Working together to promote academic safe-guarding

Madeleine Findon, Sue Johnston-Wilder

Centre for Education Studies, University of Warwick, Coventry, UK

Full correspondence details:

Centre for Education Studies, University of Warwick, Coventry, CV4 7AL

M.Findon@warwick.ac.uk (corresponding author)

Sue.Johnston-Wilder@warwick.ac.uk

Short biographical notes:

Madeleine Findon is a Senior Teaching Fellow and Course Leader for the MA Educational Leadership (Teach First) at the University of Warwick. She began her career in education in the Early Years sector in the late 1990s and has worked in a diverse range of roles, including TESOL in both the UK and Spain. Since completing her PhD, which investigated how creativity has been fostered through early years education systems in England and Catalonia, and collaborating with Sue Johnston-Wilder on academic safeguarding, she has become involved in educational leadership, viewing it as essential to ensure that pedagogical changes are meaningful, relevant and effective. She is currently co-convener of the Leadership in Early Years Education Research Interest Group for BELMAS.

Sue Johnston-Wilder is Associate Professor of Mathematics Education. She taught in London comprehensive schools, and has had wide experience of curriculum and CPD development. She first encountered serious, structural mathematics anxiety working with Primary PGCE students at the Open University in 1997, and has since been involved in developing mathematics subject knowledge of non-specialist teachers. This programme resulted in 3 books in the Sage 'Developing Thinking in Mathematics' series. In collaboration with Clare Lee, working with colleagues, students, teachers, school leaders, and parents, she has developed the construct 'Mathematical Resilience' as a positive framework for working with schools and families on 'the maths problem', and subsequently she has advised on the development of courses for mathematically anxious adults, learners and teachers and for 1-to-1 interventions,.

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In line with the purpose of this special issue, we examine how school leaders can lead to create the vision and reality for schools and their communities to explicitly address forms of academic anxiety and emotional exclusion. We suggest how school leaders can work to engage parents in helping to remove acquired affective disability and 'emotional handbrakes', promote academic resilience and enhance progress. We describe such a process as 'academic safe-guarding'.

Keywords: anxiety; underachievement; parental engagement; leadership; academic resilience; academic safe-guarding.

Introduction

This paper identifies an approach for school leaders to mitigate problems within education in the UK today that negatively impact on learners' mental well-being and affect academic progress. Over the last few decades league tables have become increasingly important (Ball, 2017), putting pressure on schools and teachers in an attempt to ensure students are up to 'standard'. We argue that strategies to meet these demands are often implemented in a way which can cause stress and anxiety to the school community. Anxiety is 'contagious' and can be transmitted to parents, who are led to believe that the success of a child is measured through test scores, thus in turn putting additional pressure on children in the home environment as well as the academic one.

Our argument is that this process is counter-productive; excessive pressure and anxiety in students has been linked with reduced performance through reducing working memory and processing efficiency (see, for example, Beilock and Carr, 2005) and creating avoidance of learning experiences that might be perceived as threatening (see

for example, Tobias, 1978), as well as increasing incidence of anxiety-related disorders. Aside from this, there are ethical considerations: Starratt (2005) suggests that as citizen-public servants, school leaders have an obligation to act for the good of all fellow citizens. Unfortunately, the wellbeing of the school in terms of its reputation is often prioritized over that of individual students.

We suggest that 'academic safeguarding' can support the well-being of students and raise attainment. This is a process that we characterize as protecting students' mental health in an academic context – reducing excessive stress and anxiety that may be felt by staff and parents as well as students. We argue for working towards a transformational culture change – not overnight but one step at a time – a change that requires a strong vision of mental well-being and academic safeguarding that staff teams can create with the wider school community, including students and their families. This requires school leaders to reconsider their approaches to leadership if they are to successfully initiate such a change (see Bush, 2011).

Development of a vision starts with developing awareness about the impact and treatment of academic anxiety, which we hope to promote with this article. It is essential to understand the environmental factors that put children at risk in addition to the protective factors that may be nurtured to improve and support resilience (Alvord & Grados, 2005). Underachievement due to anxiety often has roots in fixed mindsets (Dweck, 2006) of students, staff and parents, and in experiences of effective exclusion from processes of education (Findon & Johnston-Wilder, 2017). However, simply addressing mindset without increasing awareness of anxiety and the need for academic safeguarding creates new risks. We argue that growth mindset thinking needs to be

mediated by informed academic safeguarding; this means moving away from unsafeguarded 'try harder' approaches that risk putting learners under inappropriate stress. We suggest a modification of Dweck's (2006) growth/fixed dichotomy, taking into account whether or not a student has already experienced 'being stuck' unsuccessfully. Improving the resilience of students by changing mindsets and providing challenge, combined with emotional and academic safeguarding, can help to protect students from academic harm.

