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How does implementing mindfulness techniques into the primary classroom affect the children's engagement levels?

Grace Marie Thrower

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School of Education, Language and Psychology

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

Contents

Acknowledgements

Abstract

'Mindfulness' is a term which is increasing in prevalence within educational research, policy and practice (Langer, 2000). It originated from Buddhism and is used to help understand one's experiences in the present moment to develop self-knowledge and wisdom (Karunamuni and Weerasekera, 2019). Research has shown that cultivation of mindfulness techniques within the classroom has helped to improve cognitive skills including, retention, problem solving and thinking skills (Karunananda, Goldin and Talagala, 2016). This paper explores the connection between mindfulness and engagement levels on a year 5 class. Some key aspects of engagement is considered within this research including; the

external factors and classroom environment, involvement and concentration, awareness and self-regulation, as well as the approaches towards practising mindfulness.

This research was carried out in a year five class which was prominently boy heavy and had a high proportion of Special Educational Needs (SEN). The children had not previously been exposed to mindfulness before this research. Using an action research approach, data was collected using several methods, which consisted of interviews, questionnaires and observations to look at children's engagement in the classroom. This aimed to capture the significance of mindfulness on the children's attention towards their learning, along with identifying the factors that caused more or less of an effect on their engagement.

The research findings suggested that mindfulness had a diverse effect and was dependant on various factors, such as pupil's attitude, culture, gender stereotypes, classroom environment and the physiological influence of mindfulness. It also found that the rate of the effects of mindfulness on engagements varied for each participant. This paper offers considerations for primary school teachers for their engagement strategies as well as suggestions for other areas of classroom-based research which looks into mindfulness techniques in order to create a stimulating environment for all types of learners. It offers an additional perspective to the existing literature and contributes to the role of teaching for the developing child.

Word Count - 6528

How does implementing mindfulness techniques into the primary classroom affect children's engagement levels?

Introduction

The research project used a small-scale mixed methods action research to answer the intended research question: How does implementing mindfulness techniques into the primary classroom affect children's engagement levels?

This paper will seek to assess to what extent engagement levels are affected by incorporating mindfulness into the school day. The project is organised into themes which will be explored through recent literature, detailed findings and evaluations.

Mindfulness as an engagement strategy was chosen as the research focus due to the researcher's interest in this as a trainee teacher as a result of child engagement being of significant concern when entering the profession (Høigaard, Giske, and Sundsli, 2012). The researcher's School Experience 3 (SE3) context was of particular interest as upon commencement the researcher observed that there were numerous strategies the school practised to aid engagement but mindfulness was a practice not previously used, thus making it interesting and valid.

With growing prevalence of mindfulness into education more research has been conducted (Jennings, 2015; Martin, 2018; Mussey, 2019). Although it is more commonly being embraced, there are still some concerns over the limited research (McCaw, 2020) in particular the unrepresentativeness of children's voices towards mindfulness and the narrow research focused in a school context (Maynard et al., 2017). Therefore this paper hopes to conduct a small scale study to consider engagement in the classroom in a lesser-researched light. Given this, this research paper also aims to review mindfulness techniques within education to see the children's perceptions of mindfulness for their engagement in school.

The action research focused on embedding classroom-based mindfulness across the school day which was conducted in three stages across ten weeks. The study involved the use of observations, semi-structured interviews and a mixed-method questionnaire to gain insights into the children's perceptions and the impact mindfulness can have on their learning.

Literature Review

Mindfulness can be described as a way of intentionally recognising what is happening at the present moment without judgment (Kabat-Zinn, 2003; Germer, 2004). As the education system develops, there is a recognition for the importance of nurturing a child's holistic development including their moral, spiritual and cognitive wellbeing (Garrison Institute Report, 2005). Although mindfulness is still yet to feature prominently in education, research into it has rapidly increased to help support school-related behaviours and skills (Groark, 2019). Experimental research conducted over the last twenty-five years suggests practicing mindfulness has the potential to increase memory, creativity, and competency and decrease stress (Langer, 2000).

This literature review will look at the four main areas of research identified when exploring the existing literature on mindfulness to engage learners. It will explore the themes of mindfulness on cognitive flexibility; emotional regulation; behaviour and the physiological influences.

Mindfulness on cognitive flexibility

Mindfulness emphasises the central role of self-regulation on attention (Bishop et al., 2004; Dunning et al., 2019). These skills involve specific cognitive functions: sustained attention, attention switching, and inhibition (Lee and Orsillo, 2014). Cognitive flexibility is understood as the human ability to adapt cognitive processing strategies to pursue new and complex tasks and is intrinsically linked to one's attention abilities (Cañas et al., 2003; Ionescu, 2012). As mindfulness techniques are generally dependant on the attention at present times, incorporating mindfulness should lead to increased cognitive flexibility (Moore and Malinowski, 2009). A lack of cognitive flexibility could cause psychological distress (Morris and Mansell, 2018). Thus when individuals are faced with difficult life

situations, individuals might panic and perceive the situation as uncontrollable (Zou, Hofmann and Liu, 2020). Focussing on the negatives and living in the past could cause individuals to perceive themselves as incapable lowering self-confidence and interfering with long-term goals.

