation for the increased levels of competitivity in single-sex UK education is selection bias; a greater proportion of wealthier parents opt for single-sex education for their children in the UK, with the inference that their children may have a more competitive profile upon entry to school with school context irrelevant to gendered responses.

The association between single-sex education, parental wealth, and competitive children, referred to by Lee and colleagues (2014), and which may provide the simplest explanation for the Anbury girls' competitive behaviours, rests upon several assumed premises. Underlying their argument is the position that the correlation between parental wealth and a child's classroom competitiveness in U.K. schools is facilitated through neoliberal education policies of marketisation and increased consumer (parental) choice. Several coalesced factors lead to a preference by wealthier parents for single-sex education: 1) Pupils at single-sex schools are more likely to have higher-socio-economic backgrounds (Burgess, Crawford and Macmillan, 2018). 2) Parents in higher-socio-economic groups are more likely to give weight to exam results in choosing a school (Leroux, 2015). 3) Single-sex schools 'reign supreme" in the league tables (McCall, 2021) as they are more likely to have selective entry (Blastland and Dilnot, 2008). Therefore, single-sex education is likely to be popular with wealthier parents. The

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[177]Although this assumes girls' pursuit of heterosexual concerns and does not consider the reported increased diversity in sexual orientation (a recent Ipsos Mori poll, 2018, found 34% of 16–22-year-olds were not exclusively heterosexual). A strict, binaried, performance of gender, therefore, may no longer be considered as ubiquitous as traditionally has been the case (Morgenroth and Ryan, 2020).

inferred profile of Anbury Grammar parents fit the descriptors by Lee et al. (2014) above. The context of selective education in the area (discussed in Chapter One), which included parental activism to increase grammar school places, indicates that selective education is valued by many parents. Levels of oversubscription at transfer (143 in 2021[178]) give further weight to the exercise of parental choice in selecting Anbury. Further, the extremely low proportion of children on free school meals, alongside the high intake of Y7 from independent primary schools at Anbury Grammar, suggests that pupils come from higher-socio-economic backgrounds. It is, therefore, feasible that Anbury girls' competitive behaviours result from their parentage, and not the context of the school.

However, even if was the case that parents opting for single-sex education are competitive themselves, how this stretches to position their children as competitive also needs consideration. The transmitted trait of competitiveness may be regarded as genetic (e.g., Cesarini et al., 2009) or environmental, with no clear-cut evidence to decide the issue. However, there is much evidence that competitiveness is a socialised trait. For example, Andersen et al.'s (2013) comparison of a matrilineal and patriarchal society found that no gender or age difference is present in the matrilineal society, although a gender-based division in adolescence was found in the patriarchal society. Whilst in a comparison of 9–12-year-olds in Colombia and Sweden, Cárdenas *et al.*, (2014), concluded that competitiveness was equal for boys and girls in Colombia, but not in Sweden, where boys were deemed more competitive in general, but girls more competitive in some tasks. Within a family context, van Lange et al., (1997) found an association between competitiveness and the number of siblings, with greater competitivity in individuals with fewer siblings. Therefore, there are sufficient grounds to suggest that socialisation is at least a contributing factor to competitiveness in children. In the following section, I will look more closely at how children are socialised and shaped to be competitive through proximal processes at home and school, including the lens of parental ambition. This points to an intersectionality between

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[178] The reference has been withheld to protect the school's anonymity.

gender, context and other sociocultural categories (e.g., class, nationality, ethnicity[179]) to explain not only competitivity in single-sex schools, but the complex, heteroglossic, performances of girls at Anbury Grammar in response to the threat of soft failure.

Shaped to be competitive

In addition to the influence of learners' genetic inheritance, which plays a significant role within Bronfenbrenner's contextualist approach (Siraj-Blatchford *et al.*, 2014), the PPCT model (Bronfenbrenner and Evans, 2000) suggests that pupils' observed orientation towards competitive behaviour has been socially constructed by both microscopic and macroscopic influences. I shall discuss the levels of contextual influences relating to school and home interactions in turn.

Contextual influences relating to the school microsystem

Several school microsystem factors impacted pupils' and teachers' perceptions of, and responses to, soft failure: a competitive goal orientation, classroom organisational structures (e.g., assessment or grouping arrangements), and prior reactions to soft failure. Whilst no pupil reported feeling under direct pressure to achieve from teachers, the classroom goal orientation may have encouraged an orientation towards competition and achievement, particularly through the mechanism of social comparison, limiting pupils' academic risk taking.

As we have seen in Chapter Four, classroom environments that are focused on learning and improvement (indicating a mastery goal orientation), rather than performance, can influence pupils' conceptions of success and failure and direct subsequent motivation and behaviour (Meece and Anderman, 2006). A study of the microsystems of the classroom indicated that multiple goal orientations were observed to operate in both

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[179] I am unable to examine the intersectionality of gender with pupils' socioeconomic background, ethnicity, or prior attainment due to a lack of available data. However, the high percentage of pupils arriving in Y7 from preparatory schools (over 40%) and the endemic tutoring I encountered in interviews, and teacher interview comments, suggests that the school intake drew predominantly from the middle classes.

schools. For instance, through ability setting at Burcastle Primary, some pupils were rewarded with a spot on the 'top table' and granted special work to complete, promoting a performance orientation. However, at other times, teachers promoted a choice of tasks, and supported pupils to engage with errors metacognitively. This mastery approach was also seen in some Anbury lessons where paired work provided the space for intellectual grappling and exploration of ideas. However, there were other instances, where embedded classroom practices, such as evaluation, grouping and assessment structures (Urdan, 2004) elevated the importance of high performance. It is argued that educational systems that measure success through academic performance and provide rewards on this basis, lead to evaluative(Dijkstra *et al.*, 2008) and social comparison concerns for teachers, parents, and pupils. The by-product of such systems can lead to teachers' performative practices (Ball, 2003), and exert pressure upon pupils. This can be externalised through increased competitive behaviour[180], with evaluative structures thereby becoming both the source and sustainer of competitive culture in school.

Beyond classroom structures, shifting to proximal processes, teachers at Anbury Grammar directly contributed to promoting performance goals through rewarding successful answers in comparison to incorrect attempts and valorising high marks and higher attainers. Pupils have a vested interest in making social comparisons, and as Dijkstra et al., (2008) argue, pupils can scarcely avoid comparisons in the classroom due to the constant exposure to information about others through their interactions. This leads to the shaping of academic self-concept through providing pupils with a frame of reference. In this way, social comparisons and competitive practices can slip in through the back door, even where teachers communicate mastery orientations directly to pupils. This appeared to be the case in this study, where all seven teachers advocated and promoted learning from errors, seemingly unaware of the contradictory practices of which they were engaged.

Leaving the microsystem of school and turning to the wider schooling system, the emphasis on assessment and evaluation, for which England is renowned, is assumed to

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[180] Festinger, 1957; Garcia, Tor and Schiff, 2013

further pupils' evaluative concerns. The Cambridge Primary Review (Hofkins et al., 2009 p.30) found that "children in England are among the most tested in the world" – even before baseline assessments in English and maths were introduced for four-year-olds. Baked into the English education system are performative concerns which end, at eighteen, with terminal examinations where norm referencing ensures there will be losers as well as winners. With Anbury Grammar located within an area of England which has actively resisted comprehensivisation in favour of meritocratic selection, it is therefore unsurprising that social comparisons feature highly with influences from the macrosystem through to the microsystem shaping the error climate.

Classroom goal structure research over many decades has associated competitive classroom norms with negative social, emotional, and academic outcomes for students[181]. Affective and social impacts include increased anxiety (Di Stasio, Savage and Burgos, 2016); increased feelings of self-doubt, such as imposter syndrome (Parkman, 2016; Canning *et al.*, 2020); social exclusion of those with academic difficulties (Gasser *et al.*, 2017); and bullying and victimisation (Di Stasio et al, 2016). These socio-emotional barriers in turn, are associated with decreased academic performance and motivation[182]. Where competitive classroom structures are salient, errors and impasses are likely to be positioned by pupils as losing moves within a high stakes game. Therefore, it is more likely that a less constructive error climate will develop, and that pupils will show more maladaptive responses to errors. Findings from this study, which reveal competitive classroom structures that fuel pupils' social comparison work, indicate that this is the case.

Contextual influences relating to the home microsystem

Findings from pupil data suggest that the exo- and macrosystems were influential upon home proximal processes. The selective education system, which Burcastle teachers were keen to distance themselves from, indirectly affected pupils through their

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[181] This is despite Kaplan and Maehr's study (2007), linking motivation with an increased competitive classroom goal structure.
[182] Wilkins and Kuperminc, 2009; Meyer and Eklund, 2020

interactions with their parents. The wider context may be hypothesised to steer pupils towards competitive behaviours and increase pressure upon pupils to succeed.

A convergence of school placement shortage and the perceived value of grammar school education in the locality, may have become important drivers for parents' aims to secure an advantage for their child, providing the impetus for parents to set into motion programmes of 11+ study for their children. Alongside parents' resource characteristics[183], this would have enabled them to become skilful navigators of the obscurities within the selective education system. The actions of the local collective parent body in response to the shortage of grammar school places[184] initiate a developing context that could provide a ripe setting for the emergence of a culture around the desirability of selective education and passing the 11+. Even parents not directly connected with the Grammar School campaign were likely to have an increased awareness of selective education, raised perceptions of the stakes associated with the 11+, and a wariness of the competitive field that their children were to approach.

The findings indicate the inescapability of discussions around the 11+ for both parents and children. Pupils were aware of parents' heavy investment of time, money, and energy. This became internalised as a source of pressure for some pupils, with their perceived reciprocation of these parental efforts being a pass in the 11+. Reciprocal filial piety, a debt of gratitude stemming from the parent-child relationship (Chen and Ho, 2012) is primarily associated with Confucian cultures but is regarded by some researchers as a transcultural concept (Pan, Chen and Yang, 2022), and therefore may escape jingle-jangle accusations. Children, feeling the weight of obligation to parents to achieve, may experience increased pressure, leading to associated negative psychic responses such as anxiety (E.g., Tan and Yates, 2011; Sun et al., 2019) self-doubt and fear of failure (Kim and Dembo, 2000; Stankov, 2010) and competition (Tam *et al.*, 2021).

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[183] Parents can be assumed to be affluent given 1) prevalence of private tutoring reported. 2) 40% of the AG Y7 intake were from the independent sector 3) Only 2% of AG pupils were in receipt of free school meals.

[184] In Chapter One the local context was discussed, including the Grammar Annexe campaign.

With the starting point for this section being the complex classroom performances of girls, I have examined some of the influential factors upon pupils' behaviours in response to soft failure that originate in various ecological systems. Through focusing on the proximal processes at home and school, I have identified some of the ways in which an orientation towards competition, and interest in social comparisons, has been fostered. I now turn from 'process' to 'person', as I consider how proximal processes affect pupils intrapersonally.

9.2 'Person'

Proximal processes, in as much as they involve people, are assumed to be affected by personal profiles which are both genetically and environmentally generated. Although I lacked access to pupil records, personal information revealed in interviews and gleaned through observations related to demand, resource, and force characteristics. These characteristics are assumed to have moderated proximal processes, and over time, vice versa. For the purposes of this study, I was most interested to identify the impacts of the classroom proximal processes upon pupils affect and perceptions.

The impact of high stakes upon pupils' responses to soft failure

Pupils' responses to soft failure and academic risk-taking shifted in accordance with their awareness of a threat to the self, with fear of failure increasing commensurate to an inability to resolve the threat. Sensitization towards threat occurred through competitive goals relating to high stakes, which I define broadly: whilst the 11+ exam may be considered uncontroversial as a high-stakes event, high stakes for these young adolescents included the social stakes of the classroom, a theme which I shall explore in greater depth in the following three sections. Firstly, I shall discuss how pupils' experience of social emotions, such as shame were rooted in a threat to the self. Secondly, I shall consider how pupils' sense of dignity, tied to success through the competitive classroom and meritocratic goals, was jeopardized through teachers' error

handing. Finally, I will discuss how pupils' perceived pressure to appear perfect was rooted in a fear of negative evaluation from others, and reinforced competitive goals.

The manifestation of shame

Shame, a social emotion, emerged as a prominent theme through coding, relating to pupils' fear of negative evaluation and leading to classroom consequences. Social emotions, such as shame, arose where soft failure experiences threatened pupils' sense of self-worth (dignity), or academic self-concept. However, limited by their emotional articulation, pupils, such as Brianna and Esther, presented a blurred understanding of how the self was impacted by soft failure. These pupils admitted to feeling embarrassment when they experienced soft failure in public settings. However, studies have demonstrated that both adults and children find these concepts difficult to separate (Ferguson, Stegge and Damhuis, 1991; Olthof et al., 2000), posing a problem for research where meaning is generated from the words of participants.

Shame, embarrassment, and guilt are felt when individuals understand that they have failed in some way against social norms and expectations (Tangney and Tracy, 2012), converging around concerns about rejection (Leary, 2015). However, they are not interchangeable in meaning. Previously, it has been argued that the difference between embarrassment and shame is one of intensity (Borg, Staufenbiel and Scherer, 1988), with embarrassment felt less keenly. However, recent theorists (Tangney, 2004; Westerlund, 2019), perceive a qualitative difference between the two emotions, rooted in the type of appraisals that are made through self-conscious reflection. The differentiation between embarrassment/guilt and shame turns on whether the appraisal centres on a specific behaviour, transgression, or event ("I <u>did</u> a bad <u>thing</u>"; Tangney, Stuewig and Martinez, 2014 p.800), or whether the appraisal evaluates of the self ('I <u>am</u> a bad person'_p.800). Whilst guilt, or embarrassment, tends to be temporary, relating to a specific wrongdoing[185], shame is all-pervading and unavoidable. Whilst in both situations there has been a shortfall in meeting norms, embarrassment relates only to the presentation

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[185] Guilt, typically moral in nature, could be avoided, and so confers responsibility on the individual (Miceli and Castelfranchi, 2018).

of the self, rather than casting a shadow of inadequacy upon the whole self (Shott, 1979). It is the global sense of incompetence (Tangney and Fischer, 1995) arising from shame that impacts upon the individual's sense of self-worth, or dignity.

The lack of specificity in many of the comments that Brianna and others made in reference to social emotions, indicated a likelihood that shame was felt and feared. Whether a pupil feels embarrassment or shame is critical for teachers' understanding of the pupil and prediction of likely behavioural responses to soft failure. Tangney et al., (2014 p.800), referring to the experience of shame as feeling "diminished, worthless and exposed", also note that an "acutely painful shame experience" often prompts evasive and defensive reactions. However, shame does not need to be directly experienced for teachers and pupils to feel its negative effects in the classroom. Fear of failure has been described as a desire to avoid shameful experiences (McGregor and Elliot, 2005). Achievement theorists suggest that those who fear failure are motivated towards failure avoidance[186] to protect themselves from evaluations of incompetence that lead to shame. This has been likened to the adaptive responses of a "psychological immune system" that is initiated on detection of a perceived threat (Sherman and Cohen, 2006 p.184). A distinction between avoiding failure and avoiding the implications of failure is important in understanding debilitating self-protection strategies at school. With failure sometimes unavoidable, Covington (2000) explains that avoiding the implications of failure becomes a goal to protect self-worth. This can be achieved by circumnavigating failure through withdrawing effort or engaging in other self-handicapping strategies. An association between self-protection strategies (e.g., self-handicapping, Covington, 1992, 2000); procrastination, disruptive behaviour, defensive pessimism (Martin and Marsh, 2003a) and fear of failure is well established in the literature[187]. Should failure occur subsequent to engaging in self-handicapping, the antecedents to failure will be obscured: no one will be certain whether the failure was down to ability, motivation or effort. In this way, self-worth is preserved. Midgley and Urdan, (2001) note that impression management is the key concern of self-handicappers; not appearing to have failed to others is the primary motive for self-

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[186] E.g., Atkinson, 1957; Covington, 1992; Martin and Marsh, 2003
[187] E.g. Ferrari, Johnson and McCown, 1995; Martin and Marsh, 2003a; Galmiche, 2017

handicapping, rather than the avoidance of failure itself. With relation to this thesis, the threat of shame is hypothesised to drive a fear of negative evaluation, manifesting in diverse ways such as a reluctance to take academic risks; anxiety when required to contribute to class, or when taking tests; engaging in self-handicapping strategies, such as hiding errors, procrastination and rushing work; feeling pressure to demonstrate success and to appear perfect. Whilst shame appeared to be both more prevalent and more intensely felt by the girls of Anbury Grammar, it nevertheless was present at Burcastle Primary. This might be accounted for in several ways. Firstly, pupils at Burcastle Primary were only just entering adolescence as they ended Year 5. Whilst shame emerges early during childhood, it is during adolescence that shame may intensify in parallel to the increased emotional reactivity during this period of maturation (Szentágotai-Tătar, Nechita and Miu, 2020), rise in social evaluation fears (Westenberg *et al.*, 2004), self-consciousness (Rankin *et al.*, 2004) and the increased use of the 'looking glass self' (Cooley, 1902). Therefore, pupils at Anbury Grammar – two years along in maturation – are more likely to be in the thick of the developmental changes that sensitises them to evaluations by others. Secondly, studies have demonstrated that girls are more vulnerable than boys to the increase in self-consciousness during adolescence and the accompanying dip in self-esteem[188]. For Anbury Grammar pupils, the intersection of gender and age, as well as their arrival at a super-selective grammar school, with an increased emphasis on grades and reporting, is postulated as a significant factor in pupils' increased reporting of 'embarrassment' and shame-related episodes in the classroom where dignity is threatened.

Dignity within an adolescent context

Dignity has been described as a "useless concept" (Macklin, 2003 p.1420), an empty slogan meaning little more than respect for individuals. In developing a model of 'Dignity in an adolescent context' (p.243), it has been necessary to carefully delineate the concept, 'dignity', to ensure the reduction of any conceptual woolliness. In the context of medical ethics, dignity has been revealed as four distinct concepts, rather

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[188] Frost and McKelvie, 2004; Tetzner, Becker and Maaz, 2017

than one (Schroeder, 2008), covering the opposing positions that dignity is inherent and inviolable, and that dignity is contingent, acquired or 'aspirational' (Killmister, 2017). The former understanding of dignity may be considered Kantian in that respect is conferred on an individual in virtue of their humanity and innate moral worth. This contrasts with the latter which suggests a fragility in how dignity is experienced and perceived; dignity can be gained or lost, conferred, or removed. Both these respective 'thick' and 'thin' senses of dignity (Shultziner, 2003) are important to consider in the classroom. Whilst discussions about safe spaces for teaching indicates that dignity is a social and relational concept that can be eroded by experiences, such as humiliation (Callan, 2016), the starting point for teaching is the sense that all students are valuable, regardless of status, abilities, and background.

Callan's definition of classroom safety, discussed in Chapter Four, makes provision for the intellectual unsafety required for learning alongside the preservation of dignity safety. In doing so, he attempts to provide the educator with some clarity over the classroom interactions that maximise learning benefits from feedback whilst minimising those situations that leave a longer-term detrimental impact to the individual, such as humiliation. The dignity of Y7 Latin pupil, Leah, who was caught by teacher Laura, reading her answer, is maintained if the classroom safe space is drawn along moral lines, in accordance with Callan's (2016) definition. Whilst Laura provides for Leah's intellectual unsafety, Leah's dignity safety has not been violated as there appears to have been no moral wrongdoing on Laura's part. However, defining a 'safe classroom space' in terms of a minimum ethical threshold for interactions, provides neither a useful navigational tool for the ethical educator who wishes to minimise harmful shameful experiences in the classroom through thoughtful feedback, nor takes into consideration whether early adolescence moderates conceptions of humiliation.

Whilst teachers' practices of humiliation do occur in the classroom, particularly regarding some school-sponsored disciplinary methods, it might be presumed that most teachers already see this as poor practice. Indeed, the Teacher Standards (TS) of England stipulates that teachers must treat 'pupils with dignity' and build 'relationships rooted in mutual respect' (Part 2, TS, DfE, 2011). However, the episode with Laura and Leah

attests to the haziness surrounding concepts of humiliation and dignity within the context of honest academic feedback. Therefore, an expansion of Callan's definition is necessary to provide teachers with the clarity needed to approach negative feedback adolescents with both honesty and sensitivity. Adolescence marks a critical period of social and brain maturation that can affect social evaluation processing. An awareness of typical neuroanatomical development trajectories, and their impact on adolescent self-concept, is essential for teachers who wish to understand how well-meaning feedback may be internalised by their pupils, the potential consequences for adolescents, and how teachers might take a more nuanced approach to supporting pupils to make progress.

For early adolescents, whose identity work involves not only direct (or self) appraisals to inform their self-concept, but also reflected appraisals (how they are seen by others; (Sebastian, Burnett and Blakemore, 2008), peer judgements, and the anticipation of evaluation by peers, soft failure becomes increasingly significant. Social sensitivity is characteristic of this period of development, with peer rejection a common phenomenon (Somerville et al., 2013; Masten et al., 2009). Rejection can be traumatic for adolescents, who lose not only companions, but significantly, social status in the classroom (Beeri and Lev-Wiesel, 2012). Influence, power and popularity in the classroom are not the only consequences of being situated near the bottom of the classroom hierarchy. It is argued that low status in the classroom is associated with disliking (Rambaran *et al.*, 2015; Pál *et al.*, 2016). Group norms can direct ties of friendship, enemies, and antipathy within a class. The importance of congruency of opinions to establish and maintain friendships (Balance Theory; Heider, 1958) leads to individuals sharing positive and negative ties with friends (Shared Enemy Hypothesis; Rambaran et al., 2015). The low status individual, therefore, is at risk of also being disliked by the class, particularly if the opinions of higher status individuals point in this direction[189]. Therefore, it is of no surprise that social sensitivity corresponds with increased emotional reactivity where social inclusion appears threatened (Somerville *et al.*, 2013). Significantly, for adolescents, peer rejection has associated costs for

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[189] Rambaran, Dijkstra and Stark, 2013; Dijkstra and Gest, 2014

perceptions of self-worth. In a well cited-study by O'Brien and Bierman, (1988), peer rejection in adolescents was associated with a sense of feeling unworthy as a person. In terms of Callan's (2016) definition of humiliation, this translates to a loss of dignity and indicates that Callan's (2016) definition of a classroom safe space for adults may not hold for adolescents. Therefore, I shall argue that classroom proximal processes that risk subsequent peer negative evaluation and rejection place adolescents' dignity in jeopardy, signifying that a safe space for learning has not been achieved.