Goodall (2017) defines a partnership model of parental engagement as one that 'facilitates and supports the learning of all members: students, school staff, parents and members of the wider community' (p100). We recognise that parents and other adults have the capacity to model to children healthy learning processes such as planning, estimating, experimenting and striving. Building on the work of Southworth (2009), we suggest that school leaders are able to influence the whole school community and engage parents by modelling such processes themselves, entering into dialogue around the effects of anxiety on attainment, how academic anxiety may be addressed, and monitoring progress. School leaders can ensure information and techniques for parents to apply to their own learning are effectively disseminated, modelled and shared.

This article examines how leaders of educational settings can support increased awareness and engagement with academic safeguarding, beginning by becoming aware of academic avoidance and anxiety as prevalent in the learning community and affecting progress, and then by sharing with parents and carers the understanding that these issues can be addressed. The article combines literature on resilience and

academic safeguarding, along with literature around educational leadership and parental engagement.

1 Leading for a holistic approach

Amongst the conflicting perspectives around educational leadership, there is consensus that effective leadership is significant and indeed essential if schools are to successfully achieve their aims (Bush, 2011). The national curriculum in England (Department for Education, 2014) states that schools must:

"● promote[s] the spiritual, moral, cultural, mental and physical development of pupils at the school and of society

● prepare[s] pupils at the school for the opportunities, responsibilities and experiences of later life." (p5)

Starratt (2005) argues that educational leaders, as public servants, are the state in action; not only must educational leaders follow the instructions of the curriculum because it is a statutory document, but they are ethically obliged to do so because the state is founded by the people, whom the state must work to benefit. Starratt (2005) also argues that leaders' ethics must be guided by humanity – doing what is right by an individual – and by the intrinsic responsibilities of educators. Thus both statutory guidance and the ethical obligations of school leaders provide a foundation for the promotion of academic safeguarding as part of an holistic approach to education.

This is a wide remit for school leaders to address, one that can be affected, even hampered, by a range of influences and tendencies present in modern society, including but not limited to growing numbers of young people reporting mental health issues (Hagell, 2012; House of Commons Education and Health Committees, 2016 – 17) and increasing gaps between rich and poor, high levels of poverty and unemployment (Strand, 2014; Department for Education, 2017). Alongside these pressures, some consider that the national curriculum hampers the realisation of its own outcomes by promoting a narrower subject focus, impacting upon breadth and depth of learning and development (Steers, 2014).

This presents a tough scenario for school leaders to contend with. Leithwood (1994) made a case for transformational approaches to leadership being most helpful in terms of dealing with challenges faced by schools. Where schools need to change and adapt at fundamental levels (e.g. through dispositions, organization and outcomes), transformational leadership is required to navigate the way (Leithwood, 1994). For the purposes of this article, this particularly means engaging parents effectively in the processes of academic safeguarding. Parents can provide great support in engaging and motivating their children thus affecting achievement (Goodall, 2017). The more school leaders facilitate parents and children talking to each other about meaningful subjects, the better students achieve; this includes conversations about academic safe-guarding and what affects attitude (George & Kaplan, 1998) and builds resilience (Goodall, Johnston-Wilder & Russell, 2017). Parental involvement is "a much bigger factor than school effects in shaping achievement." (Desforges and Abouchaar 2003).

Transformational leadership is a comprehensive model that has the capability to initiate change by engaging the whole school community, including parents, in attaining shared goals (Bush, 2011). Leithwood (1994) defines transformational leadership as consisting of the following dimensions:

- identifying/articulating a vision
- fostering group goals
- conveying high expectations
- providing suitable models
- providing intellectual stimulation
- providing individualised support

There are some criticisms of transformational leadership approaches, namely those cited by Bush (Allix, 2000 & Chirichello, 1999 in Bush, 2011) that highlight the capacity of the approach to be misused in a despotic fashion. It can become highly coercive as all stakeholders are assumed to share the same values (Bush, 2011). For those who do not align with the prevailing mentality, there is a risk of exclusion, something that can be profoundly anxiety-inducing to the individual (Siegel, 2010) and not conducive to a shared culture of academic safeguarding.

Because of these criticisms, we would like to emphasise the value of the moral aspects of educational leadership that Starratt (2005) argues for. Transformational leadership is necessary to bring about the changes that we hope will enable all children to reach their full potential, but this should not be at the expense of the rights of any member of the wider school community to autonomous choices − we are not all the same. We view academic safeguarding as a community-wide concept precisely because a threat to any one member of the group may be viewed as a threat to all (Parkinson and Simons, 2012) − something that we will go on to discuss later in this article. Where coercive or unilateral measures have been used that run against the culture, experiences and principles of any part of the community, those strategies have often been undermined or have even backfired: for example the implementation of particular strategies for solving mathematics problems, without keeping parents informed and enabled, has led to some parents feeling out of their depth and unable to support their children's studies (Goodall et al, 2017).