A study conducted by Moore and Malinowski (2009), investigated the links between meditation, self-reported mindfulness and cognitive flexibility and found that attentional performance and cognitive flexibility were positively correlated to mindfulness with those who performed meditation performing higher than those who did not on all measures of attention. On the opposition, Anderson et al. (2007), failed to find the effects on mindfulness on attentional performance. The contradicting research, provides a sense of uncertainty, therefore although research into mindfulness is expanding there is relatively little research which conforms the role of cognitive flexibility (Kee and Wang, 2008). Research has also found indirect correlations to resilience through cognitive flexibility (Sünbül, 2020; Genet and Siemer, 2011). A study conducted by Soltani et al. (2013), found a strong influence between mindfulness, resilience and coping styles for managing wellbeing on university students. The findings emphasised the connections between cognition, emotional and mental well-being, suggesting that mindfulness takes on a holistic approach.

An important aspect in education, particularly for assessment, is the process of meta-cognition (Martinez, 2006) to allow children to reflect on their learning through problem solving (Weare, 2019). There is an increase in research which has suggested the development of Mindfulness Based Interventions (MBIs) to stimulate meta-cognition in adults and children (Klingbeil et al., 2017). Wells (2000) proposed that meta-cognition of an individual's thoughts was the basic feature of mindfulness and several meta-cognitive processes were necessary for attaining a state of mindfulness. Teasdale et al. (2002), also proposed that mindfulness facilitated meta-cognitive insights and reduced risk of physiological disorders later on in life. Research has suggested that if used effectively, metacognitive strategies could help to advance progression, particularly for the disadvantaged (Perry, Lundie and Golder, 2019).

Mindfulness on emotional regulation

Emotional regulation (ER) refers to the process by which individuals can manage their own emotions and influence how they express themselves (Maroney, 2011; Gross, 1998). Research has shown conceptual links between mindfulness and ER as Roemer and Orsillo (2005) suggested that it has the power to improve individual's reactions to specific situations and control their bodily awareness's (Hölzel et al., 2011). A study conducted by Roemer, Williston and Rollins (2015), found associations between mindfulness and a healthy ER, for decreasing distress, negative self-referral and enhancing emotional recovery to allow individual to be more ambitious. An aspect of emotional regulation is the process of inhibitory learning (Roemer, Williston and Rollins, 2015). As defined by Bouton (1993), inhibitory learning involves individuals understanding that an events does not always occur when a stimulus is encountered. Individuals with anxiety lack this ability because they enable a fear or another reactive behavioural response when they encounter a stimulant (Craske et al., 2014). Although there has been discussion over the evidence to support mindfulness for emotional regulation and inhibitory learning, there has been little research into the implementation (Craske et al., 2014). More attentions among individuals with clinical disorders, racial and ethnic minority needs to be conducted to establish the potential cultural factors (Hölzel et al., 2011).

Across the years the levels of stress and anxiety on children has become an increasing concern for schools (Maynard et al., 2017). The impact it has on social, emotional and behaviour has prompted schools to attend to these needs through embedding mindfulness into the curricula and school day (Zins and Elias, 2006). Evidence has shown links for ER to academic performance, school engagement and negative behaviours (Denham and Brown, 2010). Mindfulness can help improve ER by improving executive control (Schmeichel and Tang, 2014) which influence many domains of life, such as academic success, necessary for cognitive control (Hofmann, Schmeichel, & Baddeley, 2012). Although there are connections between mindfulness and ER, externalising factors can affect the degree to how effectively an individual can manage their emotions. Brefczynski-Lewis et al. (2007) study, found a negative correlation between the length of meditation hours and activation of the right

amygdala while listening to unpleasant stimuli. The study exhibited how experienced and beginners of mindfulness differed in their brain activity during self-regulation. This suggests that ER depends on the degree to which the individual has practiced mindfulness. On the other hand, Gotink et al. (2016), argued that the changes over a short period of mindfulness are as closely comparable to those long term meditative practices. Although both studies used meditation there was differing variables, therefore it is probable that these could have impacted the outcomes.

Mindfulness on behaviour management

Behavioural engagement focusses on positive conduct, participation and includes behaviours of persistence, effort, attention and self-management (Fredricks et al., 2005). Self-regulation and socio-emotional skills have been positively associated with mindfulness and has been linked to improvements in behaviour, specifically in challenging classes (Eisenberg et al., 2010; Denham and Brown, 2010). Gardner (2008) found an inverse relationship between ER with externalising behaviours in pre-school through to adolescence. Students who use mindfulness to improve their ability to self-regulate are more likely to concentrate in school and show an increased ability to control externalising behaviours (Eisenberg et al., 2010), leading to an increase in academic success. Although recent research has found positive connections (Dunning et al., 2019) reviews including meta- analyses have not been as confident on the impact mindfulness has on challenging behaviours (Maynard et al., 2017). Dunning et al., (2019) conducted a meta-analysis that focused on behaviour for children and adolescents. The study's findings suggested that negative behaviour displayed, improved for the younger children (Dunning et al., 2019). This could suggest that mindfulness is more effective for reducing negative behaviour in younger children in comparison to older children and therefore it might be beneficial to include mindfulness interventions at primary level to improve behaviour of children as they transition into high school.