Further evidence that supports the treatment of adolescence as a special case affecting dignity safety, can be found in the unique patterns of activation within the adolescent's brain circuitry process. Neuroanatomical maturational changes in the socioaffective circuitry of the adolescent brain, i.e., the amygdala, striatum, and medial prefrontal cortex (MPFC), are considered partially responsible for adolescents' increased sensitivity to detect social cues (Somerville, 2013; Sebastian et al., 2008) and heightened emotional response to social evaluation (Somerville et al., 2013). Using functional magnetic resonance imaging (fMRI), Somerville and colleagues (2013) demonstrated that, in contrast to children and adults, adolescent patterned behaviour tended towards increased self-consciousness when believing a peer was observing them. Corresponding brain activation in the MPFC and functional connectivity between the MPFC and striatum-MPFC (associated with inferring intent in communication; Sebastian et al., 2009) suggest the mediating role of the adolescent's brain between social evaluative scenarios in the classroom and learners' behavioural and emotional reactions. This circuitry is further primed by a hormonal surge, influencing neurotransmitter systems (Ernst, Romeo and Andersen, 2009). This work, whilst developmentally necessary in constructing self-concept, may explain psychological states common to adolescents, such as the 'imaginary audience' (where individuals feel their actions are under the scrutiny of others; (Elkind, 1967). Below, I illustrate how the interface between maturational processes, increased self-consciousness, peer rejection and humiliation adolescent lead to threatened adolescent dignity when embarrassing episodes in the classroom occur.
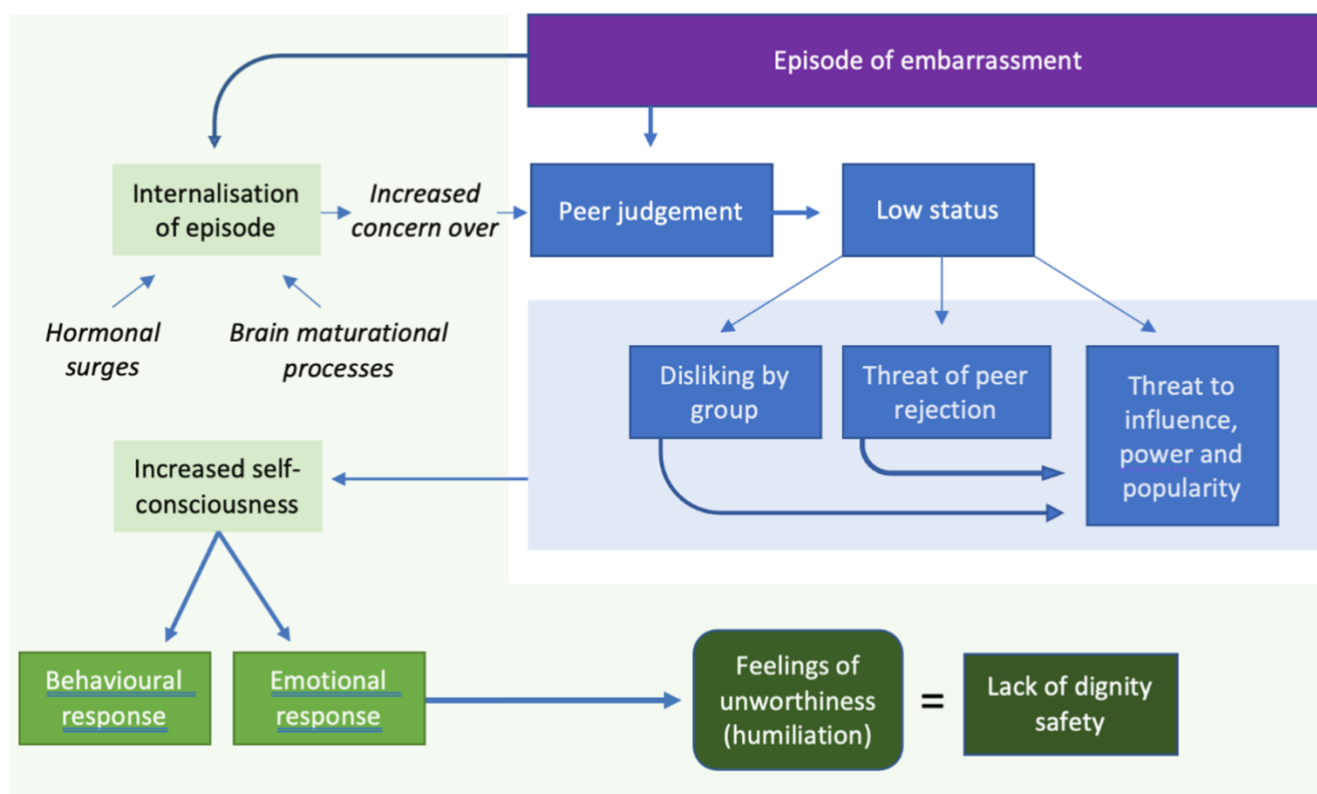
The current evidence of a neural base for adolescent's changes in social and self-perception, suggests that teachers need to think carefully about how feedback is delivered and how emotions such as humiliation might be constructed by learners. The unique vulnerability of adolescents to social evaluation, the intensity of their response, the threat of peer rebuff, and their association of rejection with global inferiority, suggests that humiliation may be perceived differently to those in other age groups and that their dignity may be at greater threat in the classroom.

Pupils' susceptibility to humiliation, which I have argued is particular to adolescents, further intensifies when viewed under a macroscopic lens. The competitive setting of a selective education system, within a meritocratic framing, is a powerful modifier of conceptions of self-worth. Values which promote competition tie dignity to success (Hill and Curran, 2016), thereby increasing pupils' vulnerability to humiliation upon soft failure. The connection between success and self-worth becomes clearer upon

examination of how individual identity is constructed in relation to and embedded within the social sphere. Davis Jr. (2011) points to the tension with which personal identity interacts with, and is shaped by, the 'collective social identity', ascribed by the institutional context. The assigned socially constructed identity communicates institutional values formed from constructed concepts such as race, ethnicity, gender, socioeconomic class, or intelligence (Wrenn, 2014), soaked within a historically related macroscopic framework. It is through a negotiation of the personal and institutional identities through the agency of the individual, that a 'relational social identity' emerges. For the pupil whose educational experience is organised in line with meritocratic values and norms, their ascribed collective identity correspondingly includes a meritocratic identity. Pupils' negotiation of personal identity therefore involves an engagement with the meritocratic script of 'winners' and 'losers' (Lamont, 2019 p.685) educational success, and competition. Pupils' subsequent reading of success within school may be seen through the lens of performativity and achievement, rather than personal progress. This appeared to be the case for many Anbury Grammar pupils, who were driven by grades, ticks on a page and perfect outputs, but also for some Burcastle pupils, like Immy, who competed to be the first to finish to demonstrate her success. These readings may be amplified by the selective local education system. Wielding the tool of the 11+, pupils in this study were already positioned as academic winners and losers, even before they reached secondary school; Burcastle pupils openly discussed their 'passing' and 'failing' options for the next stage in their education. In this way, pupils' concept of self-worth, or dignity, connects with a meritocratic brand of success. To fall short of success in the classroom, therefore, risks dignity a first time. Should a teacher respond in manner that inadvertently humiliates a pupil, their dignity is at risk a second time. These blows to dignity, even if small, can increase pupils' desire to protect themselves from further risk.

Striving for perfectionism

Striving for perfectionism, or at least, appearing perfect to others, was one of several self-handicapping strategies evidenced in both lessons and teachers' reflections. These

resulted from proximal processes in the classroom that increased the social stakes and led to a desire to protect self-worth from threat. However, whilst the resulting perfectionism presented only in a few individuals at Burcastle Primary, at Anbury Grammar, perfectionism was a trend that spread as pupils moved up the school[190]. Given that Anbury Grammar teachers, Laura and Hailey, noted the peculiarity of the perfectionist behaviours that they have observed in their pupils, compared to other secondary settings they had experienced, it is worth considering why perfectionism was so prevalent at Anbury Grammar School. In doing so, I will first consider the possible antecedents of perfectionism arising from the bioecological learner, before considering the impact of pupils' microsystem and then the macrosystem.

The antecedents of perfectionism have roots within the different systems of the learners' ecology, including their own biology, which have been discussed in Chapter 4. The focus on how social expectations shape conditional self-worth within (Flett *et al.*, 2002) nested model of perfectionism is particularly relevant for understanding the development of perfectionism in gifted populations, and so may be useful in understanding why so many pupils are orientated towards maladaptive perfectionist tendencies at Anbury Grammar. It is argued that gifted pupils are more at risk than the general pupil population from exposure to high levels of person (or trait), rather than process-orientated, praise from adults throughout their childhood (Speirs Neumeister, Williams and Cross, 2009). Mueller and Dweck's (1998) seminal work on praise has demonstrated that global, person-orientated praise fosters a sense of contingent self-worth, tied to intelligence. This creates a vulnerability upon experiencing soft failure to feeling unworthy of such praise, which can lead to, negative affect, increased pressure, less persistence on subsequent tasks, self-blame and helpless reactions upon setbacks (Kamins and Dweck, 1999). Given Anbury Grammar pupils' previous high attainment record (three Anbury teachers note that these girls will have been top scorers in their primary school classes), including gaining a super selective score in the 11+ and the prestige of an Anbury Grammar place, it is plausible that these pupils may have been

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[190] Younger children may be considered less vulnerable to developing perfectionist tendencies (which may explain its absence at Burcastle Primary), with some studies showing that the prevalence of perfectionism increases with age (Hong et al., 2017; Kornblum and Ainley, 2005).

praised for their intelligence throughout their childhood by adults, gaining a 'gifted' label that they may become preoccupied with justifying (Mueller and Dweck, 1998). As this study has focused on data from teachers and pupils, rather than parents, it is impossible to comment on the extent to which this is so. However, it could be argued that gaining a super-selective score in the 11+, is a label objectively conferred on the individual. In attempts to preserve the label gained from the expectations of others, and in doing so, their sense of self-worth, perfectionist tendencies may develop (Speirs Neumeister, 2004)

The sources of socially prescribed perfectionism have predominantly centred on the role of parents in the literature on perfectionism[191], with increased expectations and a parental focus on mistakes significant in sensitising a child to threat. However, (Hewitt and Flett, 1991a), and a small set of contemporary studies, suggest that a wider variety of interpersonal sources other than parents, such as siblings, teachers, peers, can influence socially prescribed perfectionism. Studies, from Rosenthal and Jacobson's (1968) Pygmalian onwards, have focused on particular influencers of expectations, such as teachers[192]. A study by (Perera and Chang, 2015) showed that for European Americans, teachers' expectations accounts for the variance of socially prescribed perfectionism, beyond parental expectations. Teachers were also found to influence the development of perfectionism in young musicians who felt pressured to be perfect (Stoeber and Eismann, 2007).

Peer expectations may also play a role in the development of perfectionism. This may be due to the developmental need for approval in adolescents that reaches beyond parents, with peer group membership and a sense of belonging becoming increasingly important (Newman, Lohman and Newman, 2007). It is argued that perfectionism may arise as a defence against possible peer group rejection (Miller and Vaillancourt, 2007). Studies in other domains indicate that social learning may operationalise perfectionism. Research on the effects of social norms as a predictor of young adult alcohol consumption have recognised the role of descriptive (perceptions of the behaviour of

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[191] Frost et al., 1990; Flett et al., 2002; Hewitt, Flett and Mikail, 2017

[192] E.g., McKown and Weinstein, 2008; Jussim, Robustelli and Cain, 2009; Gregory and Huang, 2013

others) and injunctive norms (perceptions of the approval of others), with ethnic differences in drinking patterns indicating a susceptibility to the social influence of peers (Nguyen and Neighbors, 2013). Although there is a dearth of studies to link peer social learning and perfectionism, a study by Nanu and Scheau (2013) demonstrated that peers were influential for girls who engaged in perfectionist self-promotion and non-display of imperfection. Findings from Anbury Grammar also point towards peer influence in the adoption of perfectionistic behaviours. The increased prevalence of perfect exercise books as girls rise in age, with one teacher likening it to a virus which *"they catch from each other",* suggests the influence of descriptive and injunctive social norms.

Turning to macro influences, three broad Western cultural changes over time have been identified by Hill and Curran, 2016) as triggers for the increase of perfectionism in young people in the past three decades: 1) the emergence and growth of neoliberal governance and competitive individualism; 2) the rise of meritocratic ideals; 3) controlling parental practices. These three cultural trends dovetail with the key contextual factors outlined in Chapter Six and Eight (for example how a confluence of ideologies encouraged a parentocratic approach to secondary school transfer). However, whilst I have argued that the impact of neoliberal policies upon young people is indirectly felt via schools and parenting practices, (Hill and Curran, 2016) consider the direct impacts of neoliberalism and meritocracy upon young people's thinking as they internalise these structures, morphing their construction of self and identity towards individualistic and competitive practices that feed into cultures of blame (Twenge, Campbell and Freeman, 2012), personal cultivation (Twenge, Miller and Campbell, 2014), achievement and materialism. These ideals are visible in the cultural habits of young people (e.g., curating a self-image through social media; Márquez, Lanzeni and Masanet, 2022); body image dissatisfaction and social comparisons; Ho, Lee and Liao, 2016). In short, these practices have led to increased social comparison and status anxiety (Mann and Blumberg, 2022) that feeds fear of negative evaluation, fear of failure, and increase in perfectionism. However, it is when education is viewed with a neoliberal meritocratic framing that self-worth is defined in terms of success (Hill and Curran, 2016). The meritocratic myth that individuals receive their 'just deserts' with volition and effort reinforces the link between

achievement, status, and personal worth. Under such a doctrine, failure to achieve must be explained by an individual's innate qualities, rather than other explanations for a lack of success. A tendency towards perfectionistic practices emerges from a desire to protect the self-identity from such a negative outcome by bowing down to the increased pressure to perform, achieve and reach unobtainable goals.

This section has considered the bio-ecological learner (Bronfenbrenner and Morris, 2006), and the effects of fear of failure which were common to some extent for most students in this study, on the psychological self. Fear was a response to a perceived threat to dignity and led to social emotions such as shame and behaviours that obstructed learning. To understand the manifestation of threat to the self in the classroom, I have argued that the construct of dignity must be understood in the adolescent context. Understanding pupils' vulnerability to humiliation in the classroom, and the modifiers of self-worth, facilitates teachers' difficult job of providing freedom to experience intellectual danger whilst ensuring the dignity safety that reduces fear.

9.3 Pupils' conflicting responses to soft failure

Although this chapter has discussed pupils' maladaptive responses, the findings suggest pupils hold a more complex relationship to soft failure. Lesson observations in both schools indicated that most pupils coped well with soft failure, most of the time. This section will consider why pupils responded in different ways to soft failure and will introduce two models that have emerged from the data: a model of 'When mistakes matter' and a 'Model of Soft Failure Adaptivity'.

Observations demonstrating pupils' soft failure adaptivity were bolstered by their explanations of the powerful role of soft failure in learning. Pupils utilised a schoolified discourse that was clearly related to teacher-communicated values (such as the acronym FAIL at Burcastle[193]; the use of Building Learning Power language (such as *"the learning pit",* (Nottingham, 2017), or the use of the term 'growth mindset'(Dweck, 1999). These

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[193] First Attempt In Learning

terms indicated that school mastery goals had been received and understood by pupils. However, understanding and parroting the message is not tantamount to its wholesale acceptance. Running contrary to pupils' verbal embrace of soft failure and observations of error and impasse adaptivity, were pupils' admissions of fear of negative evaluation, their anticipation of shame and embarrassment on being exposed as incorrect, and maladaptive reactions to soft failure, such as procrastination, hiding errors, selective contributions to class and perfectionistic tendencies. In both schools, pupils' responses to soft failure in the classroom occupied the full spectral range from approval through to nonchalance, and at the far end, a deep-seated fear that paralysed learning.

These opposing positions were not taken up by different pupils but were often represented by the same pupil at different times and in different contexts. This is not surprising: the effect of context upon response, perception and cognition has a long heritage[194]. Recent growth mindset revisionists[195], also acknowledge the influence of context upon responses to soft failure in a more nuanced manner, with Dweck (2016 para 4) indicating that "a 'pure' growth mindset doesn't exist" but is in a constant state of evolution and construction, with situations triggering fixed mindset responses. Therefore, the complexity of pupils' responses to soft failure is in line with current research. Pupils' affirmation of the value of soft failure in learning was not invalidated by the lack of congruence with their behavioural responses but was assumed to be genuinely held within that time and context, to some extent, even where later observations proved these contradictory.

In this study, pupils' appraisals about the controllability of an error or impasse situation appeared to affect pupils' subsequent response. For example, several Anbury pupils who appeared to take soft failure situations in their stride indicated that an exception was to be made for modern language orals. For Emily (Y7 AG), the oral test was an unknown: *"Orals are awful as they could go anywhere!"* The pressure felt by Emily and others when taking oral exams appeared to result from a convergence of factors related to a loss of control. The conversational nature of an oral exam indicated questions may be

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[194] E.g., Bower, Monteiro and Gilligan, 1978; Meyer and Turner, 2006; Wood and Neal, 2007; Balsam and Tomie, 2014
[195] E.g., Yeager and Walton, 2011; Carol Dweck, 2015; Dweck, 2017; Lou, Chaffee and Noels, 2022.

unpredictable with numerous variables. Coupled with the pressure of responding extemporaneously, under the intense scrutiny of a teacher who awaited a quick response, pupils felt that should the teachers' questions 'go anywhere', there would be no breathing room, no possibility to escape. Feeling in control of possible error situations also appeared to be a motivator for the many pupils in both schools who made selective contributions in class, such as Clara (Chapter Seven), who feared others would laugh at her. Friedman, (1989 p.309), argues that "adolescent behaviour is often governed by their beliefs about what others think." Uncertain of how other pupils and teachers may respond to an error or impasse, Clara may conclude that keeping silent in class is the safest option.

Other possibilities may explain the inconsistent statements pupils made about soft failure. Situational factors provide a further moderating influence upon academic risk taking (e.g., task difficulty, peers, topic): many pupils indicated that they would weigh up the likelihood for success before committing to comment in class. However, pupils may have simply lacked awareness of their own error-related beliefs. As Kahneman, (2012) explains, much of our decision making happens undetected to us, automatic and below conscious thought. As the Johari window[196] of interpersonal awareness makes concrete (Luft and Ingram, 1961), there will be beliefs we are happy to disclose, those we keep hidden from others, as well blind spots that we have not yet identified. Therefore, it is possible that pupils did not recognise their conflicting beliefs or kept them hidden for social desirability concerns (Gifford and Nilsson, 2014).

When mistakes matter

Pupils' own responses were helpful in accounting for the discrepancy between their positive beliefs about mistakes[197] and the instances of maladaptive behaviours. Axial

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[196] The Johari window is a conceptual tool designed to develop personal awareness through understanding of how we are perceived by others as well as our own perspective, which aids communication about behaviour.

[197] Pupils referred to 'mistakes' rather than errors, so I have used the same terminology.

coding (Charmaz, 2006) was used to make sense of pupils' descriptions of their affective reactions to soft failure. Interestingly, pupils' responses were similar. The most frequently used verb used to describe the impact of errors was '*annoyed*', with its contextual meaning akin to self-directed frustration and irritation, rather than anger. However, pupils also described their errors as '*silly*', '*stupid*', '*obvious*', '*small*', '*large/big*', '*embarrassing*', '*glaring*', '*confusing*', '*tricky*, and '*important*'. The axial coding process (see Appendix G) led to an acknowledgement that errors are viewed by most pupils positively in many circumstances. However, when the classroom conditions change, concerns (e.g., a fear of negative evaluation) take precedence, and pupils' error orientation alters. Four categories emerged from the data to explain how pupils' perceptions of soft failure are influenced by individual, social or situational factors, changing their perceptions from error positivity to negativity:

i) The **volume** of mistakes
ii) The **significance** of the mistake
iii) The **stakes** when making the mistake
iv) **Sufficient resources** to manage the mistake

The figures below illustrate how pupils' emotional reaction to mistakes are affected by a range of factors. Mistakes are represented by circles (circle size represents the mistake significance); the fulcrum depicts the stakes; and the seesaw signifies the level of threat to the self through emotional response.

i: Volume of mistakes

An increase in the volume of mistakes led to the individual feeling overwhelmed (or *hopeless*), even when all the errors made were *small* or *silly*. Viewed collectively, minor mistakes were more likely to lead to attributions of the self that questioned competency: an internal threat. In these cases, pupils made comments in observations such as, *"I can't ever get this right"*, or *"I can't do science"*, indicating a domain-related hopelessness. This led to helpless responses to the error, where known strategies that may have been used to address the error were abandoned.
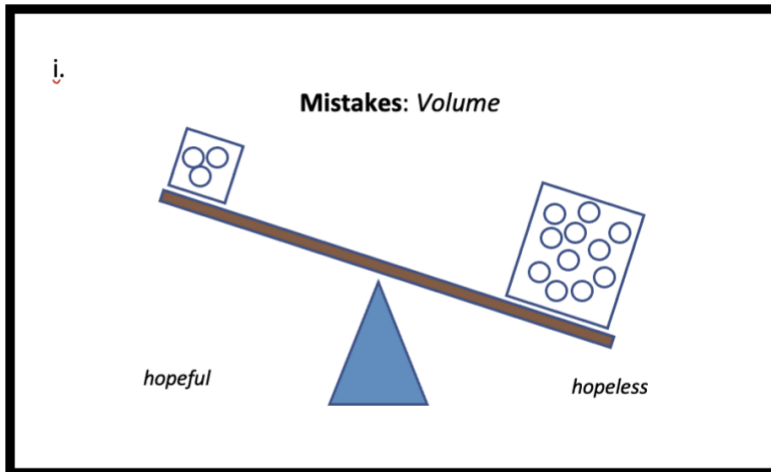
Figure 3: How the volume of mistakes affects learners' emotional response to soft failure

ii. Significance of the mistake

In the second category, whilst the volume of mistakes may remain low, the magnitude of one mistake may become a stumbling point, particularly if it renders other work useless. An example provided by one pupil was writing the *"wrong paragraph in the middle of a story"* that ends up invalidating the whole piece of writing. How hard the mistake is to remedy is, therefore, a further mediating factor in the acceptability of mistakes. However, when referring to '*big'* mistakes such as these, rather than smaller or '*silly'* mistakes, pupils spoke of feeling '*annoyed'*, rather than 'hopelessness.' This type of mistake, therefore, is more likely to be frustrating, setting a pupil back in their work, rather than disabling, and so the threat to the self was minimal.
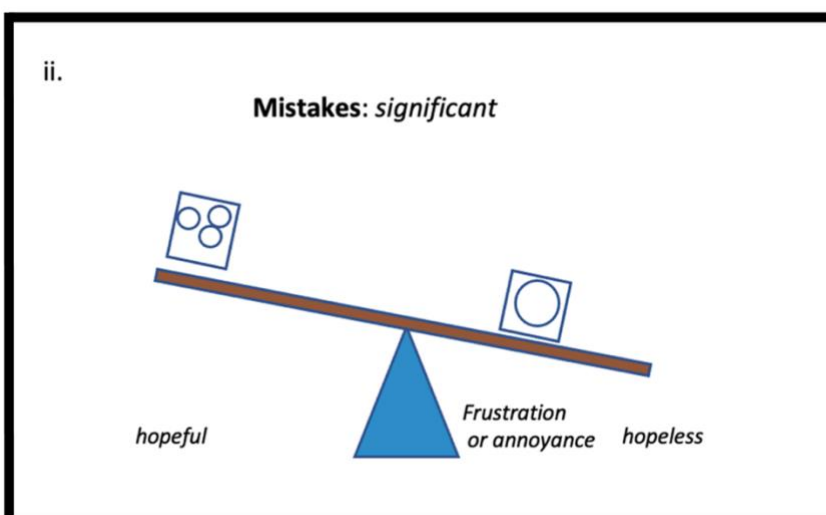
Figure 4: How the significance of mistakes affects learners' emotional response to soft failure

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iii. Stakes when making the mistake

In the third category, the balance from hopeful to hopeless tips where the fulcrum of context shifts. Therefore, the same mistake may lead to differing affect, depending on the context. When the stakes are low, a mistake (such an *obvious* or *silly* mistake) may be viewed constructively. However, when the stakes are higher, such as in a test where marks will be reported to parents, or disclosed in front of the class, the same mistake may threaten shame. This led to feelings of hopelessness, difficulty in remaining academically buoyant, and maladaptive responses to errors. Whilst an increased volume of mistakes, or the commission of a significant mistake tended to result in a domain-specific threat to the self, mistakes that occurred when stakes were perceived to be high also threatened overall self-worth (dignity).
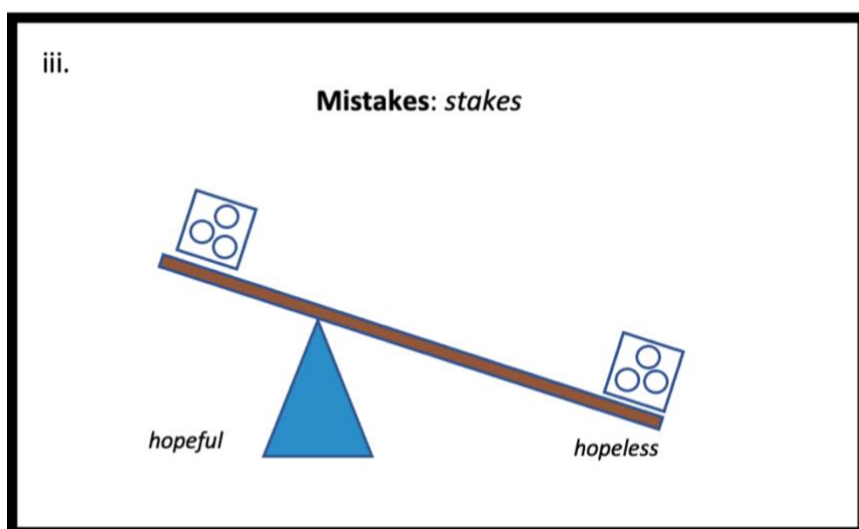
Figure 5: How the stakes of mistakes affect learners' emotional response to soft failure

iv: Sufficient resources to manage the mistake

A final category considers pupils' self-perceived capacity to address the mistake. In other words, do pupils perceive a sufficiency of internal and/or external resources to counter the threat posed by the soft failure situation. This category differs from the preceding ones in that it becomes a secondary mediator of the other categories. That is,

pupils who face a volume of mistakes, one significant mistake, or a change in the stakes, evaluate whether they have sufficient internal or external resources to manage the situation (discussed in Chapter Four), which in turn will neutralise the negative affect that it produces (Lazarus, 1991, 1997). Internal resources refer to the dispositions (e.g., a mastery orientation or persistence), abilities, knowledge, and skills (e.g., metacognitive strategies) that the pupil attributes to themselves, as well as domain-specific skills sets. External resources include physical resources, such as books or computers; non-physical resources, such as time; and personnel resources, such as themselves, teacher, peer, or parental help. Pupils' frustrations after a significant error would therefore be alleviated where internal attributions pointed to their ability to remedy this (locus and stability), or when external constrictions, such as the availability of time, were evaluated to be sufficient to make the necessary changes (controllability). Pupils at Burcastle Primary, observed to freely use the 'enable table' in lessons (a resource area with a collection of resources to support independent impasse resolution), indicated that pupils evaluated their capacity to successfully resolve the situation with external support. According to the biopsychosocial model of challenge and threat (Blascovich et al., 2003), where sufficient resources exist to meet the demands of a performance task deemed self-relevant, the situation is appraised as a challenge. However, should insufficient resources be identified to meet the task demands, a threat is identified. These cognitive appraisals lead to physiological responses, such as anxiety and stress.
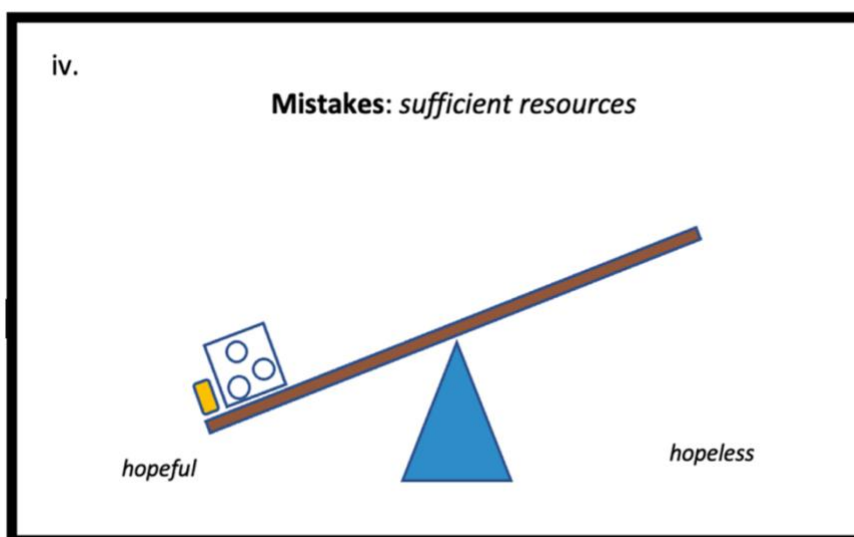
Figure 6: How the availability of sufficient resources to manage mistakes affects learners' emotional response to soft failure

A model of when errors matter

The following model of 'When Errors Matter' at Anbury Grammar and Burcastle Primary has emerged from an analysis of the data within the structures of my theoretical framework. As discussed in Chapter One, this framework supplements bioecological theory with Weiner's Attribution theory (Weiner, 1985a, 2010) to support understanding of how personal characteristics within the PPCT model interact with, sustain, or limit proximal processes. Where Bronfenbrenner is silent regarding operationalisation details between personal characteristics and proximal processes (Xia, Li and Tudge, 2020), the inclusion of Attribution theory within the theoretical framework develops understanding how soft failure beliefs impact individual's behaviour and future interactions with others.