For Starratt (2005), the ethical school leader taps into the energies of staff, students and parents in order to co-produce change, taking a transformational approach that harmonizes cultural change with respect for the wider school community. Though not explicitly referring to the concept of transformational leadership, Southworth (2009) makes the case that in order for school leaders to make a difference, they need to be able to share a certain amount of responsibility with the wider school community. He was considering teachers in this process, but research into school improvement highlights the value of including parents too (Desforges and Abouchaar 2003) and indeed students (Rudduck & Flutter, 2000). Clearly Leithwood's (2004) group goals are likely to be more effective if arising from a group as opposed to being imposed upon it. That said, the school leader will often act as catalyst and Southworth's (2009) processes of modelling, dialogue and monitoring, as discussed earlier, can be the means by which change is promoted through the school community.

Having established the particular threats that may impact upon educational achievement and what might mitigate them, this article will provide some strategies that school leaders can use to engage parents in the academic safeguarding process, thus promoting the holistic development of each student and better preparing them for later life.

2 Standards agenda: impact on schools, teachers and parents

As Robinson and Aronica (2015), amongst others, have pointed out, the drive for higher educational standards was borne out of very real concerns in the eighties that education was not as good as it could be. However, it has also been noted that this push

heralded a shift in the national education model towards a neo-liberal agenda: standards would have a central role, used as a means to judge the effectiveness of schools, imposing punitive measures when necessary (Ball, 2017).

Neo-liberalism, though a somewhat elusive concept, emphasises competitive markets (Springer et al., 2016). In education, neo-liberalism has been held accountable for the marketisation of schools, which must compete with each other to be chosen by parents in order to secure enrolments: this process rests upon the availability of performance data from national testing and Ofsted (Hall, 2013). Though the intentions are undoubtedly worthy – who would argue that improving education is a bad thing? – neo-liberalism and the standards agenda can mean that education is treated like an industry; indeed Robinson (2001) describes it as 'the world's biggest business' (p21). Some competition may be healthy; a review of 30 years' worth of studies on the effects of competition between schools in U.S. concluded that it can improve the effectiveness and efficiency of schools (Belfield & Levin, 2002). However, many argue that industry is not a suitable model on which to base education.

Gardner (2007), worries that the value of subjects is judged on their potential to prepare learners for the workplace and that educational provision is characterized by a focus on 'the bottom line'. We argue that such a model omits considerations of the psychology of learners and the impact of anxiety upon school communities. This omission is based in the traditional Western separation of the cognitive and affective domains: the "rationalist mindset" identified by Crittenden (2012) as being a feature of Western Philosophy since the time of Ancient Greece. However, it has been known for some time that cognition and affect are not, in fact, separate – affective factors have a proven effect upon cognition (see, for example, Berggren & Derakhshan, 2013). Yet the

education system in UK has thus far displayed considerable inertia with respect to this knowledge. In this article we seek to make the case for school leaders to lead and precipitate change based in this knowledge.

The pursuit of standards in education is meant to ensure excellence and promote social justice by providing all children the opportunity to receive quality education (see DfE, 2017). However, it has been argued that this has actually been unsuccessful in attaining what it set out to achieve; several decades have passed and billions have been spent, yet actual results appear to be no better (Robinson & Aronica, 2015). Recent OECD data shows that UK university students have the lowest levels of numeracy and literacy across the 22 countries that they measured (Kuczera et al., 2016). There may be several reasons for this, not least that a focus on standardized content and assessment is hardly inspiring to the learner (Robinson & Aronica, 2015; Gardner, 2006). It is also clear, as highlighted above, that one side of the standards agenda does have an association with punitive measures, a facet that can have unintended consequences for schools and the communities around them.

These unintended consequences of the standards agenda can impact upon the general well-being and effectiveness of the school community. We would like here to draw a distinction between pressure (also known as eustress) and (dis)stress. An engineer might well put pressure on a material to treat or transform it; too much, however, can be detrimental and damage the material. Studies of human behaviour recognise that pressure in itself is not harmful; indeed the positive psychologists (e.g. Seligman, 1995) insist that pressure met with resilience encourages us to thrive. It is generally recognized that people function well when placed under a degree of pressure,

or indeed a modicum of stress, however, if there are sustained periods of stress, this can cause both mental and physical damage (Siegel, 2010).

Where schools are under sustained pressure to perform well in order to secure their continued existence, this is likely to induce organizational stress – a condition that means that the whole environment becomes a source of stress for the people within it (Shirom, 1982). Performance anxiety is not simply a whole school phenomenon, however. From 2013, the Department for Education allowed schools to link teachers' pay to performance. This was nominally a method for rewarding good teachers (DfE, 2013), yet studies of this approach have long warned that it adds another layer of pressure to a role that already has a heavy emotional burden (Mahony et al., 2004). This research is echoed in a more recent account of teacher experiences by the ATL/NUT (2016), which says that performance-related pay increases workload and often results in reduced pay. This pressure is placed on top of concerns that teachers may have about the survival of their school.