Furthermore, the qualities behind mindfulness is expected to be relate to ethical and moral behaviour. As stated by Kabat-Zinn (2003) mindfulness leads individuals to a more moral life which allows

individuals to empathise to others. Research has shown that mindfulness may positively be related with ethical behaviour as it influences the way individuals perceive themselves with an experimental manipulation (Kalafatoğlu and Turgut, 2017). A study conducted by Ruedy and Schweitzer (2010), found that cheating did not differ between individuals with low and high mindfulness levels, although the amount of cheating did differ. The research found that mindful individuals cheated less than mindless ones. Ruedy and Schweitzer (2010) suggested that mindfulness directs individuals to be more thoughtful with their self-concept and are therefore less likely to take part in unethical behaviour (Baumeister, Heatherton and Tice, 1994). Supporting this, Shapiro, Jazaieri, and Goldin (2012) suggest that mindfulness may also improve ethical decision making by promoting individuals to embrace a more unbiased point of view instead of a subjective perspective. Since mindful individuals are expected to be less selfish and egotistic there is a positive association between mindfulness and moral behaviours. Despite, mindfulness appearing to be on the rise in schools, behavioural outcomes are still unclear. Numerous of studies have shown a positive correlation on a range of cognitive, social and psychological outcome but the limited school based interventions and focus on behaviour makes generalisations unjustifiable (Maynard et al., 2017).

Mindfulness is expected to take on a non-judgemental and accepting environment to allow learners to exhibit a more socially appropriate behaviour by listening and reflecting on others perspectives (Zelazo and Lyons, 2012). However an individual's diverse characteristics and needs might affect the power of mindfulness. In Maynard's et al. (2017) study, the result suggested a small correlation between mindfulness to meditate academic or behavioural outcomes. The sample studied did not display any clinical or SEN therefore there might have been less opportunity for improvements in this population (Maynard et al., 2017). This emphasises how diverse mindfulness can be on classes, cohorts and entire schools. A class with a higher range of SEN needs, behavioural and emotional problems might have a greater impact on the behavioural outcomes.

Physiological influence of mindfulness

Physiological influences involves the human genetics and the chemical and physical reactions that occur subconsciously in the human body reactions (Kabat-Zinn, 2003). Research into the human brain has shown how engaging in mindfulness can alter the brain structure and function (Davidson et al., 2003; Hölzel et al., 2011, Verhaeghen, 2017). Treadway and Lazar (2010) found that there is increase of blood flow to the cerebral cortex as well as thickening upon commencement of engaging in mindfulness. Supporting this was Hölzel et al. (2011), found an increase of grey matter in areas of memory, learning and emotional regulation. Therefore mindfulness has the power to have a substantial effect on the human brain even over a short period of time. A review by Gotink et al., (2016) argued that the changes over a short period of mindfulness are as closely comparable to those long term meditative practises, suggesting that the period of time is not the key factor but the awareness of mindfulness and the approach is. Tang et al. (2010) study, supports this as he found that as little as eleven hours of mindfulness increased areas of the brain which improved attentional performance and reduced symptoms of stress and anxiety. Evidently, mindfulness can enhance various aspect of the brain structure related to attention in a short space of time (Napoli et al., 2005). As attention and concentration are important skills to learning, mindfulness could be an influential strategy to help improve school performance (Hart, 2004).

Mindfulness is also determined by individual's personality (Tang and Tang 2017; Hoy, 2003). As with the cultural background in a classroom, the personalities of the children all vary and certain personality traits might predispose individuals to be more successful with mindfulness. Therefore whilst some children might benefit from mindfulness some might not. Altemeyer (1996) study identifies the idea of 'authoritarian personality' which has the assumption that some people have attitudinal pre-dispositions to respond in the same general way to authority. These dispositions create attitudes and behaviour which are antagonistic to mindfulness. Thus some learners might be more suited to mindfulness in comparison to other learners. Despite, mindfulness having positive correlations to human physiology and brain structure, researchers have pointed out the importance of the environment, in particular, the

teachers knowledge and confidence towards mindfulness before they attempt to teach it in the classroom (Albrecht, Albrecht and Cohen, 2012). In agreement Goddard et al. (2000), highlighted this idea of a 'collective teacher efficacy' in order for a course of action to positively affect students. Therefore all teachers must work collaboratively for it to unfold naturally and be implementation successfully (Kielty, Gilligan and Staton, 2017).