Figure 7: A model of when mistakes matter

Two evaluative processes are triggered that determines when mistakes matter and the subsequent behavioural response.
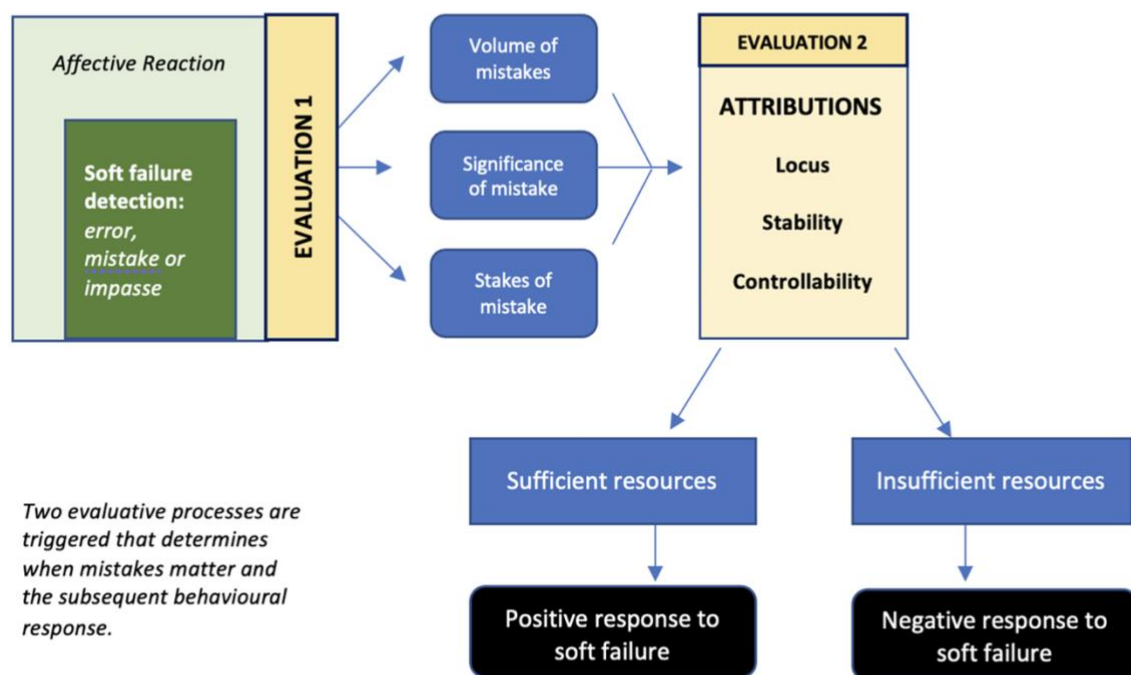
This model draws upon my own data and several key theories including: Tulis et al's (2016) individual Processes model; Lazarus' theory of stress and coping, Lazarus and Folkman, 1984; Lazarus 1991;1999 (as we have seen in Chapter Four); Blascovich et al.'s psychosocial model of Challenge and Threat (2003), and Weiner's Attribution Theory (1972; 1985; 2010), which is part of my theoretical framework (Chapter One).

It is assumed that learners, seeking an explanation of antecedents to failure, attribute causes to the event (Weiner, 2010). In this study, pupils appeared to evaluate the salience of soft failure episodes in two stages. Upon detection of the error, an initial evaluation of the situation assessed whether the error or impasse posed a threat to the self in terms of the volume, significance or the stakes involved. In line with Tulis and colleagues' (2016) Processes model, a subsequent secondary evaluation of attributions relating to the locus, stability, and crucially, controllability of the situation was made. The emotional response to the error or impasse situation is dependent upon whether the pupil felt whether the soft failure situation was within their control or not. For example, where pupils concluded that the volume of mistakes was sufficient to threaten their self-concept of their abilities within that subject (locus), secondary attributions, such as their competency to address the impasse or error (e.g., a belief that the situation was short-lived; and that the problem was manageable) were important in determining their subsequent emotional and behavioural response. Pupils who felt that they had sufficient resources to learn from each of the small mistakes were more likely to remain buoyant in the face of errors.

Central to the development of the model in *figure seven*, were findings that suggested that pupils' perceptions of soft failure were dynamic, contextual, situational. Critically, pupils' ability to exert control moderated a situation which was potentially threatening to the self. Through drawing upon both the PPCT model and Attribution theory, the interplay of pupils' personal characteristics and contextual factors explain the conditions under which soft failure resulted in learning opportunities or barriers.

A model of soft failure adaptivity

In the model, *figure 8*, overleaf, I draw together arguments made within this chapter that explain the conditions influencing pupils' responses to soft failure within both the classroom microsystem and with reference to the impact of wider ecological systems (see figure 8). This study has been marked by the messiness and conflicting perceptions of, and responses to, mistakes, errors, and impasses. Under certain circumstances,

pupils have responded adaptively to soft failure, prompting learning, but under other circumstances, maladaptively, engaging in acts of educational self-sabotage that limited their progress. Drawing upon the literature on social emotions (e.g., Tangney and Tracy, 2012; Leary, 2015) I have argued that a fear of experiencing shame, through a threat to the self (McGregor and Elliot, 2005), mediates pupils' responses to soft failure experiences and predictions. Where pupils anticipate shame (defined as a global appraisal of the self as inadequate; (Tangney and Fischer, 1995), they react in a way that protects self-worth and dignity. In the classroom this can translate to maladaptive responses to soft failure.

Figure 8: A model of soft failure adaptivity

Macrosystem influences: *e.g., neoliberal governance; individualism*

Step 1 appraisal

Anticipation or experience of soft failure

Step 2 appraisal: weight

Volume
Significance
stakes

Step 3 appraisal: attributions

Locus
Stability
Controllability

no threat

manageable

not manageable

threat neutralised

Tied to success

Threat to the self

| **Self-presentation** | **Dignity** |

Embarrassment

Guilt

Shame

Need to protect self-worth

Behavioural responses

Adaptive responses

Affective responses

Increased social comparisons
Falling short of expectations
Imposter syndrome
Parental sacrifice

| **Stress** | **Fear of negative evaluation** |
| **Debt** | **Pressure to achieve** |

panic
Grade-chasing
private mistakes
Competitive behaviours
Impasse avoidance
Working under ability level
Ignoring errors
Strategic participation
procrastination
perfectionist concerns
Evaluation-craving
Erasing errors
labelling

Maladaptive error responses

Grade-focused
Owning mistakes
Seeking help
Working on targets
Persistence during an impasse
Academic buoyancy
Taking academic risks
Exploratory dialogue
Perfectionist strivings

Competitive goals

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The *Model of Soft Failure Adaptability* begins with pupils' perception of soft failure, or the anticipation of soft failure, that is, where a mistake, error or impasse is detected as having occurred or is possible. The act of noticing this soft failure event, which denotes a deviation from an expected standard, triggers a change in the individual's state of arousal, marked by cognitive disequilibrium (Festinger, 1954; D'Mello and Graesser, 2012) and an accompanying change in cognitive-affective state, as individuals assess whether the situation holds relevancy for them (Lazarus, 1991; Tulis, Steuer and Dresel, 2016) and whether the event poses a threat to the self. There is no presumption of negative emotional valence in the individual's reaction. For instance, pupils may react with curiosity, interest, or confusion upon soft failure detection, rather than apathy, frustration, embarrassment, or shame. This will depend on a complex mesh of personal and contextual features. During this first appraisal stage, this emotion, initiated by the detection of a deviance from a goal, may be imprecise (Tulis, Steuer and Dresel, 2016) as the understanding of the significance of the event may yet be unclear, and the process or meaning-making can involve rapid change in emotion dynamics. D'Mello and Graesser (2012) , advise caution on reifying emotions as scientific constructs; the language of emotions they argue, is pre-theoretical and grounded in folklore.

The appraisal of the relevancy of soft failure to the individual is assumed to be a two or three-step process, depending on how the individual's understanding of the occurrence unfolds[198]. Step one of the appraisal process, detailed above, is the detection of the discrepancy between an intended goal and what has occurred, through the process of cognitive disequilibrium (see Chapter two), signalled through the initial emotional response. This stage recognises that the error is relevant for the learner. However, this initial appraisal may not lead to any firm conclusions about the saliency of the event. This leads to the second step of the process - a more considered appraisal of the meaning of the event through assessing the weight of soft failure experience (or forecasted experience). In this study, to assess the personal relevancy of an error-event, pupils appraised the volume, significance, or the underlying stakes of an error or mistake in

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[198] A two-step process merges the first two steps of the three-step process into one. This occurs in cases where it is immediately clear what the event means for the learner.

terms of its weight[199]. One low-stake, minor error, may therefore be considered to hold less meaning and threat for pupils than multiple, significant, and high-stakes errors. It is then assumed that pupils undertake a third appraisal of the situation to determine whether the individual has the capacity to manage the threat. In line with Weiner's (2010) work on Attribution theory (see Chapter One), this appraisal considers the dimensions of the event's dimensions (locus, stability, or controllability). In conjunction with thinking about the weight of the error, a judgement is reached regarding whether a threat is posed, and if it can be managed by the self. In some cases, there may be no threat recognised, for example, in terms of the learner who perceives an impasse as an interesting puzzle to engage with and master, or a minor slip of punctuation in an assignment. Alternatively, a learner may perceive soft failure as a potential threat, but with adequate resources to manage it the threat is quickly neutralised. For example, an impasse with an external locus, and regarded as unstable (impermanent) and controllable, would be less likely to be viewed as threatening to the self, and manageable utilising available external or internal resources. In this case, adaptive responses to the impasse will follow. Whereas, should an impasse event be attributed to an internal locus with stable and uncontrollable conditions, the individual may conclude that they do not have the capacity, nor resources for the impasse or error to be mitigated, resulting in a threat to the self. The possibility for dignity to be threatened upon soft failure is increased through an internalisation of macrosystem norms. Within the context of this study, located in a selective education system, itself an example of meritocratic and neoliberal logic, self-worth can be understood in terms of academic success and achievement. Therefore, mistakes, errors, and impasses, in failing to fulfil this conception of success also threaten dignity, whilst simultaneous propping up a competitive error orientation in the classroom.

An appraisal that the threat to the self is not surmountable with available resources, may be considered an internal threat to self-worth (dignity), instigating shame. Alternatively, the threat to the self may be regarded only as attacking self-presentation

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[199] This categorisation does not apply neatly to impasses, where it may be assumed the magnitude or stakes of the impasse will be significant, but the volume irrelevant. However, there was insufficient data on pupils' reactions to impasses to move beyond assumptions.

(rather than a global view of the self), in which case, there may be no threat to self-worth. For example, in Chapter Eight, Y5 pupil Matt indicated that a threat to his academic status through a public error was unlikely to have a long-lasting effect, confidently asserting that, *"Just 'cos they think it is weird, like I got it wrong, I can still work round that."* Therefore, secondary emotions accompanying an error commission, such as embarrassment, may only be fleetingly felt should the individual feel only their self-presentation is threatened, and may not have longer term consequences. However, should shame (or a threat of shame) be triggered through the threat to the individual's dignity (Kemeny, Gruenewald and Dickerson, 2004), this may drive a fear of failure (McGregor and Elliot, 2005) a fear of negative evaluation, and related emotions, such as pressure to succeed, as individuals strive to avoid shame experiences and protect self-worth (Lazarus, 1991). To this end, pupils' attempts at preserving self-worth may lead to maladaptive behaviour responses. In this study, a raft of maladaptive responses to soft failure was observed and discussed. These included selective contributions in class, anxiety, procrastination, copying out work that was not perfect, and impression management strategies that demonstrate a need for perfection and unwillingness to engage with mistakes. However, the consequences of shame and fear of failure may not only be experienced by the actor, with ripples felt by others impacted by the self-protective actions of the individual. For instance, in this study, where a threat to the social self was perceived, pupils engaged in competitive behaviours to secure their social standing, even at the expense of others. This contributes to the reinforcement of a competitive climate, which in turn, increases future social pressure to achieve.

Chapter conclusion

In seeking to understand pupils' complex and varied reactions to soft failure, I have examined a rich mix of social, situational, contextual, and biological factors that have shaped individuals, classroom goals and the classroom error climate. I have considered the proximal processes that are assumed to drive a child's development (Bronfenbrenner and Morris, 1998, 2006) and the impact of a range of bio-ecological systems upon these. Classroom organisation and practices led to the socialisation of pupils towards competition and prizing academic success. This suggests a strong tethering of teaching practices to the macrosystem, where neoliberal and meritocratic ideological thinking can lead to ripe conditions for school practices orientated towards performativity. Pupils' understanding of the importance of soft failure in learning was undermined by competing, contradictory messages from the classroom and beyond. The effects of performative teaching practices were magnified through the lens of the selective education system. The 11+, expertly navigated by parents, included universal engagement in shadow tutoring and the setting of extremely high benchmarks for success.

I have also shown how home and school practices within the microsystem shaped pupils' relationship to soft failure through modifying their understanding of self-worth as intrinsically connected with success. With this link established, soft failure became a threat to adolescents' fragile sense of dignity (see Model of Dignity in an Adolescent Context on p.243), with humiliation concerns unique to their maturational stage. Fearing shame, failure, and negative evaluation from others, pupils sought to protect their self-worth in ways that were inimical to learning, leading to the reinforcement of a competitive classroom environment and an error climate imbued with conflicting values. Finally, in acknowledgement that pupils' responses to soft failure were complex and contradictory, I have established when mistakes mattered for pupils in this study, culminating in a model of soft failure adaptivity that explains pupils' perceptions and responses to soft failure.

Chapter Ten: Conclusion

10.1 Introduction

This thesis set out to investigate pupils' and teachers' perceptions of soft failure. The findings present a complex picture marked by divergence and fluctuation within the perceptions, practices, and reactions of pupils and teachers to classroom errors, mistakes, impasses and academic risk taking. In the introduction to this thesis, I claimed that little attention has been paid to fear of failure within the classroom, including its antecedents. This study, situated in an 11+ context, has provided a glimpse into the classroom error climate and the factors that impact its construction. Forged from a range of factors that includes teachers' adoption of multiple goals; pupils' interactions with adults that underscore the stakes involved in the 11+; and the convergence of an eclectic range of bio-ecological factors (including shyness, conscientiousness, adolescence and previous high achievement), the roots of the error climate are multifarious, matted, and messy. It is therefore of little surprise that the teachers in this study, tasked with simultaneously providing an intellectually unsafe and dignity safe environment, where such a myriad of factors can influence the construction of the error climate, often responded to soft failure in reactive and contradictory ways.

In demonstrating the spread and depth of the roots that nurture the error climate I have moved beyond the analysis of classroom proximal processes, stripped of context, that predominates within the current survey-based and quantitative literature, to situate classroom soft failure occurrences within a variety of interactive, ecological systems (Bronfenbrenner, 2005). Complexity has characterised the proximal processes between pupils, teachers, and their environments. I have been able to show the multifaceted nature of pupils' responses to soft failure, guided by their own biology, but also resulting from the shaping forces of the environment upon individuals and the proximal processes of which they are involved. In Chapter 6 I have shown how wider values and

aims infuse the microsystems of school and home, influencing proximal processes. Within the home microsystem, I have argued that selective local education arrangements within the exosystem impact indirectly upon the learner through the mediating responses of parents. Pupils emerging from regimes of tutoring can feel pressured to succeed, fearful of letting others down, and correspondingly can fear failure. Within the school microsystem, I have highlighted where school-wide values and processes, such as grading and setting, build and facilitate a peer ecology orientated towards competition and performance. Inscribed by neoliberal ideologies, teachers' practices have shaped pupils' perceptions of, and responses to, soft failure. The teachers' 'hand' in this orchestration, discussed in Chapter Seven, is both invisible to pupils, and as this study demonstrates, also some teachers, who were unaware of the impact the classroom has upon pupils' responses to errors. The pupil-perceived safety levels of the classroom, which influenced pupils' academic risk-taking responses, often related to teachers' error handing or classroom management skills, signalling to pupils whether there was a threat to dignity. However, it was teachers' organisation of lessons into small group or whole-class episodes of learning, that most frequently impacted pupils' perceptions of safety, through the messages of performance or mastery that were received. I have argued that the performance goals understood by pupils, resulting from proximal processes in the classroom (Chapter Eight) and at home (Chapter Six), was partially a fallout from a selective education system and middle-class ambition within a neoliberal landscape. Particularly, this shaped girls' narrow vision of success at Anbury Grammar, leaving them reward-hungry and keen to gain a competitive edge.

However, the error and academic risk-taking climate created at the schools was imbued with contradiction and inconsistency. The climate was fed by a bricolage of competing school values and goal structures, which amongst others included: individualism, conformism, community, and inclusion; high levels of performance, academic risk-taking and embracing mistakes; competition and cooperation. At both schools, pupils worked hard negotiating this range of values. Considered by their teachers as supportive and accepting of others, pupils were typically cooperative and academically adventurous during small group work. Nevertheless, pupils also seized opportunities to demonstrate their abilities to others, signalling pupils' own contributions to the shape of the error

climate. At Burcastle Primary, pupils' fear of social evaluation was present, but hidden from teachers as they strategised to make contributions to whole-class teaching. Those acquiring the label of high ability, in particular, worked hard to justify, secure and extend their ranking. Meanwhile, the girls at Anbury Grammar School could be viewed as 'alpha girls' (Kindlon, 2006), embodying the girls who 'have it all' (Walkerdine, Lucey and Melody, 2001; Walkerdine, 2003), seemingly effortlessly navigating the paths that lead to both academic and social success. However, behind this façade of easy identity negotiation were tensions and contradictions. Girls worked hard to navigate their way to, and occupy, spaces where their achievements were visible to themselves and others. In this endeavour they became classroom strategists, taking academic risks and offering friendship and support in spaces which were sufficiently safe. However, where a space in the social hierarchy of success and achievement emerged, they metamorphosed into shrewd opportunists. These interactions served to reinforce an error climate where soft failure was at times feared. Thus, attempting to 'have it all' came with hidden psychic costs for individuals and the collective, with girls' balancing act of success resulting in pressure, threat, and fear in the classroom.

This study contributes to the small, but rapidly developing body of literature on the classroom error climate, discussed in Chapter 4, through developing an understanding of the antecedents of adaptive and maladaptive responses to soft failure that are embedded in interactions, processes, and structures beyond the classroom. Of the existing error climate research that has focused on contextual learners' socialised responses to errors, cross-cultural comparison studies predominate[200] with an emphasis on describing culturally-based error-handling strategies and inscribed reactions to errors (Matteucci, Corazza and Santagata, 2015), rather than examining the antecedents to reactions to soft failure on several ecological levels. Tulis and colleagues' (2016) research may be considered an exception to the predominantly unidimensional studies, proposing a sound theoretical framework to explain learning from errors through looking at motivational processes. Yet this level of abstraction does not assist teachers on a practical level to identify facilitative responses to soft failure. Therefore, there is

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[200] E.g., Santagata, 2004; Dalehefte, Seidel and Prenzel, 2012; Cristina Matteucci et al., 2015; Sarkar Arani et al., 2017

currently a need for a multi-layered analysis of factors that lead to responses to soft failure. This study, in drawing upon Bronfenbrenner's Process-Person-Context-Time model (the research approach within Bronfenbrenner's Bio-Ecological Theory (Bronfenbrenner, 2004), facilitated an examination of antecedents to soft failure responses within several ecological systems, marking a departure from the existing literature. The research questions (RQ), which I now turn to, allowed me to focus on different aspects of Bronfenbrenner's model: RQ1 and RQ3 allowed me to draw from Bronfenbrenner's 'Person' and 'Context', whilst RQ2 and RQ4 are centred on the 'processes' within the microsystem of the classroom.

10.2 Returning to the research questions

In this section, I return to the research questions that I posed at the outset of this study:

1) What are teachers' explicit and implicit beliefs about soft failure?
2) Do teachers' perceptions about soft failure reflect their classroom practice?
3) How do pupils perceive soft failure?
4) How do pupils react to soft failure in the classroom?

Through a thematic approach drawing upon constructivist grounded theory, a variety of codes and subsequently themes emerged in relation to the research questions (RQ) which have been explored in the findings and discussions. A summary of key themes for each RQ can be found in the thematic maps below[201]. I shall now critically reflect upon these questions and the connections between them.

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[201] Enlarged RQ maps can be found in Appendix O. For RQ1, RQ3 and RQ4, key themes are indicated in orange, with sub-themes in green and yellow. For RQ2, themes and sub themes from RQ1 which were present in teachers' practices are identified in blue, with additional sub-themes emerging through observed teachers' practice, coloured purple. Sub-themes conflicting with teachers' positive perceptions of soft failure are bordered in black, with a dotted border signifying ambiguity.

RQ1: What are teachers' perceptions and beliefs about soft failure?
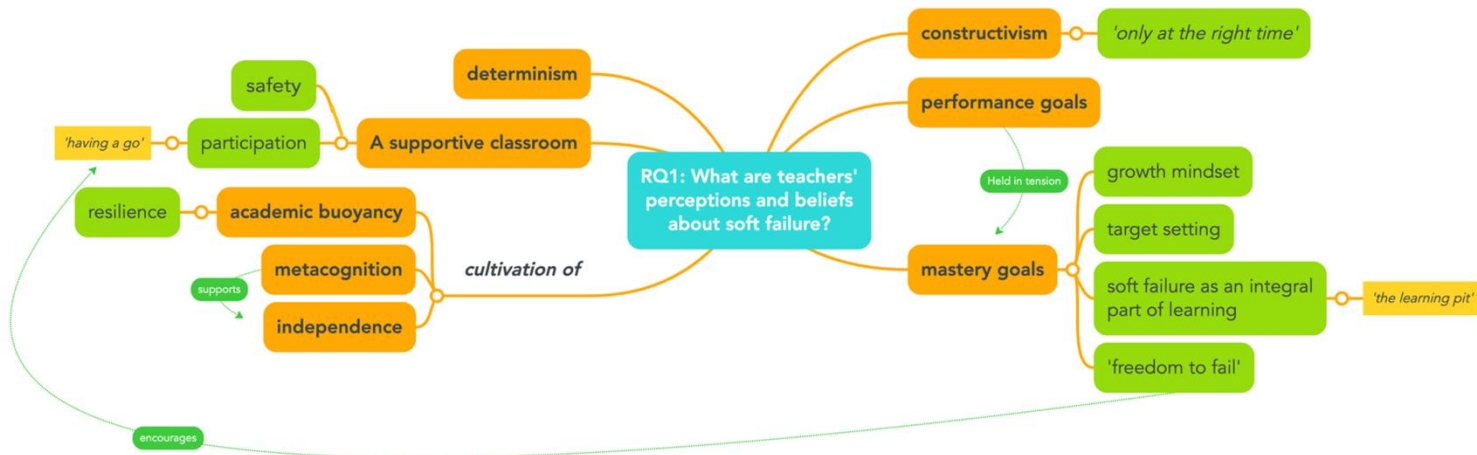
My first research question sought to explore teachers' beliefs about soft failure. Whilst noting the possible disjuncture between espoused beliefs and those privately held, and blind spots of which an individual may be unaware (Donaghue, 2003), establishing teachers' beliefs in relation to soft failure is valuable. A body of work has established that beliefs are influential upon teachers' classroom practice[202] and are considered significant in the construction of classroom climates (Rubie-Davies and Peterson, 2011).