Students and their families also feel this pressure, sometimes in shocking ways such as the recent alleged 'throwing out' of sixth-formers who failed to get sufficiently high grades (Weale, 2017). More commonly, the message that it is essential to attain good results early on in life in order to have a good quality of later life has meant a surge in anxiety and stress amongst children and their families, resulting in phenomena such as the 11% increase over the last 2 years in counselling sessions for exam stress offered by the NSPCC (2017).

3 Stress and anxiety are contagious (so is resilience)!

We say that stress and anxiety are 'contagious' 'because [if] the other person seems anxious about something we may conclude that this something may threaten us too' (Parkinson and Simons, 2012, p 464); thus, students and parents working with teachers who are already stressed may find that stress impacts on their experiences in school and at home. Parents and teachers unwittingly pass on stress to students, students pass on stress to each other and to their parents in an escalating cycle that generates an anxiety epidemic.

These phenomena are explored in the work of Barsade (2014), who specialises in emotions in the workplace, organizational culture, leadership, and group dynamics. Barsade (2014) reported that positive and negative emotions spread through an organization like viruses, influencing moods and judgment, often subconsciously. This phenomenon is known as 'emotional contagion' and is shown to happen at the automatic and physiological level, rather than the fully conscious level (Hatfield, Cacioppo, and Rapson, 1994). Conversely, we have also seen evidence of students passing on resilience-promoting behaviours, after taking a course in Coaching for Mathematical Resilience (Johnston-Wilder et al., 2016). In Barsade's (2004) research, artificially induced positive emotional contagion resulted in more cooperation, less conflict and greater sense of achievement in group behaviour.

According to Barsade (2014), leaders can use knowledge of this phenomenon to increase productivity and well-being, and to reduce illness and burnout. These skills can be taught: "… armed with an awareness of emotional contagion, managers have the potential to create more productive teams, departments, and … cultures" (Barsade,

2014). The first step is to increase awareness of current mood in individuals, and the second to seek to improve it, before meeting in a group. Changing your own body can lift your mood subtly, for example, consciously putting your face into an unforced half-smile, or uncrossing your arms and consciously opening up, as taught in interventions such as Dialectic Behaviour Therapy (DBT.

DBT (Linehan, 1993) seems partly based on the notion that emotions are a combination of thoughts, sensations, and behaviours, so changing any of these can result in significantly altering the experience of the emotion. Half smiling was developed in line with research by Ekman and colleagues (Ekman and Davidson, 1993) showing that facial expressions influence emotions. "While emotions are generally experienced as happening to the individual, our results suggest it may be possible for an individual to choose when to generate some of the physiological changes that occur during a spontaneous emotion - by simply making a facial expression." (Ekman and Davidson, 1993). In other words the relationship between emotion and behaviour is bi-directional.

The act of smiling, naturally or by choice, has been shown to make discernible changes in the autonomic nervous system. According to Freitas-Magalhães (2009) the smile contributes to the functioning of neurotransmitters such as serotonin and dopamine, which trigger pleasure and prevent the psychological tension that can inhibit learning. Further, smiling is contagious (Hatfield et al., 1994). Thus, focussing on spreading positive emotions and safeguarding from negative ones can be used as a powerful force for change and this dovetails well with the leadership strategies of modelling and dialogue.

4 Academic anxiety – prevalence, impact, associated underachievement

The emotion that is of greatest concern in this article is anxiety, particularly academic anxiety which is a situation-specific form of anxiety related to academic circumstances (Tohill & Holyoak, 2000). According to Foley et al. (2017), writing in the context of mathematics anxiety in particular, 'recent evidence points to an often-ignored factor that may shape how well students are able to benefit from learning opportunities: ... *anxiety'*. Throughout the literature, anxiety, sometimes severe, is a well-documented barrier to learning and progress (see for example, Dowker et al., 2016). Many learners, and the adults around them, exhibit performance or test anxiety; in discussing anxiety a clear distinction is needed between productive anxiety (or eustress), or the excited state of additional adrenalin to produce performance under pressure, and excessive anxiety, or (dis)stress, which results in underperformance.

The failure to distinguish clearly between productive and damaging anxiety makes estimating prevalence of the latter difficult. It has been established that mathematics anxiety in particular affects an increased proportion of the cohort as age increases (Dowker et al., 2016). In underachieving groups, subject specific anxiety is manifest in a significant proportion: in a group of mostly level 1 and level 2 UK apprentices, about 30% showed high mathematics anxiety, with a further 18% affected to a lesser degree (Johnston-Wilder et al., 2014). However, damaging anxiety is spread across the attainment range; even as long ago as 1972, Richardson and Suinn (1972) estimated that 11% of university students showed high enough levels of mathematics anxiety to be in need of counselling.

Mathematics anxiety is perhaps the best documented and most severe subject-specific anxiety (Punaro & Reeve, 2012). The problem of mathematics anxiety

pervades internationally. Across 63 countries, students reporting higher levels of mathematics anxiety displayed lower performance (OECD, 2013). An Australian researcher writes:

> … perhaps because avoidance is the ultimate consequence of mathematics anxiety, the numbers of students enrolling …in any mathematics subject in upper secondary school are declining (Buckley 2013).