Research Methods

This research project was centred on the question, 'How does implementing Mindfulness techniques into the primary classroom affect children's engagement levels?'

Research Approach

An action research approach was taken to examine how children's engagement levels are impacted through the inclusion of mindfulness. An action research approach aims to combine action, reflection, theory and practice in the pursuit of solving practical issues or concerns (Coghlan, 2019; Bradbury, 2015; Herr and Anderson, 2014; McNiff, 2021). Reflecting back to the research question, this method is appropriate as it aimed to implement mindfulness tasks (action) to produce findings (the knowledge outcome) through data collection and analysis (Bradbury-Huang, 2010). Additionally, in attempt to gain in depth awareness into the pupil's perceptions and attitudes towards mindfulness a mixed-methods approach was undertaken. With growing popularity, a mixed method design has the potential to create a better understanding of the research question than either data form singly (Creswell, 2014; McCusker and Gunaydin, 2015; Johnson and Onwuegbuzie, 2004). The qualitative data can be used to assess the validity of quantitative findings whilst the quantitative data can also be used to explain findings from the qualitative data (Bryman 2006; Creswell and Plano Clark 2011). The study's data collection took on an explanatory design approach, beginning with quantitative methods and moving onto qualitative methods to aid he quantitative result (Creswell, 2014).

Participants

The data was collected from thirty pupils in a year five class which had a high proportion of male participants. Consent was achieved from all parents and guardians and from the school the research was conducted at. Random sampling, which involved using the class list and a number generator, was used to select pupils (Jawale, 2012) for the observations and the interviews. This allowed all pupils an equal and independent chance of being selected (Acharya et al., 2013; Jawale, 2012) rather than purposefully picking those who possessed certain characteristics which could bias the data (Rai and Thapa, 2015).

Data Collection

The data collected in this research project comprised of: observations using informal note taking, a whole class questionnaires (See Appendix A) and semi-structured interviews for selected children (See Appendix B).

As the research involved the children's judgements and perceptions, a qualitative approach was necessary to collect information regarding the children's experiences of the mindfulness (Graue, 2015; Rowley, 2014). The interviews were semi-structured with a mixture of six open and closed questions to provide the qualitative data for a more in depth extraction of the individual's attitudes towards mindfulness. Alongside the six set questions the researcher also added further follow up questions based on the participants responses to give space for participants' individual verbal expressions (Kallio, 2016). To limit generalisations and random interpretations, the researcher made field notes. Although it can be laborious, field notes ensures rich context persists for data analysis and ensures it does not go beyond the original research (Creswell, 2013; Lofland, Snow, Anderson, and Lofland, 2005; Mulhall, 2003). Additionally, a mixed-method questionnaire was given to the pupils to gain notable and substantially meaningful responses (Pattern, 2016). The questionnaires were conducted in the final week within the classroom context to ensure environmental validity was maintained (Dayan and Ziv, 2012). Finally, whole class observations using informal note taking was conducted with a small sample

of children observed using The Leuven Scale for Involvement to assess engagement (Laevers and Heylen, 2003) and its change throughout the duration of the project (Simons, 2009).

Data analysis was carried out to analyse the qualitative results from the study (Alhojailan and Ibrahim, 2012). The qualitative data from the interviews and questionnaires were analysed several times through coding where upon finishing, three themes emerged. Although data analysis has been criticised for being unrepresentative and reducing (Boyatzis, 1998) the systematic elements allow for issues to be explored more widely and thus deemed the most appropriate (Namey et al., 2008).

Limitations

As with all studies there are limitations which can have an impact of the studies reliability and validity therefore it is important to examine. Creswell (2005), defines reliability on the grounds of consistency and stability as well as its representation towards the whole population. Due to the small-scale nature of the study the reliability is questioned because of the difficulty to generalise to the whole population (Rahi, 2017). Additionally, as there was only a small time frame to conduct the study it is not justifiable if the results would have been consistent if the study was conducted over a longer period of time. Despite this potentially reducing the reliability, it still provides an insight to classroom educators and offers knowledge that could be studied further.

Validity is defined on the grounds of the research being meaningful and truthful to what it is intended to measure (Creswell, 2005). As mentioned previously, the sample had a higher proportion of boys to girls, therefore using random sampling to select a smaller sample for the interviews might not be representative of the minority subgroup which was the girls. This lacks validity as the responses might be more inclined to a male point of view. On the other hand, validity was justified through the mixture of quantitative and qualitative methods to collect data which provided rigorous and scientifically sound data that answered the research question.