The starting point where learning from soft failure can begin is thought to be a constructivist orientation to learning (Steuer and Dresel, 2015). Teachers in both schools[203] subscribed to such an approach, with the emphasis on processes perceived to be more important than the learning content. For example, as discussed in Chapter Six, for Burcastle teachers, there was a greater emphasis on pupils experiencing the materials in art, rather than the artistic outcome, whilst the Anbury Grammar science department was principled on learning to be a scientist, with accurate Y7 scientific knowledge seemingly less important than the scientific learning journey. This constructivist leaning was strengthened through teachers' commitment to overlapping constructs, such as a mastery goal orientation (Thompson, 2020), supporting the development of pupils' growth mindsets and self-regulatory practices. Whilst no teachers used the term metacognition, metacognitive strategies were provided as

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[202] E.g., Shavelson and Stern, 1981; Pajares, 1992; Borg, 2003; Wilkins, 2008; Brown, Harris and Harnett, 2012
[203] See Appendix L for a comparison of teachers' coded beliefs and practices

examples of teacher error-handling (Chapter 7), demonstrating their awareness of its use to further learning. This was particularly so for the teachers at Burcastle Primary. Assessment for Learning strategies, particularly target setting and reviewing practice (discussed in Chapter Six) were embedded in school policies with the aim in both schools for learners to become independent learners. Teachers at Burcastle Primary positioned soft failure as an integral part of learning. In doing so, the influence of Claxton's 'Building Learning Power' (BLP) (2002), Nottingham's 'Learning Challenge' (LC) (2017), and Dweck's 'Mindset' (2006), were evident in their explicit beliefs both in observations and interviews, with the metaphorical language of *"the learning pit"* (a metaphor relating to the role of cognitive conflict in learning), used to link impasses to learning. Teachers teaching and learning beliefs have been associated with participation in CPD (Continuing Professional Development), especially where existing beliefs are student orientated or constructivist (de Vries, van de Grift and Jansen, 2014). Burcastle teachers were in the process of embedding BLP and LC in teaching practices and had received substantial CPD, and therefore are likely to have strengthened beliefs in this area.

Teachers at Anbury Grammar, expressing a general enthusiasm for the value of errors, also made links to educational research principles, such as the need to develop pupils' growth mindsets. Similar to Burcastle Primary teachers, Anbury Grammar teachers' described practices aligned with related pedagogic principles, although these were not often named as such. Teachers' anecdotes and descriptions, therefore, suggested their tacit awareness (Brown and McIntyre, 1993) of pedagogical principles which although unarticulated, revealed an understanding of the interconnectedness of approaches (Baas *et al.*, 2015), such as assessment for learning, mastery learning, constructivism and self-efficacy.

However, constructivist and related principles were held in an uneasy tension with the achievement aims of the schools, of which teachers appeared reluctantly supportive. For example, in Chapter Six, I discussed the weight Burcastle Primary teachers felt in their need to *"deliver"* the SATS, whilst at Anbury Grammar, assessment policy requirements (which could lead to subsequent pupil surveillance and interventions), meant that

learning to be a scientist could not come at the expense of tangible results. Therefore, despite the explicit portrayal by teachers of the universal acceptance of soft failure, this was adjusted by teachers' implicit perceptions, in which soft failure was welcomed only at the right time. Belief conflicts concerning assessment are well-versed in the literature[204] with high-stakes teaching contexts recognised as mediators of teachers' conflicting beliefs (Phipps and Borg, 2009). Tensions were also apparent between teachers' explicit commitments to mastery principles and implicit deterministic beliefs (discussed in Chapter Six). Though stressing pupils' agency in progressing after soft failure through internal and external resources, the language which teachers used (discussed in Chapter Six) belied this, implying pupils' personal profile delimited progress. The perceived necessity of pupils' performance at the correct standard echoed through these statements. Despite teachers' constructivist sympathies, contextual factors appeared disruptive as teachers attempted to navigate the path between performance and mastery goals.

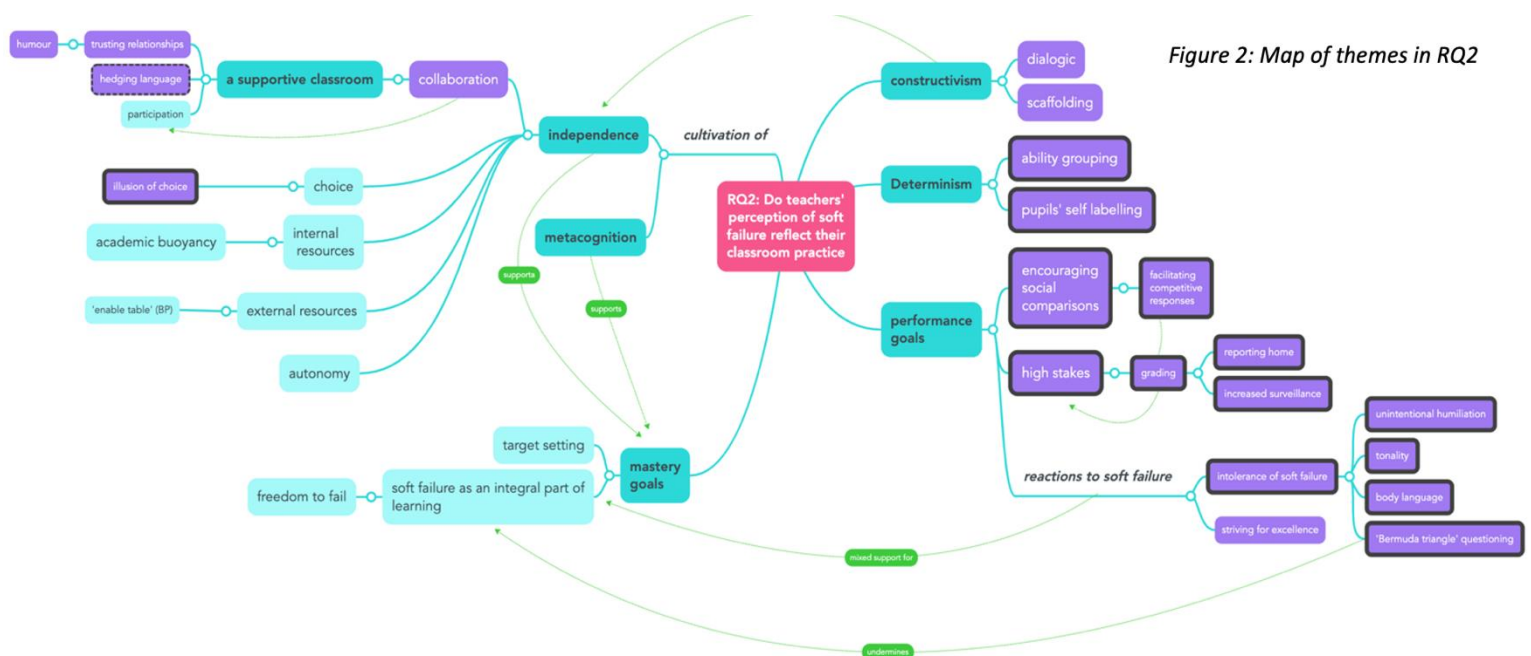*RQ2: Do teachers' perceptions of soft failure reflect their classroom practice?*
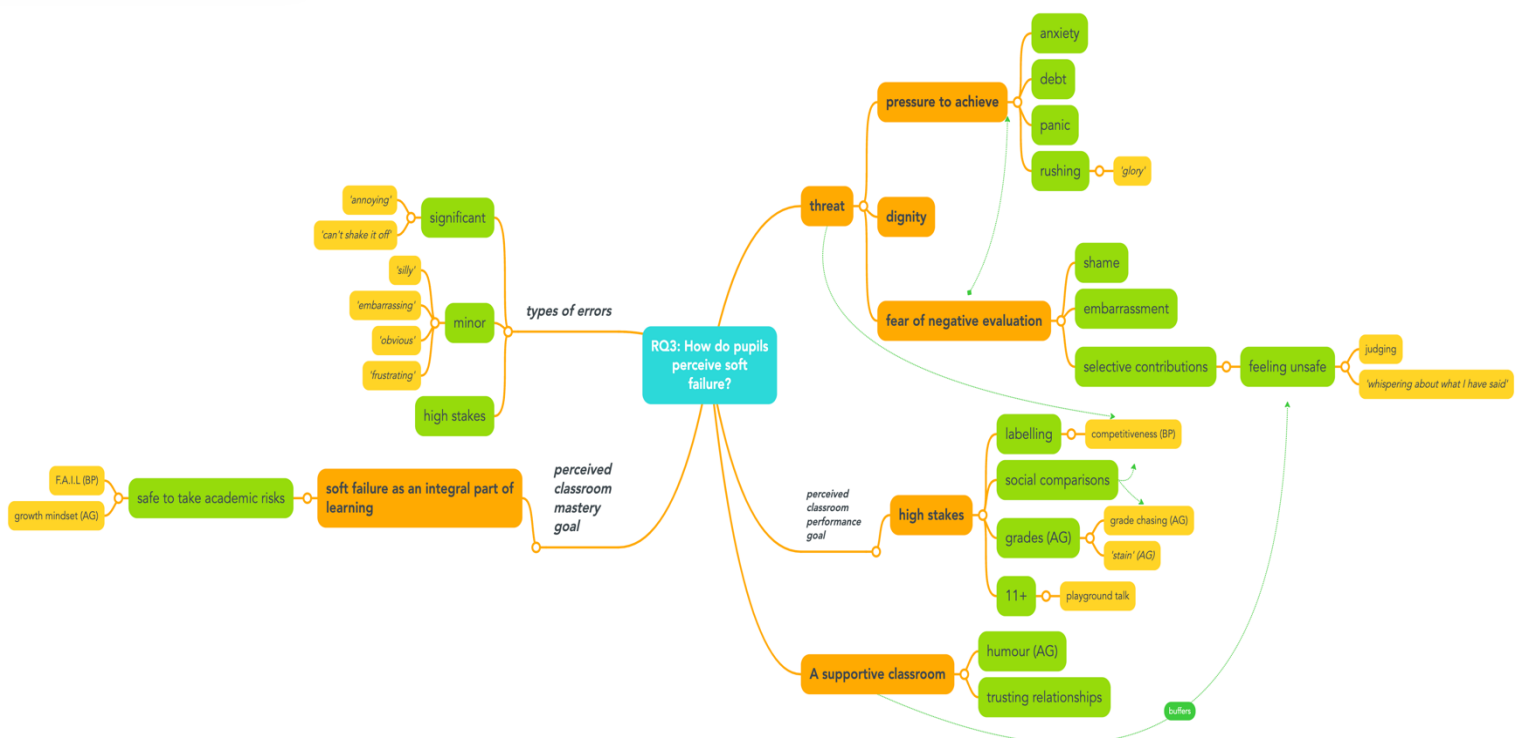

Figure 2: Map of themes in RQ2

Turning to my second research question, I wished to learn whether classroom practice was reflective of teacher beliefs. Teachers' espoused beliefs and enacted practices in this

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[204] Xu and Liu, 2009; Remesal, 2011; Van Ha, Giang Tran and Hai Tran, 2021

study broadly were in alignment. For example, RQ1 established teachers' commitment to constructivist and mastery approaches to learning, and the establishment of an environment where pupils were free to fail. These beliefs were reflected in teachers' mastery-supportive practices, such as target setting. Other practices, such as sharing marks publicly (Chapter Seven), grading, and ability grouping (Chapter Six), did not support these aims. Although these practices led to an uneasy tension relating to whether pupils were free to fail, it could not be said that practices were not reflective of teachers' beliefs: conflicts established in RQ1 relating to teachers' wide-ranging beliefs meant that most practices were reflective of *some* beliefs. Therefore, it might look as if this RQ does little to inform the study. However, understanding the contextual influences upon teachers' beliefs illuminates and strengthens the results of this RQ (Phipps and Borg, 2009; Farrell and Lim, 2005). Many of the tensions within teachers' beliefs appeared to arise from a performative context which mediated teachers' ability to act upon their core beliefs about teaching. For example, in Chapter Six, the heavy reluctance with which Burcastle teachers set by ability, or at Anbury, the truncation of rich discussions to ensure they could 'get through content', was the result of teachers' performative pressures. Whilst the qualification aims of the school were part of the belief system of teachers, this did not always represent teachers' idealistic teaching vision, leaving unresolved tensions between many beliefs. Therefore, it could be argued that teachers' practice was not in line with their deeper-seated, underpinning pedagogic beliefs. However, the distinction made in RQ1 between teachers explicit and implicit beliefs complicates this answer. Although teachers' explicit beliefs about personal progress and the need for a mastery approach did not align with practices that encourage a competitive orientation such as valorising high marks or sharing marks publicly (Chapter Seven), they do fit with explicit beliefs about the need for pupils to perform at the correct level and the implicit beliefs inferred through teachers' deterministic use of language. Therefore, it might be argued that teachers' practices did reflect teachers' explicit and implicit beliefs, even if some of these beliefs occur only relate to the individual school context. The messiness of teachers' pedagogically scattered practices and beliefs reflect teachers' pursuit and negotiation of multiple classroom goals (Hmelo-Silver and Barrows, 2006) which may become fused (Blumenfeld, 1992) and lead to a compromise between principles. The tension between

furthering pupils' performance and mastery was apparent in this study through both beliefs and practices. As pupils were pulled by towards achieving highly, teachers often inadvertently pushed pupils away from the pursuit of mastery goals, as seen with public mark sharing. The compatibility between these classroom goals may therefore be questioned. Certainly, teachers in this study appeared to be unable to find a resolution to achieving both goals, leading to their contradictory and reactive responses to soft failure.

RQ3: How do pupils perceive soft failure (errors, mistakes, and impasses)?

Figure (mind map) — RQ3: How do pupils perceive soft failure?

- **types of errors**
  - significant: 'annoying', 'can't shake it off'
  - minor: 'silly', 'embarrassing', 'obvious', 'frustrating'
  - high stakes
- **soft failure as an integral part of learning**
  - safe to take academic risks: F.A.I.L (BP), growth mindset (AG)
- *perceived classroom mastery goal*
- **threat**
  - pressure to achieve: anxiety, debt, panic, rushing → 'glory'
  - dignity
  - fear of negative evaluation: shame, embarrassment
  - selective contributions → feeling unsafe → judging, 'whispering about what I have said'
- *perceived classroom performance goal*
  - high stakes: labelling → competitiveness (BP), social comparisons, grades (AG) → grade chasing (AG), 'stain' (AG), 11+ → playground talk
- **A supportive classroom**: humour (AG), trusting relationships, buffers

My third research question changed focus from teachers to pupils. Findings indicated a variance and complexity in pupils' perceptions of soft failure. By one turn pupils explicitly endorsed soft failure in terms of its learning potential (indicating a mastery goal orientation), but then implicitly, indicated fear of taking academic risks in a social classroom context (implying a performance avoidance goal). Concerns that peers would laugh or whisper about pupils' contributions (detailed in Chapter 7), indicated a perception of threat to dignity within the class environment. This increased pupils' fear of negative evaluation, which led to further feelings of embarrassment and shame. Context and situation were found to be moderating factors of pupils' classroom

perceptions. Pupils' perceptions of threat indicated the socially rooted high stakes of the classroom (discussed in Chapter Eight). Findings indicated that soft failure was perceived negatively where stakes were high (e.g., graded work, or errors in whole-class situations). These situations indicated the presence of a performance related classroom goal structure. However, pupils' perceptions differed in perceived low-stakes situations, such as during collaborative work, or where targets were utilised, but grades were absent (characteristic of a mastery goal orientation). The presence of both classroom performance and mastery goal structures as part of the error climate, may help explain pupils' contradictory perceptions of soft failure. Goal achievement research suggests that classroom goal structures, explored in Chapter Four, are influential upon personal goal structures (e.g., Givens Rolland, 2012). Multiple classroom goals may therefore be subsumed into pupils' own goal structures, leading to a mismatch of perceptions about soft failure. However, this study has also recognised the contextual influences outside the classroom, such as the selective education structures and events such as the 11+, which also contributed to pupils' perceptions of soft failure and the adoption of performance goals.

The influence of classroom goal structures upon pupils' personal goal structures is significant; studies indicate that pupils' adoption of personal goals may explain their classroom behaviours (e.g., Bong, 1996; Elliot, 1999; Pintrich, 2000). This is illustrated in a study by Tulis and Ainley, (2011), who found a relationship between performance avoidance orientation and negative emotions after soft failure. As I have discussed in Chapter Three, the link between emotions, motivation, classroom behaviours and performance has been extensively studied[205]. Therefore, it can be assumed that positive and negative affect following soft failure, and linked to personal goal structures, can drive pupils' behavioural responses.

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[205] E.g., Schutz and Pekrun, 2007; Goetz et al., 2010; Weiner, 2010; Pekrun et al., 2011; Goetz, Athan and Hall, 2013; Pekrun, 2017; Wortha et al., 2019.

RQ4: How do pupils react to soft failure in the classroom?

mistake appraisals
- volume
- significance
- stakes

RQ4: How do pupils react to soft failure in the classroom?

adaptive — safe to take a risk
- trusting relationships
  - humour
  - peer support
- control
- collaboration (*fosters*)
- non-evaluative

use of resources
- *internal*
  - metacognitive strategies
- *external*
  - support
    - peer
    - teacher
    - resources
  - collaboration
  - 'enable table' (BP)

maladaptive — threat

behavioural responses
- appearing perfect
  - perfectionism
  - ripping out pages (AG)
  - not correcting work (AG)
  - refusing to mark (AG)
- competitiveness
  - desiring social comparisons
  - grade chasing (AG)
  - predatory (AG)
  - labelling
- minimising threat
  - impasse avoidance
    - procrastination
    - working under level
  - strategic participation — selective contributions
  - concealing errors
    - hiding errors (AG)
    - erasing errors (AG)
    - ignoring errors (AG)

leads to

affective responses
- pressure to achieve
  - panic
    - 'rushing'
    - thinking stops
  - anxiety — stress
  - frustration
- *self conscious emotions*
  - shame
  - embarrassment
  - guilt — debt

The final RQ concerns pupils' reactions (RQ4) to errors in the classroom. In this study, pupils' responses to soft failure in the classroom were varied and complex, encompassing the full spectrum from adaptive and maladaptive behaviours. In both schools there were many examples where pupils took intellectual risks, appeared comfortable to dwell upon their impasses, openly acknowledged soft failure, and responded to soft failure in adaptive ways, for example, paired work in Latin or Computing. At other times, pupils strategised to avoid risking soft failure, became frustrated with impasses, and reacted to soft failure in maladaptive ways, such as procrastinating or concealing errors. Within the classroom, impactful events included teachers' error handling, the organisational structures of the lesson (and pupils' understanding of the function of these structures), and peer responses to others' soft failure, each which signalled performance or mastery classroom goals. Pupils' responses

to errors, or the error risk, turned on the stakes of the error, which often included the social stakes within the classroom, and the associated threat to dignity. A combination of these factors contributed to the construction of a complex classroom error climate where soft failure was both welcomed and feared.

The multidimensionality of antecedents affecting pupils' perceptions of, and responses to, soft failure points to teacher's limitations to change all factors that impact the classroom error climate. Yet, classroom climate studies[206] acknowledge the significant leverage the teacher still wields to affect change in the classroom; research demonstrating that classroom differences account for the greatest variation in pupils' achievement gains (Hattie, 2003; Pianta and Hamre, 2009). Although differences have emerged in the conceptualisation of the classroom climate within the literature, three broad dimensions that affect proximal processes within the classroom climate have been identified as particularly significant predictors of learners' outcomes: classroom management and organisation, instructional support, and socio-emotional support (Wang et al., 2020). In balancing dignity safety and intellectual danger, so that pupils may learn from errors, it becomes clear that classroom organisation, instruction and socio-emotional support are firmly entwined and cannot be considered in isolation. For example, in order that a positive error climate can emerge in the classroom, careful teacher consideration of classroom management and organisation is essential to preserve pupils' dignity safety throughout periods where learners are necessarily intellectually vulnerable. Chapter 7 provided examples where pupils' dignity safety was jeopardised through the teachers' error handling, whilst Chapter 8 discussed several organising classroom practices that contributed to the construction of competitive classroom environments at Anbury Grammar and Burcastle Primary (e.g., grading, labelling and ability practices), again impacting pupils' dignity safety. Conversely, the organisational buffers identified such as reducing competitive practices, providing challenging work, communicating mastery goals, and adopting a constructivist pedagogic orientation lay the groundwork for a classroom climate where intellectual unsafety is presumed but dignity safety is foregrounded. This dignity-safe climatic work

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[206] E.g., Coe *et al.*, 2008; Thapa *et al.*, 2013; Berkowitz *et al.*, 2016; Havik and Westergård, 2020

is supported through the socio-emotional support offered to learners. This study has reinforced the importance of building trusting relationships in the classroom - an emotionally safe environment supports academic risk-taking where lie the possibility of making mistakes (Rybowiak et al., 1999).

10.3 Thesis limitations

With the aerial view of hindsight, there are many research decisions that if starting afresh I would not have made. This is somewhat inevitable; all studies are considered to have limitations (Ross and Zaidi, 2019). All researchers, not just neophytes, make compromises that shape the resulting work (Lingard and Watling, 2021). Having addressed some limitations in Chapter Five, I now reflect on four decisions that I considered most disquieting during the doctoral journey.

This study, spanning three classes in total, can only reflect some perceptions of pupils' experience of erring, academic risk-taking, and the deadlock of the impasse that signifies pupil progress has come to a standstill, and so cannot be thought to be representative of all pupils in the locale. Nevertheless, these voices, anchored within the wider context of a selective education system, are important in relaying their realities. Whilst teachers provide perspectives shaped by their own positionalities, school culture and national context (Webster *et al.*, 2012), young people's perspectives, orientated differently, but shaped by similar structures (Epstein and Shiller, 2005), can provide the sideways angle that helps researchers and teachers to "see the familiar differently"(Flutter and Rudduck, 2004 p.141), raising concerns often unconsidered by teachers (Mitra, 2018). Therefore, the findings chapters provide important lenses on the shaping of academic behaviours and perspectives, despite the small scale.

Even so, it may seem short-sighted to focus only on pupils' and teachers' experiences and perceptions in a study that also argues that the 11+ process - driven by parentocratic decisions (Brown, 1990) - made significant impact on pupils' responses to soft failure. The decision to exclude parents from this study was pragmatic. The gatekeepers of the study – the senior school leaders who I liaised with – were not keen on my involving

parents. This was understandable. In Burcastle primary, much teacher time was spent chasing parents for the return of permission forms to begin fieldwork, and so I received discouraging responses to the suggestion that I might talk to parents also. I reflected also on the additional data which would be generated by including parents as participants, and my capacity to process this within time. However, whilst parents would have undoubtedly provided a valuable angle for consideration, I have shown the value of revealing parental concerns through the lens of their children's understanding. This approach aided understanding of the home microsystem, the antecedents of pupils' conceptions of success, feelings of indebtedness to parents, and a pressure to achieve.

The fieldwork in this study, which occurred over a short period of six weeks, which was another "imposed restriction" (Theofanidis and Fountouki, 2018) upon my research design, and which can also be considered a limitation. The 'T', representing time in Bronfenbrenner's (2005) PPCT model allows the research to better understand the cumulative temporal shaping of the individual through proximal processes. Mercer (2004 p.3) argues that interactions involve both dynamic and historical dimensions, the past echoing through the interactions of the present. The short-time frame of this classroom study, therefore, potentially presents a difficulty for analysis of interactions: the inability to capture the historical traces within discussions hampers the identification of antecedents of soft failure reactions. However, imprints of previous processes were still discernible within lesson observations; established classroom conventions, processes and routines were clear to the experienced eye, and so, the brevity of time in the field did not preclude the possibility of identifying some antecedents to fear of failure. Real world research can be fraught with difficulties where the realities of fieldwork "may diverge from the ideal" (Laverick, 2010 p.77). However, offering reassurance to the doctoral student, Naveed et al., (2017) suggest that renegotiated changes to fieldwork do not necessarily undermine a study's validity. Rather, "happenstance" (p.785), can lead to insight from the imposed and often unexpected new angles. Therefore, whilst the messiness of fieldwork and its resulting compromises have limited my ability to use my theoretical framework in the full manner which I anticipated, I am still confident that the results of fieldwork have led to a deepened understanding.