Learners of literacy (Carroll and Iles, 2006), foreign languages (Wu & Lin, 2014), drawing (Golomb, 2002), and music (Kenny, 2011) also experience disabling anxiety in increasing numbers as they get older. Findon and Johnston-Wilder (2017) discuss the impact of anxiety on levels of literacy and numeracy in UK HE students.

Academic anxiety is acquired and disabling. In a recent Masters dissertation, Eggison (2017) surveyed local parents. She found significant anxiety around homework, mostly but not exclusively originating in mathematics, and parents feeling helpless to support and safeguard their children from distress. Students were resorting to shutting themselves away with the internet and exposing themselves to associated risks, unsupervised by caring but helpless parents. Martinez (1987) wrote that "anxiety may be a greater block to math learning than supposed deficiencies in our school curricula or teacher preparation programs" (p125). Lyons and Beilock (2013) reported that, when seeking to address high anxiety, "best educational practice … is not to generate costly math courses". Instead they recommend interventions that emphasise management and control of negative emotional responses.

It is ironic then that, while so much money has been spent on curriculum change in recent years, very little attention has been paid to addressing anxiety, which is increasing amongst young people (Hagell, 2012). Parents are doing their best, but may still find themselves to be affected by experiences of exclusion, anxiety and stress

around learning school subjects in the past (Goodall et al., 2017). Eggison (2017) describes one student comforting her mother when the mother burst into tears on being asked to help with maths homework.

Anxiety causes avoidance, and reduced cognitive processing, attention and concentration (see for example, Eysenck, 2001). Learners with anxiety have slower reaction times, are less accurate (Núñez-Peña & Suárez-Pellicioni, 2015) and struggle with attention (Basten et al., 2012). Stress also interferes with working memory (Berggren & Derakhshan, 2013); note that this has been documented in a general sense since at least the middle of the previous century (Mandler & Sarason, 1952). Surely it is time to make addressing academic anxiety a leadership priority.

5 Addressing academic anxiety

The literature presents the addressing of academic anxiety as a complex process. In this section, we look at some approaches that address anxiety and then offer a simple, effective model that can be used by school leaders with teachers, parents and learners to recover from many forms of academic anxiety and develop strategies for academic safe-guarding. Other researchers suggest that the following approaches have efficacy:

Cognitive re-appraisal

One approach is learning to distinguish between feelings at peak performance and feelings of being overwhelmed. Nervous energy or arousal of the sympathetic nervous system might be interpreted as fear or excitement in different contexts, depending upon individual factors. An interpretation of threat results in lower cognitive performance, whereas an interpretation of challenge results in higher cognitive performance (Jamieson et al., 2010). Jamieson et al. (2010) found that informing

candidates for a GRE exam that arousal can actually improve performance lead to improved performance over candidates who were not given this information. Our knowledge of emotional contagions suggests that once this awareness is established it too can spread.

Writing about the affective domain

There is evidence that informal writing can be used to address academic anxiety in a similar way to that used to address suffering originating from traumatic events (Smyth, 1998). In particular, expressive writing has been shown to improve performance in learners with high mathematics anxiety (Park et al., 2014; Ramirez and Beilock, 2011; see also Tobias, 1978).

Tutoring

Cognitive tutoring has been explored as an intervention with mathematics anxiety, taking an approach reminiscent of exposure-based therapy. Supekar et al. (2015) tested an intensive, 8-week, 24 session, 1-to-1 programme; this study showed that a relatively short, intensive 1-to-1 programme can remediate mathematics anxiety. The question is raised: could an effective intervention be shorter than 24 sessions in most cases?

Transcranial electrical stimulation

Transcranial electrical stimulation (tES) is discussed as a 'painless technique in which mild electrical currents are applied to the scalp and can be used to both upregulate and downregulate neuronal activity underneath the cortex' (Dowker et al., 2016).

We propose that treatment such as tES be reserved for very serious cases of anxiety and that if we follow the emotional contagion argument and the idea that resilience also can be contagious, a scalable, affordable programme can be developed for the majority, with a brief 1-to-1 intervention for moderately serious cases (Johnston-Wilder and Marshall, 2017). Lyons and Beilock (2012, p. 2108) have proposed that "emotional control processes that act early on the arousal of negative affective responses (e.g., reappraisal) are more effective." We suggest that a scalable approach (Paunescu et al., 2015) be based on a modified programme to build growth mindset and learners' teachers' and parents' resilience.

Resilience

Resilience as we have described it (Findon and Johnston-Wilder, 2017) involves learner autonomy (Bandura, 1977), value/motivation/sense of purpose (Deci and Ryan, 2002), inclusion (learning community, sense of relatedness (Deci and Ryan, 2002)), and a growth mindset. Williams (2014) takes a different, albeit related, approach, based in Seligman (1995): resilience comprises confidence, persistence and perseverance. Here perseverance involves seeking help and additional resources when persisting is insufficient.