Ethical considerations

Ethical considerations were made at all points throughout the study. Firstly, ethical clearance was received from York St John School of Education, Language and Psychology Ethics Committee and acceptance was sought from the researcher's supervisor. Throughout the research, regular adherence to the ethical guidelines was made and upon arrival at the final placement school, consent was pursued from the gatekeeper (See Appendix C) to give access to conduct the study. Due to the nature of working with children and their classification of being vulnerable (Kellett 2010; Thomas 2017), passive consent was obtained from the children and the parents prior to the research commencing. A form was administered to all parents detailing the study's intentions and requirements as well as an opt-out option if they did not want their child to participate (See Appendix D). Protection from harm was obtained through ensuring confidentiality and anonymity, following the school's safeguarding policy and omitting all names of paperwork to make the children unidentifiable (Wiles et al., 2008). This data was further protected through the General Data Protection Regulation (GDPR) as any data stored on electronic devices were password protected and any written data was securely stored.

Findings

Observations

The findings of this project have been split into the three stages of action carried out, with data collected at the start (week 3) middle (week 6) and end (week 10) of placement. At each stage there was whole class observations and a smaller sample of six children observed using The Leuven Scale for Involvement (Laevers and Heylen, 2003). The mindfulness tasks were completed after registration, break and lunch and involved: mindful breathing, mazes, quizzes, meditation, kindness meditation, practicing gratitude and appreciation, reading mindful magazines and imaginative exercises which involved using the senses. Observations were made over the week during the mindfulness tasks and the lessons following.

Child	Level	Involvement
A	3	Moderate
B	4	High

C	4	High
D	2	Low
E	3	Moderate
F	2	Low

(Figure 1.1)

Research Stage	Observations
Stage 1 (Week 3)	• All children actively took part in the establishment of mindfulness • Noise level was quieter completing the tasks • Transitions into the next lesson still involved some fidgeting • Most children were fully engaged but some boys did not complete some of the tasks during the latter end of the week • Sense of embarrassment from some children during certain tasks

(Figure 1.2)

Looking at Figure 1.1, the level of involvement was very dispersed with a mixture of levels of involvement observed. An average involvement score of 3 was calculated which suggests most children had moderate engagement within the lesson. Although this provides a picture of the average engagement levels the sample is only 20% of the class so could not be representative to the whole class. The varying engagement levels was also evident through the first set of observations in Figure 1.2 which highlighted a mixed response to the establishment of mindfulness. Despite the varied results, all children had engaged in at least one mindfulness task since participating in mindfulness. The children exhibited consistency with the mindfulness tasks at the beginning of the week but this dwindled towards the end of the third week for a few learners.

Additionally, noise level and class disruptions had reduced during the mindfulness tasks with the majority of children focused on task, however this soon reverted when transitioning to the next lesson. The level of focus also was dependent on the mindfulness task. Children seemed to be more attentive on the quizzes and mazes over the mindful breathing and meditation with evidence of embarrassment from a few children to complete these.

Moving forward to stage 2, the children had been completing the mindfulness tasks for 6 weeks therefore it was now an important part of their daily school routine.

Child	Level	Involvement
A	4	High
B	4	High
C	4	High
D	3	Moderate
E	3	Moderate
F	2	Low

(Figure 2.1)

Research Stage	Observations
Stage 2 (Week 6)	• Noise level and behaviour after lunch and break had improved • Hyperactivity in the morning decreased • For some children, noticeably the boys in the classroom, certain tasks effected their engagement • Social interaction in the classroom had improved. • SEN children were very invested in the quizzes and mazes

(Figure 2.2)

The level of involvement began to change at the mid-way point which is evident in Figure 2.1. Child A had moved from moderate involvement to a high level of involvement and Child D had moved from a low level of involvement to a moderate level. Average involvement score had increased slightly to 3.33. Based on the observations in Figure 2.2, focus and attention on the tasks had improved at certain points in the school day, such as after break and lunch.

At stage three, children were coming to the end of their mindfulness interventions where the last observations took place and the questionnaires and interviews were conducted.

Child	Level	Involvement
A	4	High
B	5	Extremely High
C	4	High
D	3	Moderate
E	3	Moderate
F	2	Low

(Figure 3.1)