The case selection to include both primary and secondary school pupils may also be questioned, given that the two case study schools differed along multiple indices: age, gender and school type. Commonly, a multiple case study is undertaken where the researcher wishes to understand similarities and differences between cases[207], suggesting that case selection demands greater similarities than I have chosen. However, this positions case study in a positivistic frame: I had no interest in making generalisations, in acknowledgement of the multitudinous variables associated with different schools in relation to the phenomenon of soft failure. And so, even if I had selected two grammar schools, these could not be called representative of the sector. For that reason, the selection of schools turned on Stake's maxim: that case selection should be made on "maximis[ing] what we can learn" (1995 p.4). To this end, the schools were chosen to bind the study with the 11+ entry and exit points; their existing orientation towards providing a school culture supportive of soft failure (orientated towards growth mindset, IB principles and BLP); their situation within the locale; and for Anbury Grammar, its potential to be an outlier case due to its super-selective intake. In other words, I deemed these schools to be able to cast light on the phenomenon of soft failure in the interest, not of generalisation, but particularisation (Stake, 1995).

However, it still might be suggested that by ignoring the differences in school profile, misleading conclusions may be drawn. For example, this study found a difference between schools in pupils' overall fear of failure and academic risk taking. It is therefore essential that potentially moderating features such as age, which may provide the simplest explanation for differences, are not marginalised to focus on other contextual differences. I have been careful to ensure this is not the case. In unpacking this example, it might be suggested that an increased fear of failure might be expected in early adolescents where the convergence of personal (e.g., maturational processes that instigate increased self-consciousness and an increased fear of social acceptance; Roseth, Johnson and Johnson, 2008) and contextual features (e.g., the transition to secondary school marks an increase in competition alongside an increased emphasis on

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[207] Stake, 2005; Stake, 2005; Baxter and Jack, 2008; Yin, 2014

performance at school (Murdock, Hale and Weber, 2001), leading to a ripe setting for fear of failure to emerge. However, a consideration of the literature provided in Chapter three provides a more nuanced understanding. It is argued that social fears become salient around 10 years of age (Bokhorst et al., 2008), the age of the youngest pupils in this study, with Conroy and colleagues (2016) pointing to middle childhood (they identify a younger age of eight years) as a time where girls increase interest in self-evaluation through social comparison, which in turn, they argue is moderated by performance messages. The small to moderate effect between fear of failure and age that they found (Coatsworth and Conroy, 2009) suggests that it is the intensity of social fear that strengthens with age, with the presence of social fear still salient for those pupils approaching or recently entering adolescence, especially when accompanied by performance messages.

10.4 Reflections on my theoretical framework

Through framing this study with Bronfenbrenner's Bioecological Systems Theory, pupils' perceptions of, and reactions to, soft failure have been complicated with context on many levels. In line with many error climate classroom studies, my research questions focused on examining soft failure responses within the classroom. However, through being alert to the operation of proximal processes beyond the school microsystem, I have also been able to appreciate the complexity arising from interactions between systems. In particular, I have been guided towards considering the indirect exosystem effects of selective education, and the impact of broader macro influences and ideologies. This has been particularly evident in bringing into focus the direct and indirect role of parents in influencing pupils' perceptions of, and responses to, soft failure, despite no direct data from parents. For example, pupils' descriptions of substantial 11+ preparations, as seen in Chapter Six, have revealed the extent of their parent's work towards securing examination success. Parental interactions with their children in the context of the 11+ bear the imprint of a meritocratic and neoliberal logic that Hill and Curran (2016) have argued infiltrate and shape not just development of adolescent's identities, but also impact parenting aims and practices. The promotion of choice and competition has not only positioned parents to desire and maximise social

and material advantage for their child, but as I have argued in Chapter Six, has 'responsibilised' (Peters, 2005) parents to carry the burden for their child's educational achievements. Typified parental efforts to help their children secure a grammar school place in this study, fell under three categories *of home involvement support* for the 11+ process (Hill and Tyson, 2009): resource provision; a suitable learning environment and a structured programme of study. Together, these suggest a parental assurance in understanding the 'rules of the game' (Lareau, Adia Evans and Yee, 2016) in operation for success in the 11+. Whilst these useful findings - unplanned, but not entirely unexpected – demonstrate the synergy between systems and proximal processes, analysis may have been more penetrative had all aspects of Bronfenbrenner's PPCT model been utilised. In reflecting upon the analysis of the home microsystem, the lack of information about personal characteristics of parents, and the inability to conduct a longitudinal study (see thesis limitations), have meant that I have been unable, in some respects, to use the theory as intended. However, difficulties with using the framework were not solely due to situational fieldwork limitations. The framework itself, conceived as a nested model (Bronfenbrenner, 1979), can also limit identification of synergy between social interactions and patterned proximal processes. A revision of Bronfenbrenner's nested ecological systems to one that shows interactions and connections as overlapping and networked, is suggested by Neal and Neal (2013) to highlight the interactivity between contextual systems and patterned proximal processes. In this study, such an arrangement may have facilitated the identification of hidden systems within networks and how they intersect.

10.5 Reflections on how the literature guided findings

The literature, discussed in Chapters Two-Four have guided my findings through providing frameworks for interpretation in both early data analysis (e.g., observations) and in later category formation. In Chapters Two and Five, I have underlined the importance of providing transparency within my positioning to facilitate the reader's understanding of how I have interpreted the data. Chapter Two has discussed several pedagogic principles which have guided my evaluation of teachers' error handling

responses. Here I have taken a broadly social constructivist position in line with Vygotsky and contemporary revisionists, where soft failure is embraced in the classroom. Despite Charmaz's recommendation that after a preliminary survey to let the literature "lie fallow" until category formation (2006, p.166), my knowledge of the literature from my previous research and role as a teacher educator did -albeit subconsciously- inform my direction during early observational analysis. For example, an influential Vygotskian thread can be traced through the literature review in Chapter Two through to my findings. This begins with the position that challenging work is an integral part of a positive error climate, rooted in the work of the early classic constructivists, such as Vygotsky (1978). Building on Vygotsky's Zone of Proximal Development, the seminal work of Bruner, Wood, and Ross (1976) on scaffolding has provided a lens by which the acceptability of teachers' responses to soft failure turns on their ability to provide contingent teaching. Moreover, in more recent times, Mercer's (2000) work on the Intermental Development Zone (IDZ) was one of several sensitising concepts that guided my findings. His typology of talk (Mercer, 1995; Mercer and Wegerif, 2004; Littleton and Mercer, 2013) facilitated my analysis of error and risk acceptability within small group work, foregrounding the shifts within talk that may indicate where discussion gives way to judgement (Mercer and Wegerif, 1997), affecting a pupil's perception of the error climate. My interpretation of events and classroom behaviours was further enhanced through the error climate literature discussed in Chapter Four. The characteristics of teacher behaviours that contribute to an adaptive error environment, drawn from Tulis (2013) and Steuer and Dresel (2013), whilst not utilised as a coding scheme, sensitised me to more and less effective strategies to manage soft failure and a safe learning environment. The cross-national error climate literature, prompted through the use of a bio-ecological theoretical framework, was particularly useful in increasing criticality during analysis, providing a strong reminder of the situatedness of pedagogic practices and my need to seek and uncover the contexts that unlock understanding.

Through using the lenses of goal achievement and attribution theory (as part of my theoretical framework), alongside the adaptive soft-failure environmental markers gleaned from the literature, the findings took shape, spotlighting the characteristics of

the classroom soft-failure climate within the observed classrooms, but also the interpretation of pupil behaviours. For example, in Chapter Three, the literature became a tool by which to understand and identify the socially prescribed perfectionistic behaviours of Anbury Grammar pupils. However, the literature went beyond providing guidance to also providing confidence in the emerging findings. For example, the cross-cultural research on risk aversion, examined in Chapter Three, lent weight to findings that indicated that the competitive behaviours of Anbury girls were socially learnt.

The literature was not only instrumental during early analysis for providing analytic direction. During later analysis, the lenses provided by the literature provided the departure point for my findings, especially when different literature bodies were synthesised. For example, the safe space literature considered in Chapter Four, in particular, Callan's (2016) separation of 'intellectual' and 'dignity safety', p.64-65), provided firm direction for a reconsideration of what constituted a threat to the self in the classroom, when read in the light of the unique social fear responses in adolescence, considered in Chapter Three. My analysis of occurrences of shame and embarrassment in the classroom that sought to prise apart these emotions, led to a refiguring of what constitutes humiliation concerns and intellectual safety in an adolescent classroom. These are but small examples of how the literature has been influential on my thinking, positioning, and analysis, providing the foundations from which I could depart and make my own contributions.

10.6 Contributions of this study

This study contributes to classroom error climate research, which internationally, is often framed in narrow ways and remains limited in output. As we have seen in Chapter Four, much of the existing error climate research, relying on student surveys, confines context to classroom processes. This limits the identification of antecedents of perceptions of the error climate. The bio-ecological framing of this study which encompasses aspects of the macro- and exo-systems of pupils in Year 5 and Y7, within a

selective context, facilitates the identification of antecedents of pupils' perceptions of, and reactions to, the error climate beyond the classroom. In doing so, a more complex and rich presentation of the error climate is afforded. In Chapter One, in discussing my theoretical framework, which primarily draws upon Bronfenbrenner's Bioecological Systems Theory (Bronfenbrenner and Morris, 2006), I alluded to known drawbacks, such as the lack of operational details (Tudge et al., 2009). To aid the analysis of pupils' personal characteristics within Bronfenbrenner's PPCT model, I have utilised Weiner's (2010) Attribution Theory. In situating the development of the child within school settings, I have also drawn upon Achievement Goal Theory to aid analysis of the proximal processes occurring within the classroom. This splicing of Bioecological Systems Theory with Attribution and Achievement Goal Theory makes a small methodological contribution to the use Bronfenbrenner's theory in classroom contexts.

With reference to studies of the error climate in England, Chapter Four has also indicated the dearth of existing studies. Therefore, this study contributes to widening understanding of how pupils in England respond to soft failure. Furthermore, to my knowledge there are no other studies of the error climate in England within the context of a selective education system. This thesis, therefore, provides an example of the effects of selective education systems upon pupils' perceptions of soft failure and conceptions of success.

In response to the lack of cross-national comparisons of teacher error handing and error climate work, I have drawn together the existing thin offerings in relation to Hofstede's cultural values (2021) and classroom values, to better enable an interpretation of approaches to errors in existing studies. However, this is early-stage, developmental work and requires more national and international studies to be made available before any robust conclusions can be drawn.

I have also made a contribution through the three models I have produced: *Dignity in an adolescent context (p.243); When mistakes matter (p.255);* and *A model of soft failure adaptivity, (p.258)*. The first model, *'Dignity in an adolescent context',* extends existing research on classroom safety and dignity (e.g., Callan, 2016; Barrett, 2010; Holley and

Steiner, 2005), which does not consider the unique characteristics of adolescents. In recognising the impact of biological maturational processes upon social evaluation processing, I have shown how adolescents are especially vulnerable to embarrassment and shame during teacher's necessary work to shift pupils into a zone of intellectual danger (through the provision of challenge) so that learning can occur. In presenting a model of how adolescent dignity becomes threatened through episodes of embarrassment (or indeed shame) in the classroom, it becomes apparent that adolescence moderates the perception of situations that involve risk. For adolescents, the social stakes of the classroom can be perceived as high-stakes events, with typical classroom interactions, such as being called upon by a teacher to answer a question, regarded by many pupils in this study as a risky prospect. Understanding adolescents' perception of classroom risk raises implications for teachers in their provision of feedback to learners in public situations. To reduce perceived risk to learners, teachers need to be aware of the information they share, alongside their body language and tonality in the delivery of feedback.

My second model, *'When mistakes matter',* identifies the characteristics and conditions of errors that lead to pupils' positive and negative responses. Tulis and colleagues' (2016) model of Individual Processes provides an overview of several interrelated processes that lead to learning from errors. My model (Chapter Nine) builds on existing work through the identification of specific evaluations made by learners in the two-step attributional process, namely, the volume, significance, and the stakes of the error. This model, although standalone, forms the first stage of the third model, below.

Thirdly, my *Model of soft failure adaptivity,* reveals the processes that lead to adaptive or maladaptive emotional and behavioural responses to soft failure for the pupils in this study who are situated within the high-stakes context of a selective education system. The model takes a bio-ecological approach, incorporating processes relating to learners' individual characteristics (such as attributions) as well demonstrating how wider contexts impact perceptions and responses to soft failure. Ecological layers, from macro ideologies, such as individualism, meritocracy and neoliberal governance, through to the local high-stakes context impact both the individual's and classroom goal

orientation, altering pupils' perception of what constitutes a threat to the self. Where a threat to dignity is identified by the learner, negative affective and behavioural responses may follow. This model supports classroom error climate research, with a bidirectionality between conceptions of success and competitive goals.

The modest contributions arising from this small-scale study deepens understanding of the factors that influence pupils' responses to their errors, raising implications for school and educational policy and practice and providing suggestions for both translating research into a format useful to teachers and future lines of research enquiry. Findings have shown that common educational structures in English schools, such as ability setting, grading and selective education can conflict with the establishment of classroom climates where soft failure can be genuinely experienced with no lasting consequences. Therefore, this research raises questions surrounding the benefits of such policies within schools at a time when they are on the rise. I return to this in the concluding statement.

10.7 Further research and next steps

There are many possibilities for future research, of which I shall briefly mention five. Firstly, longitudinal studies, using a data analysis tool, such as sociocultural discourse analysis would provide an excellent opportunity for identifying the antecedents of a classroom error climate. This would allow for the connections to be drawn between responses to soft failure and past events, interactions, and utterances. Secondly, an absence of current research related to adolescent dignity indicates that this might be a fruitful line of enquiry. Research relating to pupils' perception of self-worth would establish to what extent adolescents perceive their dignity is tied to conceptions of success, beyond this study which focuses on a very small sample in a selective education context. Furthermore, research into how dignity is gained or lost in a classroom setting would be beneficial for the identification of supportive teacher error handling practices. Thirdly, research with parents in selective education areas would benefit the understanding of how the 11+ impacts pupils, in turn aiding understanding of the

antecedents of maladaptive responses to soft failure. Through the eyes of pupils, in this study, links were established between parents' involvement in 11+ preparations and pupils' perceptions of pressure to achieve and compete. Direct research with parents that identify drivers for selective school choices would aid understanding of parents' emotion-related beliefs that may affect their interactions with their children.

Fourthly, the findings from this study, carried out in four subjects, but with comments from pupils and teachers that relate to a wider curriculum, suggest that different school subjects mediate pupils' responses to soft failure. Subjects considered to have a 'right' or 'wrong' answer, by pupils, such as languages, or maths, appeared to increase pupils' perceptions of threat. Research that examines the error climate within different subjects would be useful in establishing whether different subjects increase perceived risk to the self. Finally, it is important to establish how the personal profiles of students (e.g., shy, introverted pupils, those with specific learning difficulties; different ages) mediate responses to teacher error handling.

Sharing research with teachers

Despite Lewin's maxim, "there is nothing so practical as a good theory" (1952, p.169), a long standing disconnect between school educators and educational theory has been reported (Gore and Gitlin, 2004; Levin, 2004; Vanderlinde and van Braak; Biesta, 2007). Indeed, in surveying the literature, Broekkamp and Van Hout-Wolters (2007) reported that practitioners believed educational research was "inaccessible, irrelevant, and unreliable" (p.207). Therefore, translating research into a relevant and accessible format for teachers, and engaging teachers in thinking about the relationship of this research to their classroom in a co-construction between researcher and classroom educator (Farley-Ripple et al., 2018), is another useful next step. As we have seen Chapters Six and Seven, teachers will already be aware of the importance of errors for learning. Within the English teaching context, the ITT Core Content Framework (a minimum entitlement of content covered during the training of teachers) stipulates that pre-service teachers need opportunity, "to practice, receive feedback and improve at creating a positive environment where making mistakes and learning from them ... are part of the daily routine" (DfE, 2020 p.9). However, current guidance on how this might

be achieved is lacking. New and in-service teachers would benefit from a deeper understanding of how their classroom management and error handling contributes to, and steers, the classroom climate. Understanding dignity within the adolescent context provides a useful grounding for teachers to develop greater awareness of how their body language, tonality, phrasing of feedback and the information they convey can support a positive perception of mistakes. To this end, I intend to produce a podcast for trainee and early career teachers. I also intend to seek links with schools, and develop materials with reference to the following areas: how to establish a positive error climate whilst ensuring rigorous curriculum provision; the importance of balancing time between curriculum coverage and persistence during impasses; the implications of deterministic thinking upon supporting teaching beliefs and practices; and negotiating the balance between providing challenge and providing meaningful feedback.

10.8 Concluding thoughts

Although central to this thesis has been the phenomenon of soft failure in this classroom, the backdrop to this study has been the context of the selective education system that enveloped Burcastle Primary and Anbury Grammar. For many pupils and their families, the shadow of the 11+ is cast long across upper primary and extends across secondary schooling. Therefore, in addition to considering how teachers in general may transfer the findings here to their own context, it is also worth reflecting upon the context of selective education itself, given that the findings have demonstrated its strong influence, and considering the paucity of recent literature on selective education in England.

In March this year (2022), the UK government's Department for Education published a new Schools White Paper (Roberts, 2022). During the launch, the then Secretary of State for Education, Nadim Zahawi, referred to the "fantastic" ethos of grammar schools, whose *"DNA I want to spread in the system"* (Mason, 2022). Whilst the details of which distinctive qualities of grammar schools Zahawi wished to see replicated were not shared, this marked a continuation of recent government policy to protect and extend

the reach of grammar schools that was begun with then Prime Minister, Theresa May's selective education revival. Under a banner of social mobility and meritocracy, May's desire for a "new generation of grammar schools" (May, 2016) was advanced through a £200 million boost for their expansion. Although the Conservative dream of a "grammar school in every town" (Major, 1996) is not yet realised, Zahawi furthered May's intent that their influence be increased. Moving into summer 2022, the rapidly moving UK political climate has seen two new Education secretaries and a Conservative leadership contest. As I write, grammar school expansion is a key platform on which Liz Truss and Rishi Sunak, leadership finalists, both court their party for votes. Whilst Sunak backs the creation of more grammar schools, Truss is more specific, suggesting that she will lift the existing ban on their creation (Gimson and Atkinson, 2022). The experiences of participants in this study suggest that such a programme should not be ventured into lightly and without serious consideration of the potential drawbacks and how these might be addressed. These span a variety of issues ranging from social mobility and the narrowing of the school primary curriculum (Chapter 6) to the social and emotional impacts of academic selection and pupils' identity issues (Chapters 6-9).

In line with my findings, firstly, it might be questioned whether grammar schools can succeed in furthering social mobility, given that some parents are disadvantaged through not understanding the 'rules of the game' (Lareau, Evans and Yee, 2016), or who lack the levels of resources required to match the preparation programmes alluded to in this study. Secondly, in considering the future role of grammar schools in the English education system, it is essential that the socio-emotional fallout from the preparation, processes and outcomes of selective education is weighed carefully against its perceived benefits. In this study, the investment made by both parents and pupils to gain a selective secondary school place, resulted in a significant pressure for children to achieve academically, leaving its mark upon Y7 pupils long after the goal of passing the 11+ had been scored. The externalisation of this pressure was seen in a plethora of maladaptive behaviours, including a tendency for a style of competitive behaviour uncommon in mixed gender schools. These behaviours, such as procrastination, hiding errors, and a disassociation from their mistakes completely, suggested both that the internalisation of this pressure was deeply felt by pupils, and that pupils' identities had

been shaped by selective education processes: several Anbury Grammar pupils, in comparing themselves with a class of able peers, perceived themselves as cloaked in the imposter's mantle, whilst, for many, pupil experiences resulted in a compulsion to become the 'perfect' girl. However, it was not only pupils and their parents who were subject to the impacts of their education system; teachers were also unable to escape and see the contextual skewing of their educational values. Performative school structures, some originating in selective education, orientated teachers also towards erecting and cementing competitive goals and structures in the classroom.

However, despite the anxieties, stress, and insecurities shared by pupils, there was still an overwhelming sense of positivity about selective education. Participants at Burcastle Primary shared a nervous excitement about the prospect of winning a place at grammar School, whilst at Anbury Grammar, pupils were evidently very gratified to have been selected. For the most part, pupils were proud of their achievements, and openly relished the opportunity to work with others of a similar mindset and achievement level. Therefore, a tension inflects the closure of this thesis where the closing thoughts conflict with the voice of participants, whose comments throughout suggested nothing but a willingness to be part of the selective system.

In rendering narrative into theory, I therefore recognise the multifarious versions of reality (Charmaz, 2014), of which I offer but one interpretation (Strauss and Corbin, 1988). The meanings I have reached are a co-construction (Charmaz, 2003, 2006), formed through the interactions between those researched and the researcher and the context. I therefore acknowledge my imprint left at every stage of this research. Whilst taking great care to avoid the weaving of a fictitious storyline through reflexive practice (Walsh, 2010; Tripp, 2012), the version of events I offer is situated and steeped in my own biography - nobody stands nowhere (Downe, 2021). So, finally, I briefly return to my positioning in order that the intersubjectivities which infuse my analysis are laid bare, aiding the trustworthiness and integrity of this research (Finlay, 2002).

My journey as a doctoral student has run parallel to the educational journeys of my children across the transition from primary to secondary school within the local

selective education system. Although fieldwork was carried out whilst both children were in primary school, data analysis was carried out during their transition, with my family's emotional journeying through the 11+ adding weight to the words I wrote. Such obvious situatedness within my research provided a consistent, strong signal for the continual examination of my "conceptual baggage" (Kirby and McKenna, 1989 p.32). Therefore, with increased sensitivity to the need for reflexivity, I ensured both personal and epistemological reflexive engagement throughout the research. This included writing autobiographical reflections on significant days, such as my children's 11+ examination as part of an audit trail that tracked the continual reconfiguration of my positionality. The internal dialogue produced through reflexivity enriched this research, prompting me to re-examine coding choices, seek alternative interpretations and question the 'logic' of my assumptions, as I strived to faithfully represent participants' voices (Finlay, 2002). In harnessing my own experiences through a reflexive process, therefore, a more rigorous result was reached (Jootun, McGhee and Marland, 2009). In learning to detach from my family's experience and apply critical distance, I began to appreciate the messiness of pupils' relationship to soft failure, and indeed the 11+. The stories participants told were not ones only of pressure and fear but were imbued with contradiction. By turn, pupils both shrank from and seized opportunities; withdrew from and took intellectual risks; crumbled and persisted long during an impasse. In nearing the end of my research apprenticeship, and in concluding this thesis, I therefore reflect on what I have learned from the pupils in this study: as an educator, my awareness of both my pedagogic choices and interactions with learners has increased in acknowledgement that each of my decisions, actions and words have the power to propel my students towards resilience or fear. And as a researcher, I have learned the value of taking the risk.

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Appendix A

Three diagrams to show Bronfenbrenner's ecological systems (Bronfenbrenner and Morris, 2006) could impact a child's perception of errors

How the microsystem in Brofenbrenner's Bio-ecological model, impacts the child's perception of errors

The error climate of the classroom

Tolerance of errors in the classroom

Teachers' attitudes towards errors and expectations

Teachers' ability to reflect and be reflexive

School culture, including expectations for both pupils and teachers

School policies, such as reward, sanctions, praise, assessment, grading, reporting, expectations, ability, organisation of learning

Age, gender, race, physical characteristics, personality traits, abilities, SES, access to education, dispositions, such as persistence etc.

Microsystem

home

school

classroom

The child

Peers

Use of praise, reward and sanction

Parental attitudes to errors, mistakes grades etc.

Parental modelling of resilience

Parental and sibling attitudes to effort, education

Parenting styles

Parental, sibling and marital relationships

Peers' perception of and reactions to errors, mistakes

Peers' acceptance of the child

Home/school consultations

Phone calls home

School reports

Information evenings

Concerts and celebrations

How the mesosystem impacts the child's perception of errors in Brofenbrenner's Bio-ecological model, 2006

Attitudes from teacher and family to the hobby/instrument/sport with regard to mistakes and practice.