Self-efficacy (Bandura, 1977) is closely related to confidence, and leads to learner persistence: 'self-efficacy is an individual's confidence in his or her ability to perform ... and is thought to directly impact the choice to engage in, expend effort on, and persist' (Ashcraft & Rudig, 2012, p249). Bandura (1977) uses the term 'resilient self-efficacy', thus we argue he includes perseverance in addition to confidence and

persistence and this model has proved helpful in working with teachers (see for example, Johnston-Wilder et al., 2016).

Using a different definition of resilience (sense of mastery, sense of relatedness, and emotional reactivity), Ayyash-Abdo et al. (2016) found that resilience played an important role in the academic performance of middle and late adolescents in Lebanon. Du et al. (2016) explored help-seeking in maths homework. Their results suggest that teachers can play a vital role in promoting help-seeking: by placing greater emphasis on mastery goals, by making homework more interesting, by helping students learn to maintain homework motivation, and by encouraging families to make themselves available in the homework process. In this regard, parents who have acquired, and may be disabled by, anxiety about some school subjects will need briefing about their expected role in supporting homework. We discuss this in the next section.

One teacher who took personal ownership of the notion of resilience in his subject teaching wrote:

> I have identified five feelings, beliefs and behaviours ... as being positive indicators of strong ... resilience:
> 1) A *sense of frustration and annoyance* when first faced with a problem which they cannot do.
> 2) An *expectation* that they will have to spend time thinking about the problem before they solve it, and that it might be hard.
> 3) A *belief* that they will be able to 'get there in the end'.
> 4) A strong *want or need* to work the problem out themselves.
> 5) A selection of *strategies* to help them to get there (e.g. 'draw a diagram', 'ask a friend what they did', 'list what you know and need to know', etc…)
> (Peatfield, 2015)

This list includes elements related to confidence (3) persistence (2, 4) and perseverance (5) as well as an assessment that the task is one of feasible challenge, rather than a comfortable task. We would add to the teacher's list of what constitutes resilience the

awareness and skills to address the emotions that arise if the challenge is perceived as non-feasible. In the growth zone model, described in the next section, we think of the challenge as having become a threat to wellbeing, physical, mental or social, and we call this the anxiety or danger zone.

The growth zone model

Building on what develops resilience, Dweck (2006) developed her theory of growth mindset. A growth mindset helps learners persist when they experience academic difficulty and contribute to increased students' attainment in core academic courses, including those students at risk of dropping out of school. However, a growth mindset on its own does not safeguard learners; for some learners (for example, conscientious anxious girls), there is a risk of too much responsibility and not enough seeking support (Foley, 2016). Along with Williams (2014), we argue that there is a need to develop perseverance in addition to persistence, learning to try a range of alternative resources and to recruit support when appropriate, whilst explicitly avoiding harm, so the growth zone model (GZM) was developed (Johnston-Wilder et al., 2015)

When facing a challenge, use of the growth zone model (see Figure 1) facilitates cognitive re-appraisal of academic anxiety and the learning of skills to overcome strong avoidant emotions.

Figure 1. The growth zone model

By definition, when in their comfort zone, students feel comfortable with the academic ideas on which they are working and perhaps consolidating or gaining fluency with ideas that have already been learned. In contrast, if a student experiences too much challenge, or threat, they move into their red zone, and they may experience panic; it is likely that the freeze, flight or fight reflex will be triggered, where higher level thinking becomes difficult or impossible, as the brain moves into survival mode. The neurobiologist Daniel Siegel has developed a simple, sharable hand-model of the brain to explain what happens to thinking when a learner panics and why a learner feels stupid in this state (Siegel, n.d.). The priority for learners in this state is to become aware that they are not being stupid but feeling anxious, and to address the anxiety, not to try to learn.

In the growth zone of Johnston-Wilder et al.'s (2015) model, students feel challenged; they struggle and possibly seek support to develop new understanding and skills, just as they do, for example, when learning a difficult new move on a skateboard or in a computer game. It is likely that learners will feel pressure as they encounter and overcome barriers. In the growth zone, making mistakes, getting stuck and requiring support whilst being able to address any negative emotions show that the challenge is at the appropriate level. Using this model, learners come to distinguish between taking risks and the uncomfortable feelings that are part of learning and growing, and those associated with panic based on negative prior experiences or feeling over-whelmed. A supportive, collaborative environment, both at home and at school, is needed for safe-guarding when venturing into the growth zone, as well as an understanding of what to

expect (Goodall, Johnston-Wilder & Russell, 2017). This highlights the importance of school leaders working with parents to promote academic safeguarding

Unfortunately many students and their parents, teachers and school leaders do not recognise that successful academic learning in the growth zone can be stressful, risky and uncertain, and need support, and many students go straight to the red zone when faced with any unexpected difficulty or lack of support. If the learner knows in advance that being in the growth zone may trigger productive levels of adrenalin, and that any risks are under their control to manage, the physical reaction to challenge can be a supporting influence on potential cognitive development.