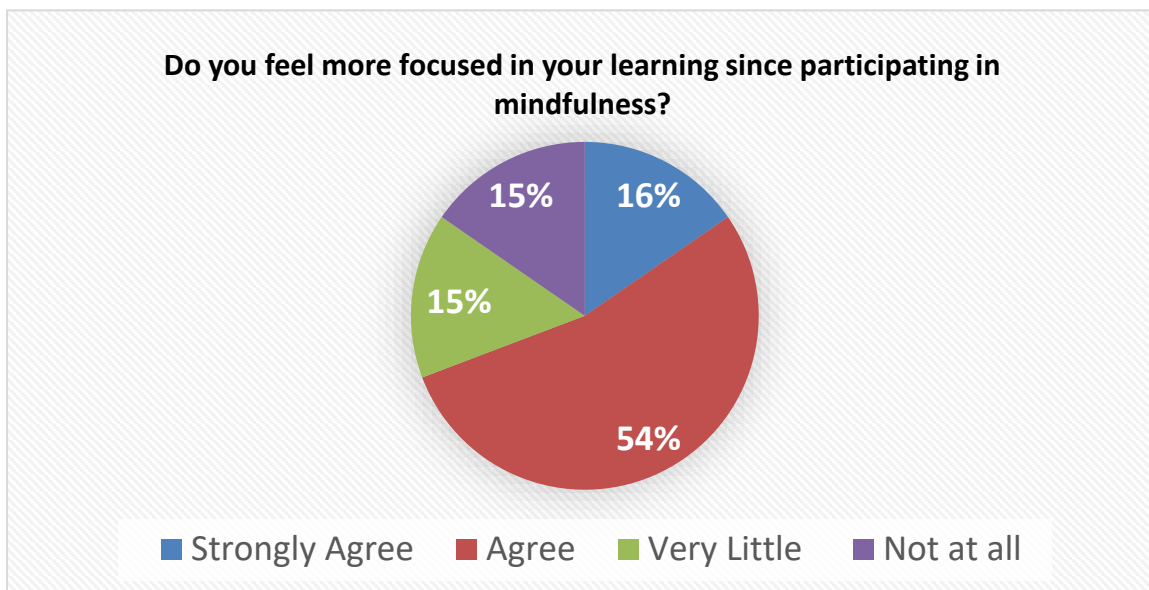| Research Stage	Observations
Stage 3 (Week 10)	• More involvement in class across all subjects • A general sense of calmness in the classroom • Emotional reactivity towards learning had improved • All girls were engaged in mindfulness but a small handful of boys had disengaged over the weeks. • Less need to use the behaviour system and less playground conflicts

(Figure 3.2)

Looking at Figure 3.1, further changes had been observed for the level of involvement with Child B moving from a high level to an extremely high level and the average involvement score increasing to 3.5. Therefore there is evidence that involvement gradually increased throughout the weeks, starting with a low moderate level and gradually increasing towards a high moderate level. Although it is important to note the positive changes, half of the sample of children remained at the same level with Child C, Child E and Child F all remaining at the same level across the course. Furthermore, Child F's involvement was assessed at low level at the start and remained at this throughout the three stages which could provide a useful insight in the discussion.

Final observations seen in Figure 3.2 suggest that there was a general sense of calmness amongst the learners and an awareness towards their own learning and emotions. Conflicts occurring in the playground, had reduced across the course with a sense of kindness and acknowledgment towards each other. In the classroom there was less need to use the behaviour system and little children sent out; a common issue at the start of the researcher's placement.

Questionnaires and Interviews

At the third stage a mixed method questionnaire was deployed to all children and a small sample of them were picked to take part in an interview. Below, is data collected from the student questionnaires and the follow-up interviews, with quantitative data being presented as figures, and qualitative data being presented through coding.
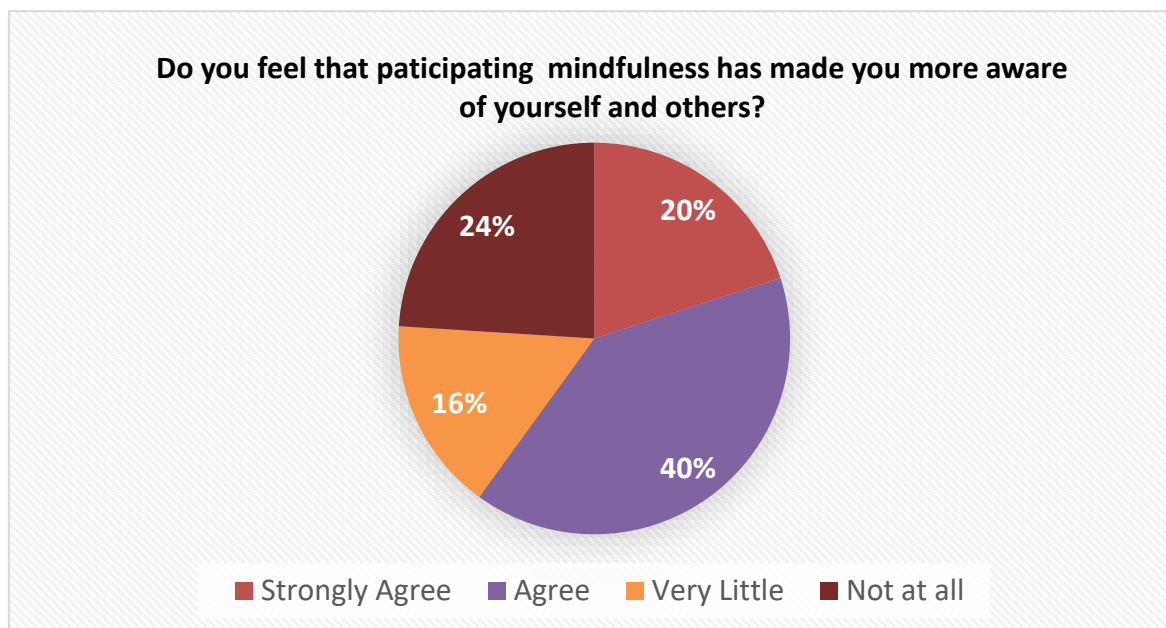
Theme 1: Attention and Concentration

Do you feel more focused in your learning since participating in mindfulness?