E.g. perfection may be expected for higher level musical performance

Mesosystem

Neighbourhood attitudes to young people, e.g. whether there is a culture of playing outside, which may encourage independence and resilience.
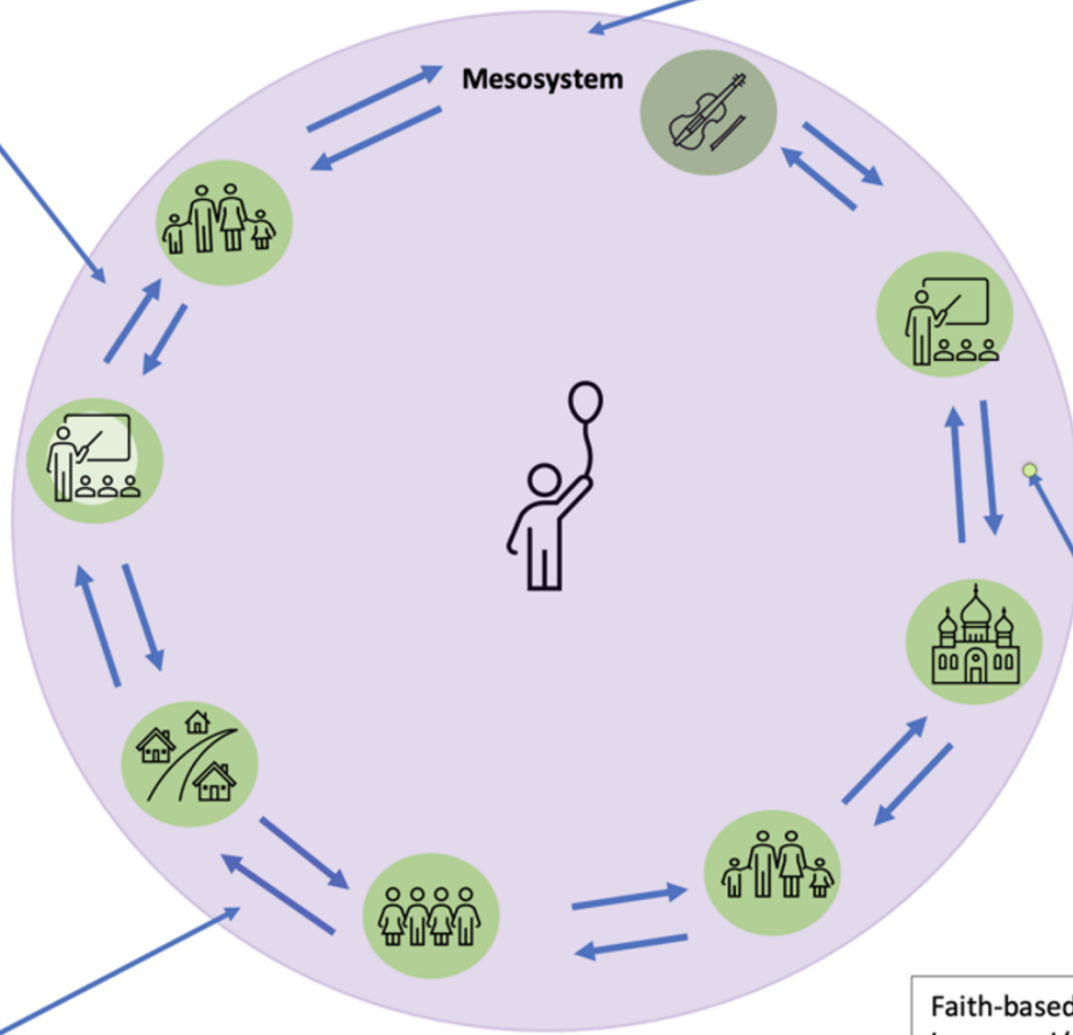
Faith-based education at home and/or at a religious organisation, e.g. madrassah or Sunday school, and approaches to mistakes within this context.

Religious teachings on mistakes, forgiveness, sin , effort, etc.

Comprehensive or selective education at 11

Available places at schools

Resources for schools

Money available to support those disadvantaged

Demands of the parent's workplace that may affect the time a parent can spend with a child, or the parental engagement with school

Impact of the exosystem from Brofenbrenner's Bio-ecological model, on a child's perception of errors

Involvement of other agencies, such as social services can impact on home relationships, support for children, safety etc.

Parent's workplace

Exosystem

Agencies

Local businesses

Local government

Families of friends

The child

Local housing association

Local community

Parent's educational experiences

Distant relatives
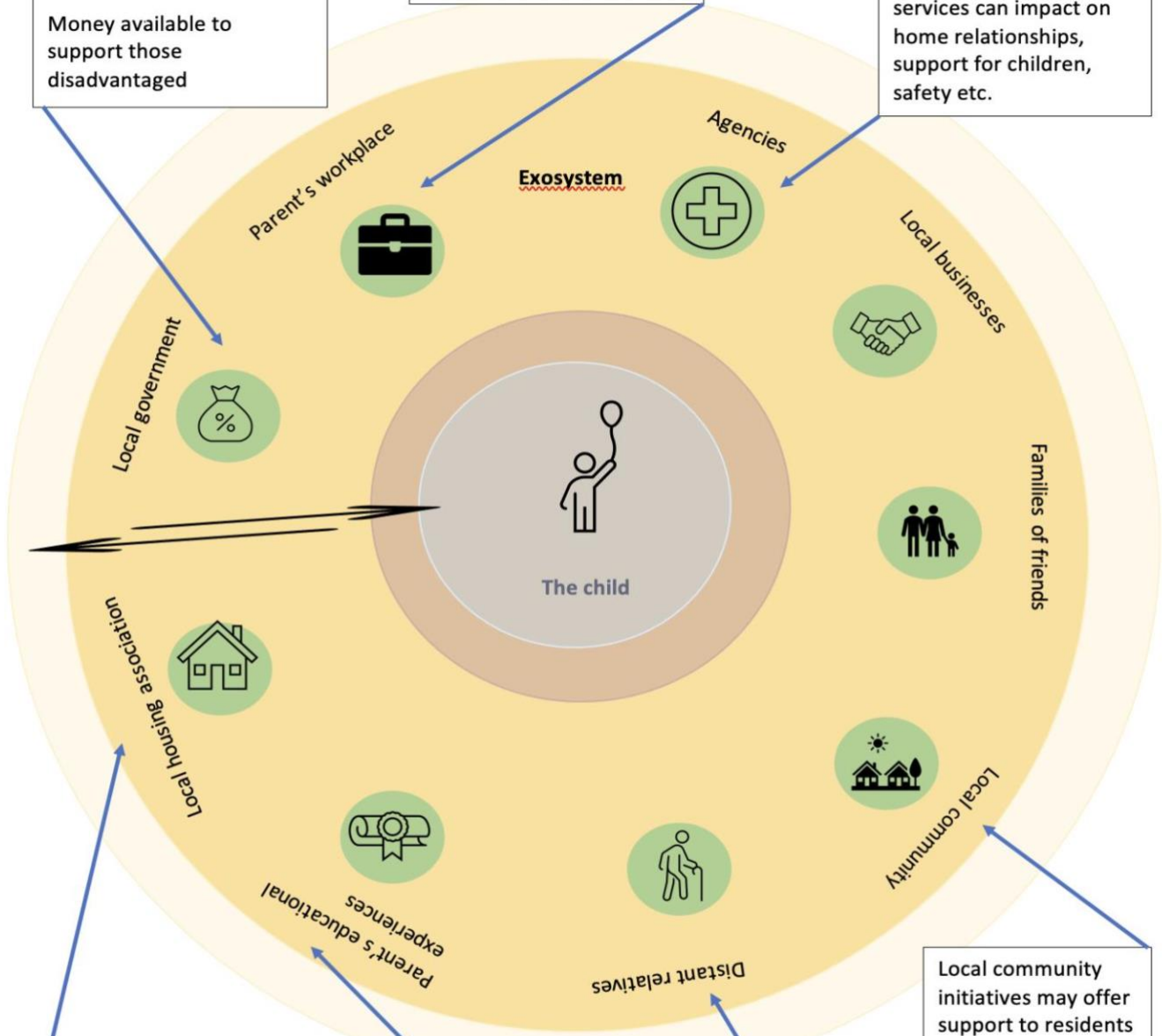
The availability of resources such as suitable housing can permeate life experiences, including children having a place to complete homework and parental priorities

Parents' own experience of education can affect how they value the education of their child. This in turn may influence their behaviours towards the acceptance of errors, mistakes, impasses, abilities, homework etc.

Relationships between family members and wider responsibilities may affect resources, demand and immediate family values

Local community initiatives may offer support to residents and work to change the local enviornment

Appendix B

The relationship between Bronfenbrenner's PPCT model and this study

This table below summarises the relationship of Bronfenbrenner's PPCT model (Bronfenbrenner and Morris, 2006) to this study. I have indicated which immediate and distal contextual influences upon pupil and teacher perceptions of the classroom error climate have been considered. A 'partial focus' indicates that some aspects were engaged with where possible during fieldwork, but not comprehensively:

PPCT model	**Properties of the model**	**Relationship of the model to this research**
Process	*Proximal processes* Between individuals or individuals and objects in the environment (e.g., teacher and pupil; between peers; pupils and learning resources)	*Focus* Teacher and pupil interactions within the classroom, including whole class, group, and individual communications (including non-verbal) in relation to the acceptability of errors, mistakes, and impasses in learning; error handling; reactions to soft failure; support provided during and after impasses, mistakes, and errors.
Person	*Demand characteristics*	*Focus* Age and gender *Limited Focus* Socio-economic group
	Resource characteristics	*Limited Focus* Internal, mental resources: knowledge, abilities, experience, and skills Material resources – educational opportunities (within school and beyond)
	Force characteristics	*Limited Focus* Temperament and dispositions that affect reactions to soft failure, including persistence, impulsivity, resilience, adaptability etc.

Context	Microsystem	*Focus* The microsystem of the classroom involves: the composition of the class cohort, including all pupils and the teacher; seating arrangements; pedagogical approaches to learning; resources for learning; grouping of learners; teachers' attitudes towards errors and impasses and the classroom culture. *Limited Focus* Other microsystems in relation to the individual learner, include the peer group and home, seen through the eyes of pupil participants (including parental attitudes to 11+ preparation, success, and failure, etc.)
	Mesosystem	*Focus* The mesosystem of the classroom involves the relationships between microsystems. In terms of the classroom and the wider school, this includes the classroom teacher's interpretation of school policies for learning (e.g., didactic or enquiry approaches) and assessment (e.g., grades, comments); approaches to differentiation (e.g., ability or mixed grouping strategies; expectations of pupils in terms of stretch and challenge); school culture, expectations for the year group in terms of responsibility and behaviour. *Limited Focus* Other relationships between microsystems that occur between the classroom and home (e.g., reporting learning outcomes to parents; parent consultations; parental influence on organisation of learning (e.g., parental requests for pupils to be provided with challenging work/support).
	Exosystem	*Limited Focus* The influence of the LEA (for this study, a wholly selective education system); interpretations of national policies by the school and the classroom teacher

		No data Indirect influences that bear upon the learner and teacher's interactions (e.g., housing; transportation; parental work hours).
	Macrosystem	*Limited Focus* Societal, cultural, political, and national values that influence policies affecting individuals (learners, teachers, parents) and how these have influenced the educational sphere. With respect to education in England this includes and individualistic orientation, including an emphasis on competition at all levels – local to international. During analysis, I have considered gendered responses to soft failure and competition.
Time *Chronosystem*	*Microtime*	*Focus* Events relating to soft failure as they occur in the classroom Normative and non-normative shifts during a learner's school career, including school transitions.
	Mesotime	*Focus* Recurring events and reactions related to soft failure as narrated by pupils and teachers
	Macrotime	*Limited Focus* Key normative shifts (such as the 11+ examination) within pupils' school career have been considered in a longer-term and historical context. Wider generational shifts in relationship to success and failure and success in schooling have also been considered. For example, the accessibility of exam resits (and the recent reversal of this policy) and the role of FE colleges in the last two decades may act to moderate the finality of 'failure' within a school context for some pupils.

		Likewise, the use of 'fail' in current urban culture may point to a rehabilitation or softening of the term. Using a Vygotskyian lens, which views language as a cultural shaper of thought, it is feasible that soft and low stakes failure may become more acceptable soon. *An example of the current urban use of the word 'fail' can be seen in terms of the growth of the #fail hashtag trend (e.g., Jacinda Ardern's 2021 reference to a "bedtime fail" in a livestream to the nation of New Zealand). Arguably, such uses of the word 'fail' may have repositioned the term in everyday parlance to mean something akin to something not going to plan, a mistake, an unsuccessful attempt, rather than the connotations of more global personal disaster.*

Appendix C – Interview Schedules

The interviews were semi-structured. Follow-up questions are below each bullet point.

Interview Schedule – Teachers

- **Do you find that pupils in your class make many mistakes?**

    - Why do you think that this is the case?
    - How to pupils tend to respond to their mistakes?
    - Do girls and boys react similarly to their mistakes? [Burcastle Primary teachers]
    - Do pupils react similarly in every subject?
    - Do pupils with different attainment levels respond in the same way to their mistakes?

- **When pupils make mistakes in class, what do you say or do?**

    - When pupils make mistakes in whole class discussions, what do you say or do? Is this different to other phases of the lesson?

    - How does the rest of the class react to other pupils' mistakes?

- **What do you do or say when a pupil gets stuck during the lesson?**

    - What would you do if a pupil was finding the work difficult or started to look frustrated?

    - Do pupils with different attainment levels respond in the same way to challenging work?

    - Do pupils tend to like or dislike challenging work (that they may struggle with)?

- **How do you aim to secure pupil progression?**

    - What helps pupils in your class to make progress?
    - What does it mean for pupils to make progress in your class?

- **What marking policy do you use?**

    - Do you find that this policy is effective in helping pupils make progress?
    - Do your pupils find comments or level /grade more helpful?
    - Do pupils respond to your marking?

- **How to pupils react to tests?**

    [Burcastle Primary teachers only]

    - How to pupils react to high-stakes tests, such as SATS and the 11+ in Year 6?
    - Probe for tutoring for the 11+

Interview Schedule – Pupils

- **Do you ever make mistakes in class?**

  - Do you make a few mistakes or lots?
  - When do you make mistakes?
  - Does it matter if you make mistakes?
  - When you make a mistake in your written work, do you cross it out, leave it, or get a rubber and erase it? (Why?)

- **How do you feel when you make a mistake in class?**

  - Does it matter if another pupil hears the mistake you have made?
  - What does your teacher think about mistakes? How do you know?
  - What do you think when other pupils make mistakes in class?

- **Do you prefer easy work or hard work? Why?**

  - What is good about easy work / hard work?
  - Do you make more mistakes when it is easy or hard? (Why?)
  - How long do you think you should stick at a problem before asking for help? (Why?)
  - Do you put up your hand in class when you are finding it difficult?
  - How does it feel when you get stuck on a problem? [Pupils at Burcastle Primary can show how this feels/draw if it is difficult to articulate)

- **Do you put up your hand to answer questions in class?** (Why/why not?)

  - Would it make a difference if the question was hard/easy?

- **Do you like getting your work marked?**

  - How do you feel if the teacher has marked something you have done as wrong?
  - Do you ever work on the things you have got wrong?

- **How do you feel about taking tests?**

  - Do you ever get nervous before a test?
  - Do you think some tests are more important than others? (Why/which tests?)

    [Burcastle Primary pupils]
  - Do you have any tests coming up in Y6?
  - Which tests?
  - What are they for?
  - Will you prepare for the tests?
  - Does it matter if you make mistakes in these tests?

    [Anbury Grammar pupils]
  - Was the 11+ test important to you at the time?
  - How did you feel about it?
  - Did you prepare for it? (If so, how?)

Appendix D - Table of fieldwork carried out and documents scrutinised

This table summarises the fieldwork carried out, including who was interviewed and observed, the duration of the observations, what additional visits occurred and documents that were scrutinised. Pupil interviews lasted around ten minutes with teacher interviews 45 minutes to over an hour.
Summary of collected data

	Teachers	Subject	Interviewed	Lesson observations		Other observations	Interviewed pupils	Other pupils	Data
Anbury Grammar	Laura	Latin	Yes	2 x 1 hour	Y7.1	Y7 Camp Sport's Day (whole school)	Amelie Bella Brianna Cassie Clara Elodie Emily India Hattie Madison Meredith Molly Talia	Adele Alex Asha Daisy Leah Leona Millie Niamh Olivia Roisin Saffie	School website Ofsted Report School newsletters Admissions brochure and results table
	Anna		Yes	1 x 1 hour	Y7.2				
	Hailey	Science	Yes	2 X 1 hour	Y7.1				
	Keira		Yes	2 X 1 hour 2 X 1 hour	Y7.1 Y7.2				
	Sandra		No	1 x 1 hour	Y7.2				
	Kathy *(Senior Leader)*		Informal talks X 3	None					
Burcastle Primary	Joanne	Science	Yes	1 x 1 hour	Y5/6	None	Andrew Ava Bryony Charlie Charlotte Dylan Esther Immy Jenna Matt Sophia Seb	Daniel Ethan Florence Frank Kiran Lola Nathan Maisie Sean Stephen Tim	School website Ofsted Report School newsletters
	Mel	Computer Science	Yes	2 x 1 hour					
	Julie	Art	Yes	2 x 1 hour					
	Francesca *(Headteacher)*		Introductory meeting	None					
11+ related data	11+ online forums https://www.elevenplusexams.co.uk; https://www.11plusguide.com; https://atomlearning.co.uk www.mumsnet.com Freedom of Information Act request for 11+ marks by area and school type Newspaper articles on The Weald of Kent School Grammar Annexe Websites: https://comprehensivefuture.org.uk/ http://sevenoaksgrammarschoolcampaign.blogspot.com/ (links no longer working); http://sevenoaksgrammar.com (no longer in use); http://www.sevenoaksace.org; (no longer in use)								

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Please note, all names have been anonymised, including the names of the schools.

Appendix E - *Cross-national cultural comparisons of error handling in the classroom*

I have synthesised available error climate and cross-national error climate studies to identify the approach teachers have taken to error handling. These can be viewed alongside the classroom values and cultural values associated with the country of origin. Information about a country's values and educational values will aid interpretation of teachers' differing approach to errors. However, in constructing this table, I am aware of the current small pool of data to draw from. The studies I have referred to do not claim to represent a county-wide view and so, this table can only represent 'work-in-progress' towards a full synthesis of cross-national cultural comparisons of error handling in the classroom.

Country	Cultural values	Classroom values	Approach to errors
US	Individualistic (Hofstede, 2021)	Behaviourism (Stevenson and Stigler, 1994; Matteucci, Corazza and Santagata, 2015)	Error avoidance (Santagata, 2005; Metcalfe, 2017) e.g., 'Bermuda triangle' (Tulis, 2013)
	Privacy is guarded (Debrincat, 2015)		Evidence of errorless learning, with errors ignored in class (Metcalfe, 2017) or dealt with indirectly (Santagata, 2004; Metcalfe, 2017)
	Power distance (relatively low; Hofstede, 2021)	Inquiry-based approach to teaching science in US National Standards (Taber, 2011)	Errors dealt with privately (Santagata, 2005; Heinze and A. Reiss, 2007; Debrincat, 2015)
	Uncertainty avoidance (below average, tempered by the events of 9/11 (Hofstede, 2021)	Developing self-esteem, praise (Tsai, Knutson and Fung, 2006)	Focus on individual's strengths (Rattan, Good and Dweck, 2012)
			Praise linked to the correct answer (Stevenson and Stigler, 1994)
		Focus on achievement and performativity (Schmidt, 2018; McMillan and Moore, 2020)	There is little room in the curriculum or time to explore errors. The value of mistakes remains untapped (Schmidt, 2018)
			Positive affective stance towards errors (Matteucci, Corazza and Santagata, 2015)
			Persistence is related to previous success (Zhang and Cross, 2011)

Italy	Falls between individualism and collectivism (Burton *et al.*, 2021) with a North/South divide (Hofstede, 2021) Medium power distance (Hofstede, 2021) High uncertainty avoidance (Hofstede, 2021)	Constructivism (Carena and Moran, 2011; Matteucci, Corazza and Santagata, 2015; TALIS 2018 Results (Volume I), 2019) Reggio Emilia and Montessori approaches to learning	Errors used as a whole class teaching tool (Santagata and Barbieri, 2005; Santagata, 2004; Heinze, 2005) Errors are prominent in classroom compared with other European countries (Heinze and Reiss, 2007). Teacher responses can include irony, sarcasm and other indicators of aggravation towards errors (Santagata, 2004)
Switzerland	Individualistic. (Hofstede, 2021) Low power distance (Hofstede, 2021) Masculine, (Hofstede, 2021) Uncertainty Avoidance, medium, with differences between French and German speaking parts; (Hofstede, 2021)	Implicit behaviouristic style (Heinze and K. Reiss, 2007)	Positive climate for error making reported (Spychiger et al., 1988; Oser and Spychiger, 2005) Students are open to learning from errors (Dalehefte et al., 2012) Errors are not prominent in classroom (Heinze, 2005, 2006) Students do not fear making mistakes (PISA, 2018; Rach et al., 2013; Heinze and Reiss, 2007) Student perception of teacher's positive affective stance towards errors (Rach, Ufer and Heinze, 2013)
German	Individualistic (Hofstede, 2021) Low power distance (Hofstede, 2021) Slight preference for Uncertainty Avoidance, Holfstede, 2021)	Didactics (Dalehefte, Seidel and Prenzel, 2012) Bildung (Hopmann, 2016) Content focused learning (Reich, 2007)	Errors are not prominent in classroom (Heinze and Erhard, 2006; Heinze and A. Reiss, 2007) When errors occur, the teacher is likely to explain the answer (Heinze and A. Reiss, 2007) Error handling strategies are not routine (Dalehefte, Seidel and Prenzel, 2012) Students do not fear making mistakes, although students feel some mistakes area 'forbidden', e.g., basic knowledge and repetition (Heinze and A. Reiss, 2007)

			Social constructivism underrepresented in geography education (Weiss, 2020) Implicit behaviouristic style (Heinze and Reiss, 2007)	Low levels of metacognition(Rach, Ufer and Heinze, 2013)
UK		Highly individualistic (the only higher scorers are Australia and the USA, Hofstede, 2021) Masculine – success oriented and driven (Hofstede, 2021) Low power distance (Hofstede, 2021) Low Uncertainty Avoidance (Holfstede, 2021)	Recent government endorsement towards teacher-led instruction (Gibb, 2017; Little, 2020) Knowledge rich focus - Ofsted, 2021 subject reports, e.g., RE (Kueh, 2021), Geography(Ofsted, 2021a) No coherent pedagogy in England (Little, 2020) Enquiry advocated by Ofsted in several subjects (Ofsted, 2013b, 2021a, 2021b)	High fear of failure, particularly in females (PISA 2018 Results, Volume III, 2019) Errors are undesirable (Ingram, Baldry and Pitt, 2014) Students have limited experience of problem solving (Ingram and Riser, 2019)
China		Confucian, collective (Hofstede, 2021) Masculine, (Hofstede, 2021) High power distance (Holfstede, 2021) Low Uncertainty Avoidance (Holfstede, 2021)	Didactic approach (Biggs, 1996; Tan, 2017) A shift towards constructivism (Chan, 2008). Constructivism underpinning recent pedagogical reforms (Tan, 2017) Effort drives achievement (Rao, Moely and Sachs, 2000)	Failure is a lever for persistence and improvement (Zhang and Cross, 2011) Errors are used as a teaching strategy for the benefit of a class (Schleppenbach, 2007; Wang and Murphy, 2004) Errors are explored in an exploratory fashion through questioning (Schleppenbach et al., 2007) Students problem solve (in mathematics) through teacher-facilitated horizontal discourse (S. Wang et al., 2020)

		Highly competitive school environment (Ho and Hau, 2008) Positive teacher-pupil relationships (Correa *et al.*, 2008)	
Japan	Confucian, but not as collectively oriented as other Asian nations (Hofstede, 2021) Highly masculine, with competition between groups common (Hofstede, 2021) Median power distance (Hofstede, 2021) Extremely high Uncertainty Avoidance (Hofstede, 2021)	Constructivist, dialogic and group-based learning (Abiko, 2011) Meritocratic education beliefs (Holfstede, 2021) Emphaisis on the development of character (Abiko, 2011)	Errors are used extensively as a teaching strategy (Dalehefte, Seidel and Prenzel, 2012; Metcalfe, 2017; Tanaka, 2017) The pedagogic value of mistakes is a central approach to teaching (Stigler and Hiebert, 1998; Arani et al., 2017) Teachers refer to and draw upon a typology of mistakes when addressing errors in the classroom (Arani et al., 2017). Stress is placed upon hard work and effort (Stevenson and Stigler, 1994) Pupils are not pressured for answers by teachers (Nakane, 2007) Acceptance of teachers' negative feedback with greater willingness to improve in the light of feedback (Eriksson,K.; Lindvall,J.; Helenius,O.; Ryve, 2020) There is an emotional cost to making mistakes (Arani et al., 2017) Pupils fear negative evaluation by peers (King and Smith, 2017) Students report low self-esteem (Briony D Pulford, Johnson and Awaida, 2005)

			The Japanese education system is highly competitive (Tanaka, 2017)

Appendix F - A comparison of terms and criteria for referencing higher performing learners

Term	Definition	Reference	Criteria for identification
High attainer	Highly able and have a record of high achievement	The Sutton Trust, (Montacute, 2018)	Top 10% scorers by KS2 SATs results
Highly able students	High attainment and those with potential for high attainment	The Sutton Trust, (Montacute, 2018)	Dependent on school cut off points, e.g. top 20% or 30% by KS2 SATS results
Gifted	Outstanding levels of aptitude or competence Top 10% of learners or less.	Stricker et al., 2019	Cognitive ability measures; standardised achievement tests; teacher recommendation and academic achievement
	Capacity to perform at a high level relative to peers of the same age, experience and environment Giftedness may be domain specific.	(National Association of Gifted Children, 2020)	Various identification criteria, including the use of psychometric assessments
	Giftedness requires above average ability, creativity and task commitment	(Joseph S. Renzulli, 2004)	Profile test
	Differentiation is required at school to adjust for intelligence. An acknowledgement that giftedness can be multidimensional.	(Warne, 2016)	Testing, although Warne recognises that extensive testing is neither necessary nor a perfect method. The Catell- Horn-Carroll (CHC) Theory (a psychometric theory of the structure
			of cognitive abilities, identifying cognitive skills within seven areas), is used for interpretation.
Giftedness	High-functioning individuals, whose performance eventually leads to eminence, and is relative, not just to the ordinary, but extraordinary.	(Subotnik, Rena, Olszewski- Kubilius and Worrell, 2011)	Various identification criteria
Most able	Those who have achieved Level 5 or above in English and/or Mathematics in KS2 tests in England	(Ofsted, 2015)	*As definition*
Gifted and Talented	Ability to develop to a level significantly ahead of the year group, or with the potential to do so. Gifted learners have abilities in one or more academic subjects, whilst talented students are those with high levels of practical skills.	The National programme for Gifted and Talented Education (Young, Gifted and Talented)	Top 5% nationally based on end of KS2 scores (primary school) in England ((DCSF, 2008)). However, in practice this percentage was not adhered to by schools.