Using the language of the growth zone model, learners can become aware when they move into their red zone and develop strategies for moving back into their growth or comfort zones. Anxiety management approaches include breathing exercises, especially slightly longer out breaths (5/7 breathing) or breathing with the diaphragm, physical exercise, talking to someone and learning to step away until calm. Specific strategies that teachers and parents can be informed about include the hand model of the brain, simple counting to help reduce cognitive sources of anxiety, understanding the growth zone model, encouraging, active listening and asking gently probing questions.

Extending Dweck's (2006) work, we suggest there are 4 kinds of thinking about learning processes that may be present in staff, children and parents: can do/fixed mindset, can do/growth mindset, can't do/ fixed mindset, can't do/growth mindset. These types of thinking may vary depending upon the context of the learner and each type of thinking will respond to a different intervention.

Type	**Description**	**Interventions**
Can't do/ fixed:	"This is not something that I can do …" Learners struggle with areas beyond what they feel are their pre-determined limits.	growth mindset intervention GZM
can't do/ growth:	"I'm trying, but I'm stuck …" These learners recognise their lack of success, but do not feel that this needs to be a permanent situation, especially if they can access some help.	perseverance intervention GZM
can do/ fixed mindset:	"I can do this because I am clever…" Learners who identify with this mindset may be generally successful, but perhaps have not met much challenge yet. Challenge thus has the potential to negatively affect self-esteem.	introduce growth mindset supported challenge intervention GZM
can do/ growth mindset:	"I'll give it a go and it will probably be ok with effort …" These learners are not fazed by setbacks, generally viewing them as part of the learning process. They may be vulnerable to self-blame if unsuccessful.	academic safe-guarding against future setbacks GZM

Table 1: interventions to promote growth mindset and academic safeguarding

Students can be encouraged by parents, supported by teachers and school leaders, that learning is a life-long process, the brain continues to grow across the lifespan, and GCSEs, A-levels and degrees can be taken later in life as circumstances dictate (though it is often easier to take them with a cohort of peers).

Students who are developing anxiety can be encouraged to take a 'good enough' approach, and to set their own goals. Learners need to experience success, and to develop trust in themselves, ideally through trust that a parent or teacher will not ask the impossible from them, and that what they need to focus on and demonstrate is effort and

recruiting support when needed. Parents and fellow students can be asked to avoid giving answers to problems so that students do not develop a 'learned helplessness' (Dweck, 2000) but focus on strategies to approach a problem.

Our personal experience thus far has been focussed on addressing maths and writing anxiety but we have seen the impact spreading across subjects. Just as anxiety is contagious, we have seen confidence, persistence and perseverance spreading through groups and into other classes that students are taking. We refer to the process as 'taking off the emotional handbrake' to enable more effective learning. Time and again we have seen increases in progress. Similar results have been found by other researchers such as Foshee (2013), and teachers working with us: Lugalia (2015), Chisholm (2016), Bell (2017), Keet (2017).

We have observed learners with increased confidence, persistence, perseverance, spending more time in their growth zone, with increased awareness of available support. We have seen learners coming back to have another go when they failed a GCSE, with a positive mindset, confident that they need more time and effort and to recruit support, to reach the standard, and no longer believing that they are not capable.

The information contained within this section is something that we would like to see more widely shared by school leaders. Southworth (2009) says "Learning lies at the heart of school leadership and improvement" (106) and that school leaders need to be able to understand more about how students learn if they are to be able to make a difference, including making more widely known the impact of the affective and social domains on learning.

7 leading for change

Earlier in this article, we posited that transformational leadership could be a valuable approach for allowing a school to make the changes necessary to promote academic safeguarding. This section sets out the strategies that school leaders will need to implement, using Leithwood's (1994) dimensions as a framework:

identifying/articulating a vision

This is the foundation of change − if academic safeguarding is to be promoted effectively, it is essential that the whole school understands what it is and why it matters. It is important to keep the objective of the common good to the forefront − as Starrat (2005) indicates, the leader is working for the people, therefore it is helpful to involve the whole community in the development of the vision, especially as treating all members of the community with an ethic of respect can ensure that perhaps hitherto unrecognised valuable resources are tapped into.