15% | 16%

15%

54%

■ Strongly Agree ■ Agree ■ Very Little ■ Not at all

(Figure 4.1)

As per Figure 4.1, when asked the question 'Do you feel more focused in your learning since participating in mindfulness?' on the questionnaire, 54% of 30 respondents answered 'agree'. Whilst an equal 15% of respondents answered 'not at all' or 'very little', suggesting that mindfulness had not much of an effect for the part of the class. This suggestion is also weighted further by the 16% of respondents who stated that they 'strongly agree' that mindfulness helped them to focus on their learning.

Building upon this aspect, within the semi-structured interview, the selected children were asked if they noticed a difference in their attention or concentration since practising mindfulness. Only two out of the six children stated that they noticed a difference. When asked a follow-up question to explain why they think there was not a difference two main factors were recognised, through the use of coding. The remaining four learners gave interesting arguments; one discussed that they were already engaged and attentive in the classroom, whilst the other three discussed that it was dependent on the mindfulness tasks. In line with this was the findings from the qualitative data on the questionnaire, which showed the varied responses for the mindfulness tasks they liked and disliked.

Theme 2: Awareness to self and others

Do you feel that paticipating mindfulness has made you more aware of yourself and others?

- Strongly Agree
- Agree
- Very Little
- Not at all

20% / 40% / 16% / 24%

(Figure 4.2)

Another theme which was identified through the qualitative responses, was the awareness of oneself and others. In the interviews, two out of the six children expressed that they felt mindfulness helped them to control their feelings with one even suggesting that it helped them outside the classroom through mindful breathing exercises. The questionnaire supported this with 40% of the 30 children, suggesting that mindfulness had made them more aware of themselves and others. Although majority responded 'agree', it is important to note that 24% also stated that it 'did not at all'. This is still a high proportion of the class, thus it might be dependent on the individual and other externalising factors.

Theme 3: The Classroom Environment

Do you feel class behaviour (including noise level) has improved since participating in mindfulness?

- Strongly Agree: 21%
- Agree: 46%
- Very Little: 16%
- Not at all: 17%
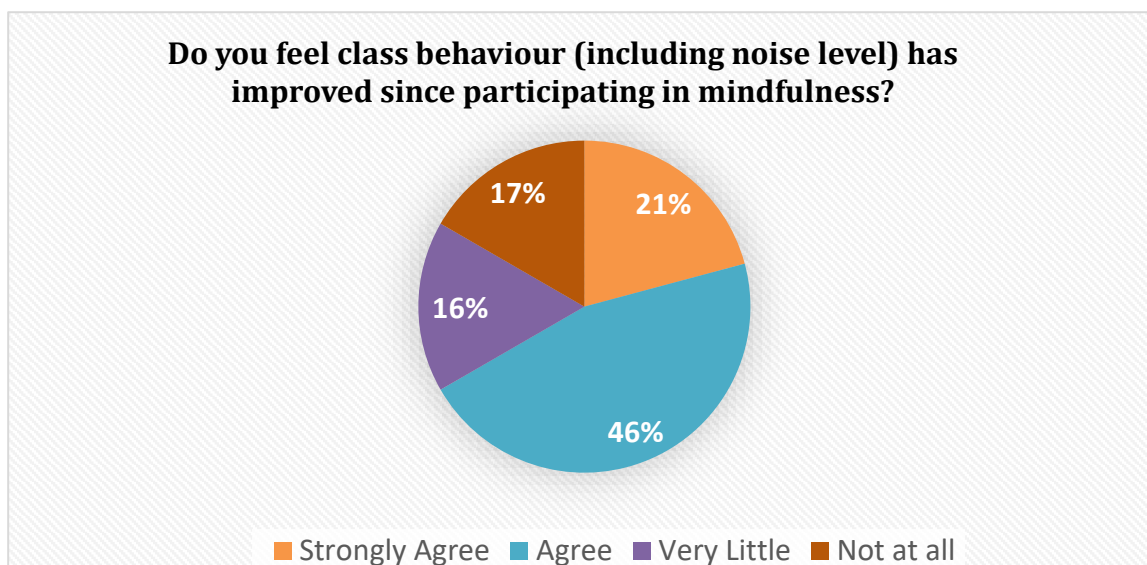
(Figure 4.3)

The final question in the semi-structured interview asked 'Do you think the class behaviour and noise level has made any difference to your learning?' All children expressed a change in noise level and positive behaviour whilst completing the mindful tasks. However two children out of the six interviewed, stated that noise level did not change in other lessons. This is supported through the quantitative data in the questionnaire, seen in Figure 4.3, where 46% expressed an agreement towards the noise level and behaviour improving since incorporating mindfulness but almost 25% said it did not have an effect.