'Selective' for grammar school entry		Typically the top 20-25% of scorers on the 11+, with a score of 332/423 in Kent (Kent County Council); a standardised score of 121 in Buckinghamshire (Buckinghamshire Council, 2022) A standarised score of 220 on both papers 25% of learners plus one super-grammar school selecting 10% - Lincolnshire (LCGS, 2022)	
'Selective' for super-grammar school entry		Top 5-10% scorers on the 11+ (Allen, 2017)	

A variety of terms, definitions, and identifying criteria for high performing pupils are used across the literature and schools globally, of which some are seen above. For example, Ofsted (2015) used criterion referencing to set the benchmark for 'most able students': the achievement of Level 5 or above in English and/or Mathematics in KS2 tests. However, The Sutton Trust uses norm-referenced test results to identify 'high attainers' as those within the top 10% of KS2 English and Maths tests (Montacute, 2018). While this position is in line with the criteria from various sources who place the benchmark for giftedness at a locally standardised 10%, (including Stricker et al., 2019); The US National Association of Gifted Children (NAGC)), it contrasts to the higher percentage of pupils selected for English grammar school education. Typically, norm referencing selects 20-25% of the cohort. This percentage is reduced to 5-10% for super-selective grammar schools (which characterise the intake of Anbury Grammar). Selection based on standardised test scores contrasts with identification models from the literature within the field of Gifted Studies. Here, descriptors are often used, although these may vary from high performance (e.g., general intellectual ability (g), (Warne, 2016)); to personal characteristics (e.g., Dabrowski's overexcitabilities, (1972) or adaptive-intellectual skills (Sternberg, 2021).

Appendix G – Exemplar of axial coding

This is an example of the axial coding process considering when mistakes matter to pupils

Open Coding

- Annoying mistakes
- Appearing perfect
- Concealing errors
- Control
- Debt
- Disastrous mistakes
- Embarrassing
- Fear of negative evaluation
- Frustrating
- Giving up
- Glaring errors
- Grade seeking
- Hopelessness
- Important mistakes
- "I'm no good at…"
- Insurmountable
- Irritated
- Labelling
- Large/big
- Minor errors
- Overwhelming me
- Panic
- Pressure
- Procrastination
- Rushing
- Selective contributions
- Silly
- Shame
- Stupid
- Threat
- Tricky

When mistakes are perceived as problematic

Axial Coding

Volume of mistakes

Annoying mistakes	"I'm no good at…"	Pressure
Embarrassing	Insurmountable	Silly mistakes
Frustrating	Irritated	Stupid mistakes
Glaring errors	Labelling	Hopelessness
Fear of negative evaluation	Minor errors	Overwhelming me
	Giving up	Panic

Significant mistakes

Panic	Annoying mistakes	Hopelessness
Stupid	Disastrous mistakes	Important mistakes
Large/big	Glaring errors	Embarrassing
Procrastination	Tricky	Frustrating
Fear of negative evaluation	Pressure	Irritated

The stake of making mistakes

	Large/big	Giving up
Fear of negative evaluation	Appearing perfect	Grade seeking
Panic	Concealing errors	Hopelessness
Pressure	Control	Important mistakes
Procrastination	Debt	"I'm no good at…"
Rushing	Disastrous mistakes	Insurmountable
Selective contributions	Embarrassing	Labelling
Shame	Threat	Overwhelming me

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Appendix H – Exemplar of early-stage analytic memoing: using codes within the text to help identify links

This is an example of the axial coding process considering when mistakes matter to pupils

Codes are in capital letters with in vivo codes within speech marks. This focus of this memo – identifying the cause of mistakes – was not included in the final thesis due to space.

Cause of Mistakes

There appear to be several causes of mistakes (bold words relate to the code used): MISUNDERSTANDING concepts, misunderstanding the task, FORGETTING previously learned information, PROCEDURAL, and "RUSHING".

Rushing

Where pupils reflect that their mistakes are caused by "RUSHING" work, this is commonly connected with other signs of performance goals (and associated HIGH ACHIEVEMENT). One child explains that her tendency to rush work was caused by a desire to publicly demonstrate her SUCCESS (and perhaps dominance in Maths) to others. She speaks wistfully about the feeling of 'GLORY' she experiences from coming first.

Other factors that lead to a tendency for "RUSHING" work include the feeling of PRESSURE to complete a set amount of work within a TIME limit. When this occurs, the volume of work completed is placed above the quality of work. For several Y7 pupils, this is tied up with issues of TRANSITION and the changed EXPECTATIONS of secondary school. Time pressures are more apparent to some pupils in Anbury Grammar than they were in primary school. Some Anbury pupils worry about GETTING BEHIND.

Procedural

This could be considered a sub-category of "RUSHING". Pupils in both schools talk about making procedural mistakes in linear subjects, such as Maths and languages. When pupils "RUSH", often procedural mistakes, such as not showing "working out" in Maths are made or following grammatical rules in languages.

Forgetting

A couple of pupils referred to their poor short-term memories and the impact that this has on learning. Where this occurs, a conceptual piece of the puzzle may be lost and the concept MISUNDERSTOOD.

FORGETTING - in linear subjects (where higher concepts rest on more basic ones) such as Latin, there is PRESSURE to get through a syllabus due to TIME constraints, little opportunity for CONSOLIDATION and pupils can FALL BEHIND. Where pupils FORGET previously taught work, gaps in conceptual understanding emerge. This leaves an insecure platform for supporting the understanding of future concepts. This leads to a slippery slope where pupils feel insecure in their understanding, ABANDON STRATEGIES and begin to guess answers. This is particularly an issue in linear subjects such as language learning .

In Burcastle Primary, pupils who find it difficult to retain information are presented the work in a DIFFERENTIATED form. This might include the task and "steps to success" typed on an iPad that they can take to their table, or a recap of the procedure in video format that pupils can re-watch with headphones.

Misunderstanding the task

Pupils sometimes make mistakes through MISUNDERSTANDING THE TASK, rather than for conceptual reasons. This may be for a variety of reasons. Pupils admit to not CONCENTRATING on the teacher explanation, "RUSHING" whilst reading the questioning, and sometimes finding comprehending the task too CHALLENGING.

Misunderstanding concepts

Finally, mistakes are caused through a MISUNDERSTANDING OF THE CONCEPT. Teachers speak about "STRUGGLING" or "LESS ABLE" pupils' inability to grasp concepts initially, with frequent repetition and CONSOLIDATION required. In Burcastle Primary, pupils who struggle with concepts may have additional support, DIFFERENTIATED materials, support materials or be placed in a slower-paced set for English or Maths.

Appendix I - Document data coded according to Biesta's (2009) three aims of education: qualification, socialisation, and subjectification

The aim of this work was to identify school values.

Burcastle Primary

Written data	Qualification	Socialisation	Subjectification
School website	Mission statement 'best' Curriculum progression documents Curriculum overview for every subject Enrichment tied to the National Curriculum School vision: 'personal success', 'high standards', 'strong focus on learning' 'experiences which challenge all' Published achievement data Pupil leadership roles 'to develop the skills they will need later in life when applying for jobs…they are provided with full training so that they can successfully complete their role to a high standard'	Mission statement 'team', 'happy' Curriculum intention statement: inclusivity School values 'love and respect themselves as individuals' British values Pupil leadership (taking responsibility) (house captains, pupil council, lunch carers, peer mediators, librarians, play leaders, sports leaders, sports council)	Curriculum intention statement: 'fosters critical thinking', 'opens minds' Child led forest school 'strong focus on wellbeing'
Ofsted report	"Good progress" "excellent assessment and tracking systems" Achieving above the national average "Upward trends testament to the success of strategies...to improve attainment "in some lessons the work is too easy" "High aspirations" "priorities for improvement are ..focused on pupils' achievement"	"Fostering a sense of community" "SMSC exceptional" Development of life skills, such as teamwork and confidence "focus on pupils' social skills"	
		Routines	Forest school (child led)

School newsletters (20)	Home learning Football individual awards Celebration assembly Able and talented writing day Excelling students (sports, music) Attendance certificates (and entry to prize raffle) Phonics screening	School fundraising E-safety day Random acts of kindness Laptop donation School plays Candlelight carols Food bank Music competition Reading suggestions Reading challenges Sports week Uniform reminders Birthdays Rock concert Family liaison officer 'Golden table' winners (following lunchtime rules) Weekly attendance targets and statistics Weekly punctuality statistics Residential week	'wobble room' Clubs: sewing, dance, cricket, art, sport, French, Karate, football, gardening, chess, singing, books, board games, basketball School trips: V&A, Harry Potter World Friday enrichment afternoons – choice of sessions (cross age groups)

Anbury Grammar

Written data	Qualification	Socialisation	Subjectification
School website	"Be the very **best you** can be" "High achieving" "reach potential" "challenging curriculum" "Majority of our sixth form …study at top universities" "academically ambitious" "challenging and stretching our exceptionally gifted and talented girls" "participation in high profile national competitions and awards" Achievements celebrated Progress reporting	"be positive agents for change" "responsible global citizens" "celebrate diversity" "sense of belonging" "global connectedness" "respectful and considerate" "courageous and honourable" Commendations	"Students learn to think critically" "Students can really be themselves" "open-minded" "self-aware, adaptable and creative" "explore, question and build resilience" "life skills, independence and critical thinking" "Wellbeing a priority" "intellectual curiosity" "personal growth" "rooted in the real world" "nurturing"

	"push you to your academic limit (former pupil quotation") Academic partnership with a university for STEM mentoring		"lifelong learners" Varied assessment diet Action afternoons for Y7 and 8 (choice on enrichment activities) Wide range of clubs (Stem, history, music, sport, debating, languages, academic tutoring etc).
Ofsted report	"your teachers expect a lot of you" "All teachers have high expectations of pupils" "demanding lessons" "achieve exceptionally well" Curriculum is "exceedingly ambitious' "pupils' progress is well above average" "Pupils are very well prepared to start KS5" "no time is wasted" "Rich range of subjects" "compete with vigour" "inspire students to consider ambitious next steps"	"trying your best and working hard is part of everyday school life" Leadership skills "strong relationships between teachers and pupils" Charity work Behaviour is exemplary	Almost all pupils attend extra-curricular clubs" Focus on independent learning skills National and international trips extend learning
School newsletters	Sharing results Computing programme Reports Celebration of results Excelling students	Community foodbank Action Charity work "House spirit"	School trips School production

Appendix J – Sample page of Hailey's interview script (teacher, Anbury Grammar)

This sample page indicates the iterative process of coding. The page shows my initial codes and where I have later revisited the transcript to question my initial coding choices.

MOT: drops

MOT: Drops when correct answer is foregone conclusion

46 that she will definitely get it right, she will definitely answer it, so it

Change code?

47 will just stay down.

48

49 E - Are there any signs of them being intimidated by these

50 "obviously bright" girls, do you think?

51

52

① Intellectual intimidation ② Lack of intellectual courage / self confidence

Lacks intellectual courage

53 M - Yeah, if they are sure if they know it, they will put their hand

③ Selective participation

54 up, if they are unsure I don't think they would, which happens a lot

Selective participation (common)

55 in this school, actually. Intellectual intimidation problematic across the school → Change code?

which is 'it - Self-confidence? Self-esteem self-efficacy that is lacking

56

57 E - Does it just happen in Year 9, or do you see it in Year 7 as well.

58

59 H - No, it is all the way through, all the way through. Not so much

60 in my IB classes, so Y12 and 13. Because actually, what I quite like,

① Challenge reduces threat

Challenge reduces threat

61 there is more of a conversation in 12 and 13. I think because it is

62 harder, nobody outstanding and 95% + consistently throughout the

② Genuine exploration reduces threat

exploration of ideas reduces threat.

63 year. So, I think there is more of a conversation in 12 and 13. But

64 definitely KS3 and KS4, you see it all the way through in all your

endemic through the school

65 classes.

66

67 E - [three-second pause] It is interesting that what you say about it

68 being more of an even playing field in the IB because it is so hard.

3

This sample page is an early attempt at coding. Again, this shows the iterative coding processes of clarifying initial thinking and comparison work within the script.

	108	E - What about ICT?

Perception of ability in ICT

F.M   109   S - I am really good at ICT!

110   E - Are you!

111   S - Yeah

112   E - Do you get stuck in ICT?

FM   113   S -No, I don't get stuck.

114   E - What if you did get stuck? What would you do? [00:07:08]

This seems like a jump... Or does he? Check with the script for agreement.

Here, S seems to perceive ability and being good at something with not getting stuck + smoothly working for... see line 113 agreement. He still a leap!

Implication that his friends are not all like this.

Teacher primary support   115   S - I'd ask the teacher. I'd ask my teacher, 'cos I'm a person that

admits struggles   116   tells if he gets stuck when she's demonstrating.

117   E - Would you go to your friends first or go to the teacher?

Is this also because he fears what others will say if he turns to them? See 64-6 "at the back.

Teacher primary support   118   S - [clear and confident] I would go to the teacher, 'cos, I'm one of

FM labelling   119   the top people in the class in computing, even the top.

Status

Ranks himself in class hierarchy of ability

Label

Hierarchy of ability

Appendix K – Table comparing motivational theories

Several motivational theories have significant overlaps. In considering which theory to use within my theoretical framework, I first identified the core constructs and then how the theory aligned or diverged from my study.

Motivational theory	Definition	Core constructs	Alignment with this study	Divergence with this study
Attribution theory (Heider, 1958; Weiner, 1995)	Acting as naïve scientists (Heider, 1958), individuals seek explanations for events (causal attributions), particularly where sub optimal results have occurred. These attributions influence emotional responses, which in turn, prompt future motivation.	Locus, stability and control Causal antecedents Behavioural consequences Attributions can be both dispositional and situational Emotional responses to attributions drive motivation	Attribution theory originally developed to explain how perceptions of success and failure in an academic context influenced future behaviour and motivated action. This is relevant for a study that looks at perceptions of soft failure. This the only motivational theory that starts with events that have already occurred. The concrete focus on antecedents lends itself well to the happenings of the classroom, facilitating an analysis on the classroom culture and feedback on learning. AT aligns well with the fieldwork in this study, which looks in part, at how pupils react to feedback from teachers and peers, and how this is processed. The situatedness of attributions helps to access classroom environmental antecedents within context, in all their complexity. Success and failure perceptions, in particular, are inextricably bound to emotional states such as happiness, pride, disappointment, anger, embarrassment, shame etc. Attribution Theory provides an explanatory link between emotions and the attributions which led to them.	Research tends to focus on self-report data, e.g. surveys and uses different methodological focus associated with quantitative studies. This research has a case study design, drawing upon constructivist grounded theory principles, with an inductive orientation. Weiner's model of attribution theory (1995) acknowledges the vast array of causal explanations for a given outcome. As his aim was to develop a generalisable theory, the causal dimensions of locus, stability and control were developed to aid practicability of analysis. However, this study departs from this position. In my analysis, I am not attempting to generalise, but instead offer rich information where the reader can gauge transferability to their own context.
Achievement goal theory (e.g. Nicholls,, 1984; 1989; Dweck, 1986; Elliot, 1999)	Learners are orientated towards engaging in tasks to demonstrate mastery or performance (to perform better than others – performance approach goal, or to avoid failure - performance avoidance goal).	Mastery approach/ avoidance Performance approach/ avoidance Acknowledgement of situational, contextual, and cultural influences	Explicit goals of performance and mastery are likely to be seen in a performative context (selective education system) as part of constructions of success. Dual goals of performance and mastery are likely to be held by individuals in the fieldwork schools as they have both expressed concerns about the impact of	Research tends to focus on self-report data and uses different methodological foci. The complexity of working in natural settings, such as schools does not lend itself well to experimental control design or correlational research (Urdan and Kaplan, 2000). This issue has plagued mindset research, in particular, where modest successes and mixed results have arisen

		Multiple conceptions of success	performativity on pupils and have implemented growth mindset approaches.

Situational, contextual, and cultural influences are acknowledged. | when scaling up from the lab to larger educational settings.

Although situational influences are acknowledged, the complexity of the setting has been underplayed. There has been little research, for instance on the impact and intersection of culture, SES, gender and ethnicity on goals.

AGT has moved away in recent decades from the early positioning of achievement goals as broad systems of meaning (Senko, 2016), narrowing in recent times towards measuring individual constructs.

The duality of goal approach (mastery/performance)can be limiting and leads to a lack of recognition of the complexity in behavioural motivations in these settings. These include interactions of individual characteristics, other people, culture and situational factors (Nolen, 2020). |
| **Self Determination Theory**

(e.g. Ryan and Deci, 2000; 2006; 2009; 2020; Deci and Ryan, 1985,; 2008; 2010) | Individuals strive for agency. Motivation occurs where basic psychological needs of autonomy, competency and relatedness are met.

Motivation occurs on a scale moving from extrinsic to intrinsic motivation. | Autonomy, competence and relatedness

External regulation, introjected regulation, identified regulation, integrated regulation, amotivation, intrinsic motivation | Studies have been conducted in high stakes situations.

Feelings of competency are relevant to constructions of failure and success in an academic setting. | The focus on extrinsic and intrinsic motivation does not help identify causal antecedents of future behaviours. |
| **Situated expectancy value theory SEVT**

(e.g. EVT - Vroom, 1964; Eccles et al., 1983; Eccles and Wigfield, 2001;2002; SEVT – Eccles and Wigfield, 2020) | The expectation of success (competency beliefs) with the value of a task drives motivation. | Achievement Values (intrinsic, attainment, utility, and cost)

Self concept of ability | The situatedness of this sociocultural theory aligns well with the complexities encountered in studies within natural educational settings.

With the aim of capturing situatedness, specific cases are considered.

Expectancies for success are considered as part of the motivational drive. | Self-reporting survey methods which are common in SEVT are not a source of rich information to access complex situatedness (Eccles and Wigfield, 2020).

As the value of a task is not the focus of this study, rather the experience of soft failure. SEVT is not the best fit for this study, but would work better with studies around intrinsic motivation.

Currently, the current model cannot cope with multiple layers of contexts and constellations of identity, stretched over time, but rather the impact of variables upon each other (Eccles and Wigfield, 2020). SEVT should be used over |

				time in order to understand the impact of the contextual layering upon competency beliefs. This is within the developmental trajectory of the model, and perhaps, does not reflect past research in this area, but is needed to capture the aims of the approach. In this study, a longitudinal approach, understanding the temporal development of a classroom culture was desired, but not practical.
Social cognitive theory (SCT) (Bandura, 1977, 1986)	In this theory of learning, the reciprocal interactions between individuals, their environment and behaviour leads to learning (Bandura, 1977; 1986). Self-perceptions of self-efficacy influence motivated action and affective states.	Human agency Self-efficacy beliefs regarding one's capability to learn or complete a task) Outcome expectations	The bidirectional influence of personal characteristics, environment and behaviour on academic motivation is a position taken in this study. The agency of the individual is preserved and SCT has similarities to Bronfenbrenner's Bio-Ecological Systems Theory.	This is a loosely based theory, and does not advance understanding of Bronfenbrenner's framework sufficiently in terms of my research. This construct is considered to be more task, context and goal specific (Cook and Artino Jr, 2016). The dynamic properties of self-efficacy mean that it may be hard to pin down antecedents that have led to beliefs.

Appendix L - *A comparison of teacher beliefs and practices at Anbury Grammar and Burcastle Primary School, after axial coding*

Key:
O-observed
NO – Not observed, but described practice

Teachers: *Anbury Grammar*: Laura and Anna (Latin), Hailey and Kiera (science). *Burcastle Primary*: Mel, (computing), Joanne (science), Julie (art)

Codes	Anbury Grammar		Burcastle Primary	
	Belief	**Practice**	**Beliefs**	**Practice**
Constructivism	Y (Laura, Anna, Kiera, Hailey)	Y Science (Kiera, O Hailey, O), Latin (Laura O, Anna, O)	Y (Julie, Joanne, Mel)	Y (Joanne O, Mel O, Julie, O)
Enquiry learning	Y (Kiera, Hailey)	Science (Kiera, O, Hailey, O)	Y (Joanne, Mel)	Y (Joanne O, Mel, O)
Mastery goal orientation	Y (Laura, Anna, Kiera, Hailey)	Y Science (Kiera, O Hailey, O), Latin (Laura, O, Anna, O)	Y (Julie, Joanne, Mel)	Y (Mel, O)
Freedom to fail	Y (Laura, Anna, Kiera, Hailey)	Y Latin, (Laura, O, Anna, O) Science (Kiera, O, Hailey, O)	Y (Julie, Joanne, Mel)	Y (Joanne, O, Mel, O)
Metacognition		Y Latin, (Laura, O) Science Kiera, O, Hailey, NO)	Y (Julie, Joanne, Mel)	Y (Joanne, O, Mel, O, Julie, NO, *maths*)
Target setting	Y (Laura, Anna, Kiera, Hailey)	Y Latin, (Laura, NO, Anna, NO) Science Kiera, O, Hailey, NO)	Y (Julie, Joanne, Mel)	Y (Joanne, NO, Mel, NO, Julie, NO)
'Having a go' (participation)	Y (Laura, Anna, Kiera, Hailey)	Y (Kiera, O)	Y (Julie, Joanne, Mel)	Y (Julie, O, Joanne, O, Mel, O)
Peer support	Y (Laura, Anna, Kiera, Hailey)	Y Latin, (Laura, O, Anna, O) Science Kiera, O, Hailey, O)	Y (Julie, Joanne, Mel)	Y (Joanne, O, Mel, O)
Peer exploratory dialogue	Y (Laura, Anna, Kiera, Hailey)	Y Latin, (Laura, O, Anna, O) Science Kiera, O, Hailey, O)	Y (Julie, Joanne, Mel)	Y (Art, O, science, O, computing, O)
Autonomy support (choice)	*Illusion of choice where the teacher can override the pupils' decision* (Anna, Kiera, Laura, Hailey)	Y&N (Laura, NO, Anna, NO, Kiera, NO, Hailey, NO)	*Illusion of choice where the teacher can override the pupils' decision* (Julie, Joanne, Mel)	Y&N Y (Julie, O, Mel, O, Joanne, O)
Determinism *(inferred from language used and practices)*	Y (Laura, Kiera, Hailey)		Y (Julie, Joanne, Mel)	Y (Julie, NO, Joanne, NO, Mel, NO)

419

Soft failure important for learning	Y (Laura, Anna, Kiera)		Y (Julie, Joanne, Mel)	Y (Joanne, O Mel, O, Julie, NO)
Performance goals	Y (Laura, Anna, Kiera, Hailey)	Y (Laura, O, Anna, O, Kiera, O, Hailey, O)	Y (Julie, Joanne)	Y (Julie, O)
Supporting independent learning skills	Y (Laura, Anna, Kiera, Hailey)	Y (Laura, O, Anna, O, Kiera, NO, Hailey, O)	Y (Julie, Joanne, Mel)	Y (Julie, O Joanne, O, Mel, O)
Scaffolding	Y (Hailey)	Y (Laura, O, Anna, O, Kiera, O, Hailey, O)	Y (Julie, Joanne, Mel)	Y (Julie, O, Joanne, O, Mel, O)
Failing to utilise errors for learning		Y (Laura, O, Anna, O, Kiera, O, Hailey, O)		Y (Julie, O)
Trusting relationships		Y (Laura, O, Anna, O, Kiera, O, Hailey, O)	Y (Julie, O, Joanne, O)	Y (Julie, O, Joanne, O, Mel, O)
Humour		Y (Laura, O Anna, O Kiera, O Hailey, O)	Y (Mel)	Y (Mel, O Y&N Illusion of choice)
Facilitating social comparisons		Y (Laura O, Anna, O Kiera, O, Hailey, O)		
'Hands down' questioning		Y (Laura, O, Kiera, O Hailey, NO)		
Teacher public surprise at errors		Y (Hailey O, Kiera, O, Laura, O)		
Sharing marks publicly		Y (Laura O)		
Grading	Y	Y (Laura NO, Anna NO, Kiera NO, Hailey NO)		
Setting				Y School policy

Appendix M – Teacher Participant information Sheet - Burcastle Primary

Participant Information Sheet School B

Project Title: Teacher and Pupil Perceptions of Challenge and Failure

Conducted by researcher: Elicia Lewis

University of East London
Cass School of Education and Communities
Stratford Campus
Water Lane
London E15 4LZ

Research Integrity
The University adheres to its responsibility to promote and support the highest standard of rigour and integrity in all aspects of research; observing the appropriate ethical, legal and professional frameworks.
The University is committed to preserving your dignity, rights, safety and wellbeing and as such it is a mandatory requirement of the University that formal ethical approval, from the appropriate Research Ethics Committee, is granted before research with human participants or human data commences.