This is particularly important for the engagement of parents in academic safeguarding processes − Carpentier and Lall (2005 in Goodall, 2017), talking specifically about parental engagement interventions, suggest that successful implementation requires parents to have a central role in both development and delivery. We know that many parents can feel disenfranchised when it comes to their children's education (Goodall, 2017), yet the OECD (2017), amongst others, recognises that parents can have a huge impact on children's life satisfaction and academic achievement. A truly shared vision can bring about a real shift in the culture of a school, fostering the conditions necessary for academic safeguarding throughout all its members.

fostering group goals

The role of school leaders, as per Southworth (2009), is to share the understandings that they have of the concepts of academic safeguarding with the wider school community and model positive behaviour and strategies. They also need to both enter into and promote dialogues with and between staff, students and parents about academic safeguarding that will lead towards increased appreciation of the impact of anxiety on achievement, and how to prevent it and treat it. It is hoped that such dialogues will lead to the generation of group goals that equate success with holistic development, rather than academic attainment alone.

conveying high expectations

As discussed earlier, chasing high standards in relation to externally imposed assessment can be a major source of anxiety for all members of the school community (e.g. Robinson & Aronica, 2013). However, if the high expectations are related to the agreed school goals that have individual well-being and personal goal setting at their heart, they can enhance, rather than harm, the experiences of learners. This is not to say that academic expectations be reduced, it is simply how these expectations are conveyed, with academic safeguarding in mind. Returning to Dweck (2006) and Bandura (1977), it is clear that encouragement is necessary to promote belief in oneself and a can do/growth mindset with understanding of the growth model. It has been noted that students whose parents hold high aspirations for them generally do better (Goodall, 2017). If school leaders convey the foundations of growth mindset with academic safeguarding to parents, they will increase awareness that the setbacks experienced by their children are not indicative of inevitably poor outcomes, but experiences that can be overcome to allow their children to progress onto better things.

providing suitable models

School leaders themselves must practice what they preach: it is important to demonstrate lifelong learning. This also has its basis in Bandura's (1977) Social Learning Theory, which states that we learn from people around us, particularly those that we identify with. Goodall (2017) indicates that many parents find it difficult to identify with teachers, thus there is immense value in school leaders revealing their own failures and grappling with new areas. School leaders are also able to demonstrate that learning is not simply an activity for students, that setbacks are experienced by everyone and that they may be overcome with persistence and perseverance.

providing intellectual stimulation

Educational theorists from Rousseau (1762) onwards have long acknowledged the roles of playfulness, curiosity and experimentation in providing meaningful and engaging learning experiences. We are aware that most schools are already adept at providing these sorts of experiences for students in the classroom, but suggest that such techniques must be spread across the wider school community. School leaders are inevitably in a position of greater specialised knowledge than other members of the school community. The anxiety management approaches discussed previously can be shared with parents in engaging ways. These include slightly longer out breaths (5/7 breathing), the hand model of the brain and the growth zone model, which are very effective yet not widely known.

Parents are also likely to be skillful at solving problems and at communication, and may themselves model resilience in different tasks in the home or work context that can be drawn upon to support students developing resilience. If a student is stuck at homework, parents might be asked to encourage the split page approach advocated by Tobias (1978), using one side of the page to describe what they have tried or why they feel stuck, rather than leaving their child handing in a blank homework. Such approaches focus on ways in which parents can help their children take back control of learning and thus address anxiety.

We would certainly recommend encouraging parents to get involved by researching or trying out new techniques and reporting back to their peers on specific strategies that have worked for their children in the home e.g. celebrating persistence over achievement. Goodall (2017) recommends providing a "tip of the week" on newsletters to further encourage parental engagement.

providing individualised support

There is a need to support parents to find their role within the academic safeguarding process and enhance their own self-efficacy as a source of support; Goodall (2017) suggests that parents are more likely to engage when they feel that they have something that they can contribute. Parents need advice as to what is expected of them, how to be active listeners, support their children with engagement and academic safeguarding, and not be expected to tutor (Goodall. 2017). It has been shown (Goodall et al., 2017) that parents and learners respond well to parents having a clear role that involves recognising their existing skill-sets, sharing their understanding of ways in which skills, knowledge and understanding developed in school are used in everyday life (Jay et al., 2013) and role modelling use of numeracy, literacy and problem-solving in every-day contexts. Parents can also be involved in academic safe-guarding particularly if they become aware that their child is developing anxiety specific to a subject; they should be empowered by school leaders to raise concerns with the school.

Finally, to develop a strategy such as academic safeguarding, which is concerned with the well-being and achievement of the individual, a degree of targeting needs to take place. It is difficult, particularly in today's large and pressured school environments, to find the time and the wherewithal to look at every child individually, but it is hoped that with the creation of a more collaborative culture, students and their parents will feel more confident to self-refer when an issue arises, flagging up the need for support to the staff team. However, Southworth (2009) makes it very clear that it is the responsibility of school leaders to monitor processes within their settings if they are hoping for change to become embedded.

Conclusion

There is a spectrum of positions regarding the purpose of education, from the neo-liberal focus on the market as the model and beneficiary of the system to those that value the self-realisation of the students as a goal for its own sake. However, what these perspectives have in common is a desire to do education better. It is our contention that many of the existing models of schooling in the UK do not yet ensure that effective learning is taking place. We argue that it is vital for school leaders to share amongst the whole school community an understanding of the effect of stress on learning, and how learners can be safeguarded from stress. Creating a genuinely collaborative partnership will help school leaders to engage parents and ensure that children's learning is appropriately safeguarded.

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