Researcher: Elicia Lewis
e.lewis@uel.ac.uk

Cass School of Education and Communities
Stratford Campus
Water Lane
London E15 4LZ

or
The Director of Studies
Dr Gerry Czerniawski
g.czerniawski@uel.ac.uk

Cass School of Education and Communities
Stratford Campus
Water Lane
London E15 4LZ

Consent to Participate in a Research Study
The purpose of this letter is to provide you with the information that you need to consider in deciding whether to participate in this study.

Project Title:
Teacher and Pupil Perceptions of Challenge and Failure

Research Description:
This research seeks to explore pupil and teacher perceptions of pupil errors and impasses, and challenging work.

Aims of the Research:
The aim of the research is to consider how pupils react to making errors and impasses across all ability bands, and to explore teacher and pupil perceptions of pupil impasses, errors and challenging work.

1

Methods:

Three year 5/6 classes will be the focus of the study, with four observations per class. These observations will be within three different subjects.

One 45-minute individual interview will take place with the teachers of the observed classes. Ten pupils will interviewed twice for 10-15 minutes each. The pupils will be drawn from the full span of the achievement range.

Confidentiality and Anonymity:

Names and institutions will be kept confidential and anonymous and participants' privacy will be respected. Data will be anonymized so that all names and identifying features will be changed. However due to the small numbers of participants in this study it may be possible that you recognize some of your information. Identifying features of a school will also be changed wherever possible, however, public data, such as examination results or inspection grades may be included.

Ethics:
This project has been approved by the University of East London Research and Ethics Committee. The Researcher has passed an Enhanced Disclosure and Barring Service check (DBS), and the DBS certificate has been checked by the school.

Data Protection:
Confidentiality of data will be protected, although the confidentiality of information provided is subject to legal limitations. All data generated in the course of the research will be retained in accordance with the University's Data Protection Policy. Data will be stored electronically and password protected with access only to the principal researcher. Raw data will be permanently erased after ten years, in accordance with Research Council UK (RCUK) guidelines.

Limits of confidentiality:
Limitations of confidentiality may apply where disclosure of imminent harm to self and/or others occurs.

Withdrawal from Project:
You are not obliged to take part in this study, and are free to withdraw at any time and to withdraw any unprocessed data up until the point of analysis, at which point it will be impossible to disentangle data from that of other participants. Should you choose to withdraw from the programme you may do so without disadvantage to yourself and without any obligation to give a reason.

Dissemination:
This research is part of a PhD thesis. It is anticipated that the research findings will be disseminated via conference presentations and academic articles after the thesis is published.

Further Information:
If you have any further questions about this research, please do contact Elicia Lewis (Researcher) at
e.lewis@uel.ac.uk

Concerns arising during the research:
If you have any concerns about the conduct of the researchers or any other aspect of this research project, please do contact researchethics@uel.ac.uk

<div align="center">

University Research Ethics Committee (UREC)
This research has been approved by UREC.
If you have any queries regarding the conduct of the programme in
which you are being asked to participate, please contact:

Catherine Fieulleteau, Ethics Integrity Manager, Graduate School, EB 1.43
University of East London, Docklands Campus, London E16 2RD
(Telephone: 020 8223 6683, Email: researchethics@uel.ac.uk).

</div>

For general enquiries about the research please contact the Researcher on the contact details in this sheet.

2

Teacher Consent form - Burcastle Primary

Consent form – Teachers　　　　**UNIVERSITY OF EAST LONDON**

Consent to participate in research involving teachers as participants

Teacher and Pupil Perceptions of Challenge and Failure

Researcher: Elicia Lewis, Cass school of Education and Communities, UEL, Water Lane, London E15 4LZ

Email: e.lewis@uel.ac.uk	Yes	No
I have read the information leaflet relating to the above programme of research in which I have been asked to participate and have been given a copy to keep. The nature and purposes of the research have been explained to me, and I have had the opportunity to discuss the details and ask questions about this information. I understand what is being proposed and the procedures in which I will be involved have been explained to me.		
I understand that the lessons I am observed in will be video-recorded and the interview audio-recorded. These recordings will only be watched or heard by the Researcher. The recordings will be stored electronically and password protected with access only to the named researcher. Recordings will be permanently erased after ten years. The consent from will be securely stored away from the data.		
I understand that my involvement in this study, and particular data from this research, will remain strictly confidential. The researcher will take particular care in transcription and dissemination to ensure that organisation and participants will remain anonymised. Only the researcher involved in the study will have access to the data. It has been explained to me what will happen once the research has been completed.		
I understand that maintaining strict confidentiality is subject to the following limitations: •Should a teacher or a child disclose anything of a serious nature which I feel puts themselves or others at risk, I will inform the appropriate authority in order that their safety remains. •Due to the small numbers of participants in this study it may be possible that you may recognize some of your own information.		
I understand that anonymized quotes will be used in the thesis and in future academic publications.		
I give permission for the use of my (anonymised) data in future research by the Researcher.		
I give permission to be contacted for future related research studies conducted by the Researcher.		
I hereby freely and fully consent to participation in the study which has been fully explained to me and for the information obtained to be used in the PhD thesis and relevant research publications, at academic and professional conferences, and at education seminars.		
Having given this consent, I understand that I have the right to withdraw from the study at any time without disadvantage to me and without being obliged to give any reason. I may also withdraw my data up to the point of analysis and that after this point it may not be possible.		

Participant's Name (BLOCK CAPITALS)

………………………………………………………………………………………………………..

Participant's Signature …………………………………………………………………………………..

Researcher's Name (BLOCK CAPITALS)

…….

Researcher's Signature …………………………………………………………………………………..

3

Parent information Sheet

Parent information sheet

<u>**University of East London**</u>
Cass School of Education and Communities
Stratford Campus
Water Lane
London E15 4LZ

University Research Ethics Committee (UREC)
This research has been approved by UREC.
If you have any queries regarding the conduct of the program in
which you are being asked to participate, please contact:

Catherine Fieulleteau, Ethics Integrity Manager, Graduate School, EB 1.43
University of East London, Docklands Campus, London E16 2RD
(Telephone: 020 8223 6683, Email: researchethics@uel.ac.uk).

Principal Investigator: Elicia Lewis
e.lewis@uel.ac.uk
or
The Director of Studies
Dr Gerry Czerniawski

Cass School of Education and Communities
Stratford Campus
Water Lane
London E15 4LZ

Consent to Participate in a Research Study
The purpose of this letter is to provide you with the information that you need to consider in deciding
whether to participate in this study.

Parent Consent form

Project Title

Teacher and Pupil Perceptions of Challenge and Failure

Project Description

The aim of my research is to find out what pupils think about challenging work in school, and how pupils react to making errors in class. This is part of my PhD thesis.
In order to do this, I will be observing some of your child's lessons. I also hope to speak to some pupils about their experience of learning. I would like to find out whether they like easy or difficult work, and what they do when they experience a task that is tricky in class.

There has been little research in the UK about how children experience challenging work or making mistakes. It is hoped that this will contribute new knowledge about how children feel about their mistakes and explain their reactions to challenging work. This will help teachers to understand how best to handle pupil errors.

Confidentiality of the Data

So that I can be sure that I remember clearly and accurately what your child says I would like to record the lesson observations and interviews. I will record lesson observations with a video camera. I will use an audio recorder for interviews. These recordings will only be watched and heard by myself and once the project is complete they will be destroyed.

Anything your child says in the interviews will remain confidential and will be anonymized when I am writing up the findings so that all names and identifying features will be changed in order that your child can not be identified. However, due to the small numbers of participants in this study it may be possible that you as parents may recognize some of your child's information. Should your child disclose anything of a serious nature which I feel puts them or others at risk, I will inform the appropriate adults in order that their safety remains.

The data will be securely stored and kept for the standard 10 years after which time it will be destroyed.

Location
School

Disclaimer
Your child is not obliged to take part in this study, and is free to withdraw at any time during the project. They may also withdraw their data at any point up until the point of analysis, at which point it will be impossible to disentangle their data from that of other participants. Should your child choose to withdraw from the programme they may do so without disadvantage to themselves and without any obligation to give a reason.

Principal Investigator
The Principal Investigator has passed an Enhanced Disclosure and Barring Service check (DBS), and the DBS certificate has been checked by the school.

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UNIVERSITY OF EAST LONDON

Consent for my child to Participate in a research project

Teacher and Pupil Perceptions of Challenge and Failure

I have the read the information leaflet relating to the above programme of research in which my child has been asked to participate and have been given a copy to keep. The nature and purposes of the research have been explained to my child, and they have had the opportunity to discuss the details and ask questions about this information. I understand what is being proposed and the procedures in which my child will be involved have been explained to me.

I understand that my child's involvement in this study, and all data from this research, will be anonymized. Only the researcher involved in the study will have access to the raw data. It has been explained to my child what will happen once the research has been completed.

I hereby freely and fully consent to my child participating in the study which has been fully explained to me and for the information obtained to be used in relevant research publications.

Having given this consent I understand that my child has the right to withdraw from the study at any time without disadvantage to them and without being obliged to give any reason. They may also withdraw their data up to the point of analysis.

Parent's Name (BLOCK CAPITALS)
……………………………………………………………………………………

Parent's Signature
……………………………………………………………………………………

Pupil information Sheet - Burcastle Primary

Pupil information sheet and assent form

This letter will give you information about a research project. The following information will help you decide whether to participate in this research.

Hello, my name is Elicia Lewis and I work at the University of East London. I would like to invite you to help me with a research project on learning. I am very interested in finding out about what you think about difficult schoolwork.

I would like to watch your class at work and see what you find tricky. I am also keen to hear children's own views about learning. After I watch your lesson, I would like to speak to some members of your class. This is not a test, so there are no right or wrong answers. I am just interested in what you have to say.

I want to remember everything that you say and do in class accurately, so I will record this on video. I won't be showing this video to anybody. When I talk to pupils I will use an audio recorder. No one will be listening to this recording except me. When the project is over the recordings will be destroyed.

When I write up my research for publication I will not mention anybody's name, so any thoughts that you share won't be traced back to you. As this is a small study, you may recognise your own words in the research, though!

You can decide whether you want to take part. You can also discuss this with your parents or teacher. I am also happy to answer questions about the research. If you do decide to take part and then change your mind, this is ok.

Assent to Participate in a Research Study

If you sign this paper, it means that you have read this and that you want to be in the study. If you don't want to be in the study, don't sign this paper. Being in the study is up to you, and no one will be upset if you don't sign this paper or if you change your mind later.

Your signature:

_____

Date _____

Your printed name:

_____

Appendix N – Ethical Approval

University of East London

Pioneering Futures Since 1898

Dear Elicia,

Application ID: ETH2223-0003

Original application ID: UREC 1516 76

Project title: Pressure, threat and fear in the classroom: pupils' and teachers' perceptions of soft failure in an 11+ context

Lead researcher: Ms Elicia Lewis

Your application to Ethics and Integrity Sub-Committee (EISC) was considered on the 24th August 2022.

The decision is: **Approved**

The Committee's response is based on the protocol described in the application form and supporting documentation.

Your project has received ethical approval for 4 years from the approval date.

If you have any questions regarding this application please contact your supervisor or the administrator for the Ethics and Integrity Sub-Committee.

Approval has been given for the submitted application only and the research must be conducted accordingly.

Should you wish to make any changes in connection with this research/consultancy project you must complete 'An application for approval of an amendment to an existing application'.

Approval is given on the understanding that the UEL Code of Practice for Research and the Code of Practice for Research Ethics is adhered to.☐☐

Any adverse events or reactions that occur in connection with this research/consultancy project should be reported using the University's form for Reporting an Adverse/Serious Adverse Event/Reaction.

The University will periodically audit a random sample of approved applications for ethical approval, to ensure that the projects are conducted in compliance with the consent given by the Ethics and Integrity Sub-Committee and to the highest standards of rigour and integrity.

Please note, it is your responsibility to retain this letter for your records.

With the Committee's best wishes for the success of the project.

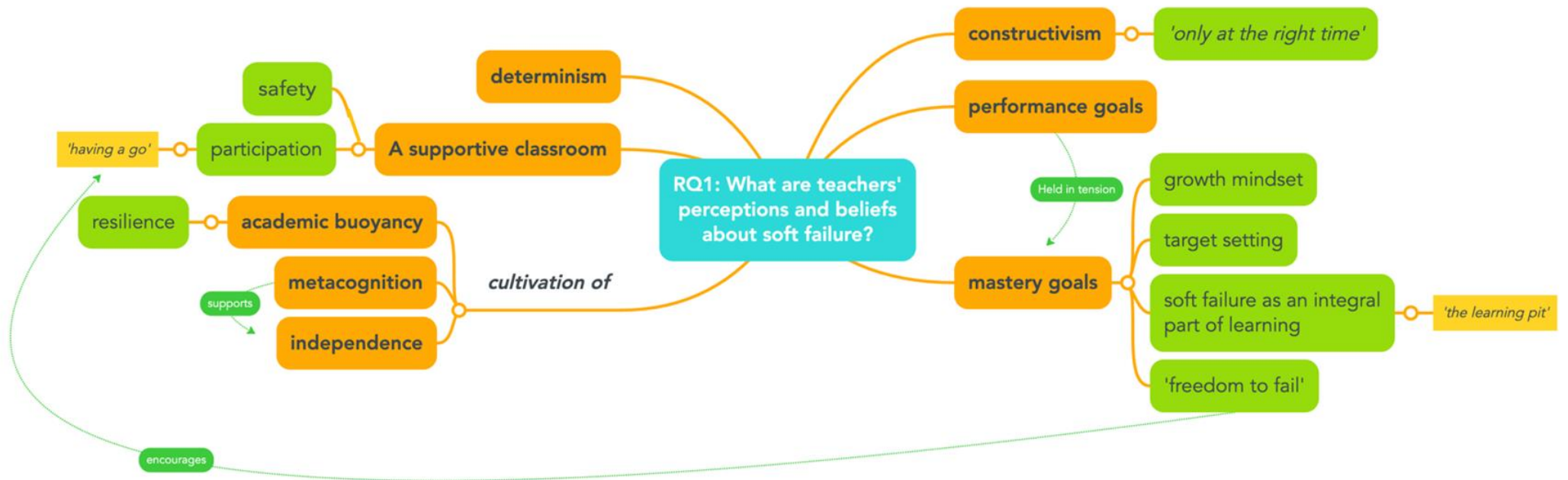Yours sincerely,

Fernanda Pereira Da Silva

Administrative Officer for Research Governance

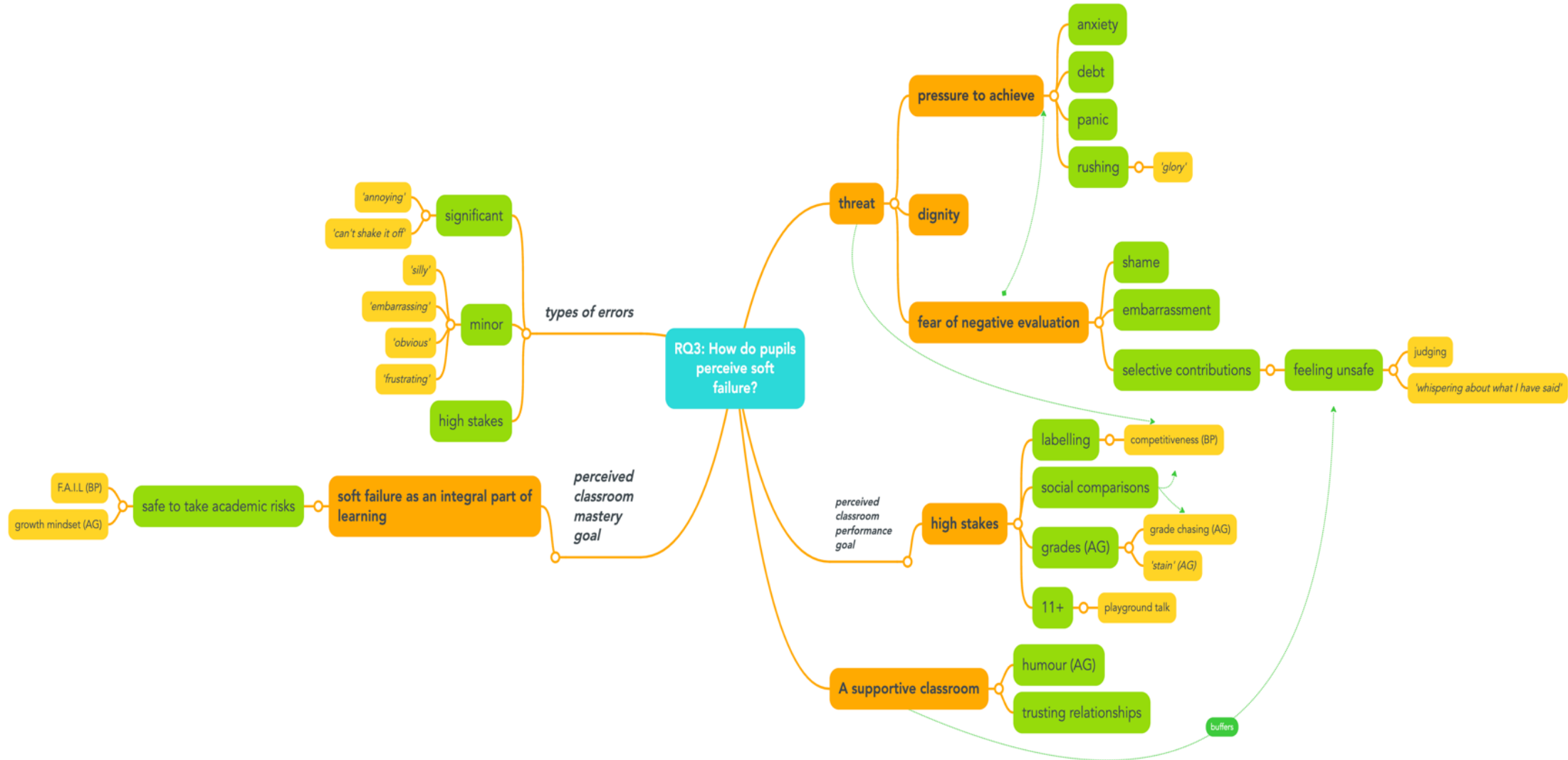**Appendix O - Coding Maps for the Research Questions**

Coding map for Research Question 1: What are teachers' perceptions and beliefs about soft failure?

Coding Map for Research Question 2: Do teachers' perceptions of soft failure reflect their classroom practice?

Figure 2: Map of themes in RQ2
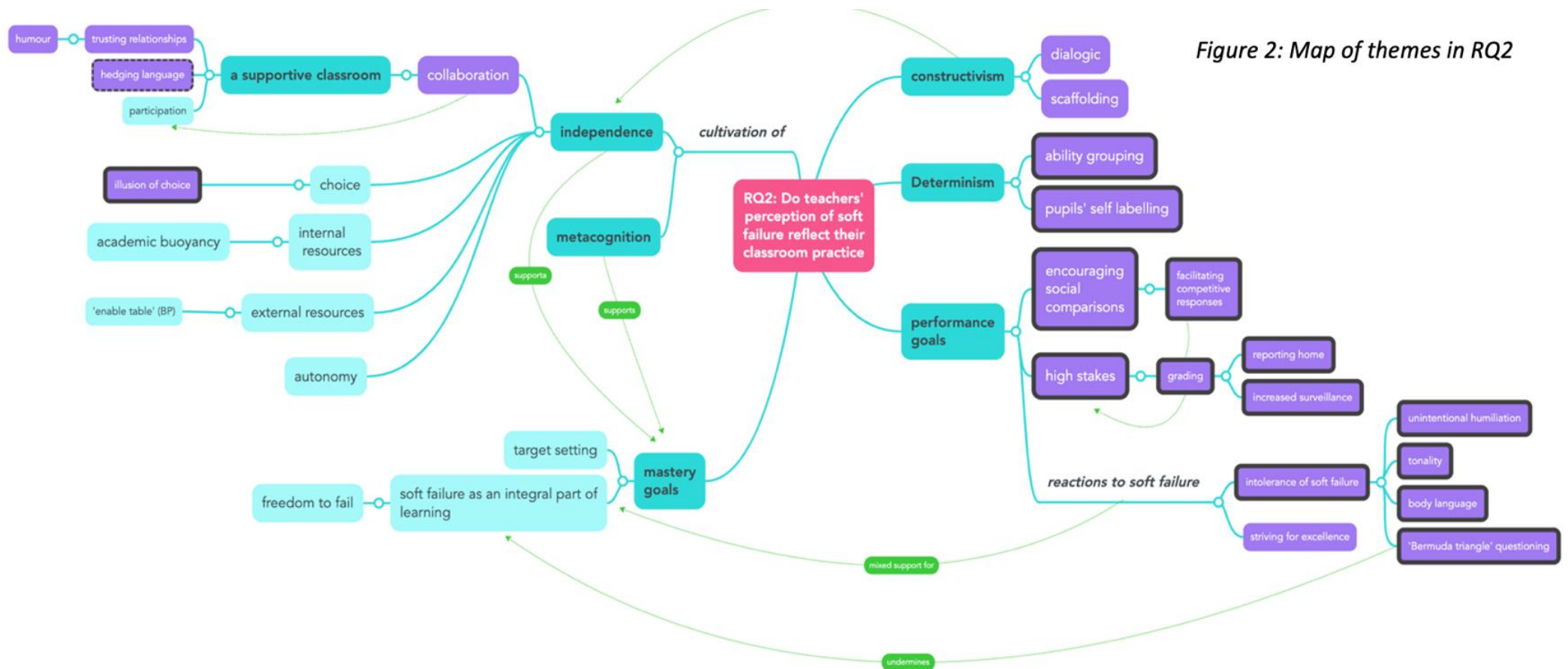
Coding Map for Research Question 3: How do pupils perceive soft failure?

RQ3: How do pupils perceive soft failure?

- **types of errors**
  - significant
    - 'annoying'
    - 'can't shake it off'
  - minor
    - 'silly'
    - 'embarrassing'
    - 'obvious'
    - 'frustrating'
  - high stakes

- **threat**
  - pressure to achieve
    - anxiety
    - debt
    - panic
    - rushing — 'glory'
  - dignity
  - fear of negative evaluation
    - shame
    - embarrassment
    - selective contributions — feeling unsafe
      - judging
      - 'whispering about what I have said'

- **perceived classroom mastery goal**
  - soft failure as an integral part of learning
    - safe to take academic risks
      - F.A.I.L (BP)
      - growth mindset (AG)

- **perceived classroom performance goal**
  - high stakes
    - labelling — competitiveness (BP)
    - social comparisons
    - grades (AG)
      - grade chasing (AG)
      - 'stain' (AG)
    - 11+ — playground talk
  - A supportive classroom
    - humour (AG)
    - trusting relationships

- buffers

Coding Map for Research Question 4: How do pupils react to soft failure in the classroom?