Discussion

Overall the findings exhibited a contradictory outcome for the effectiveness of mindfulness. The findings of this study, showed the potential factors which influenced the learner's engagement and these factors were; the classroom environment, sense of awareness as well as their concentration levels. These are the themes that will be discussed throughout this section along with an analysis of the implications for future practice.

Attention and concentration

The first theme that will be discussed is the attention and concentration of learners during the implementation of mindfulness. The findings from the questionnaire (figure 4.1) show that half of the class felt more focused on their learning once they had completed the mindfulness task. From existing literature this was expected. Supporting this, Moore and Malinowski (2009) found positive correlations between attentional performance and self-reported mindfulness due to the nature of its dependence on individuals having to use their attention skills to focus on the present moment (Cañas et al., 2003). Despite many learners suggesting a notable impact on their attention a high proportion of learners contradicted this. Tang and Tang (2017) and Hoy (2003) suggested that mindfulness is not a one size fits all, with other factors potentially impacting its effectiveness, including an individual's personality. Therefore, although research into mindfulness has shown it to be universal (Brown, 2019), through these findings this might not be the case. Although all exposed to the same tasks and duration of mindfulness, attention levels did differ which was evident across the three stages of observations. Research conducted by Altemeyer (1996) implied that some learners might have certain predispositions which affect their ability to concentrate and presumed to increase with mindfulness training. Therefore this could explain why some learners were more on task and attentive during and after mindfulness compared to others.

Concentration towards the tasks reduced for a handful of learners as the weeks progressed. This could be explained through learners' personality and traits. Researchers have found that individuals with stronger trait resilience have a positive influence on mindfulness (Sünbül, 2020; Genet and Siemer, 2011; Soltani et al., 2013) to continue to concentrate on the task. It could be suggested that those who did not engage, might have lower levels of resilience, causing the lower levels of concentration and engagement in the tasks. Concentration is a learning skill (Grewal, 2014) therefore it takes time and does not come naturally. This could suggest that for those who showed a disengagement towards mindfulness, a lower resilience could be preventing them from improving their concentration. Additionally, suggestions imply a need to be an adequate level of attentional effort in order for it to take

effect as the ability to concentrate is tiring and comes with time. Therefore it could be argued that although concentration did not see huge effects on the whole class after incorporating mindfulness, it might have increased over time. Due to the small scale of this study the outcomes were limited but with time mindfulness might have had more impact on the learner's attention and ability to concentration.

Awareness to Self and Others

A fair degree of participants felt that participating in mindfulness caused them to become more aware of their learning, themselves and others (Figure 4.2). As stated by Kabat-Zinn (2003) mindfulness leads individuals to a more moral life which allows individuals to empathise to others. Observations at stage three (Figure 3.2), supported this when the researchers noticed a general sense of kindness and acceptance within the classroom. This suggests that mindfulness had an impact on these children's ethics, supplanting the unwholesome attitudes by encouraging attitudes of kindness, compassion and equanimity (Grossman, 2015). An empirical framework of S-ART created by Vago and Silbersweig (2012), explains how mindfulness can reduce the maladaptive emotions towards self and others to remove negative attachments to feelings and thoughts on self and others. Although some data collected was in line with this, for some participants a sense of awareness for themselves and others was not impactful. This can be seen in Figure 4.2, where a high proportion of participants stating having no effect on their self-awareness. Many researchers have noted that mindfulness does not have a rigid structure and therefore although some participants might have felt an increase in awareness early on, for some participants it might come later or at different stages of practice (Williston and Rollins, 2015). This exhibits the diversity and individual differences towards the progression of mindfulness. Just as with learning and academic achievement, learner's progression in the practice of mindfulness might take different rates and a different order.

As expressed by Zelazo and Lyons (2012) mindfulness is expected to take on a non-judgemental and accepting environment which should allow individuals to reflect and listen to their own and other perspectives. Observations at the start of incorporating mindfulness (Figure 1.2), contradicted this

when the researcher noticed a sense of embarrassment from a few learners to complete certain mindful tasks. Mindfulness involves individuals showing their vulnerabilities which could be more difficult for some learners with a lower self-concept (Randal, Pratt and Bucci, 2015). A non-judgmental, nonreactive stance to present-moment experiences is therefore essential for participants to engage. This could suggest that there is an over-emphasis on the cognitive dimensions and therefore the focus should be directed on assessing the extent to which participants respond to tasks with an attitude of non-judgmental acceptance and friendly curiosity (Baer, 2019). Although this was not directly measured as part of the research study, it forms an interesting topic to explore further (Baer, 2019; Dreyfus, 2011).

The Classroom Environment

The findings from Figure 4.3 show that more learners felt an increase in positive behaviour. This is in line with Ruedy and Schweitzer (2010) who declared that mindfulness directs individuals to be more thoughtful with their self-concept and therefore are less likely to take part in unethical behaviour. Observations across the stages supports this with the researcher reporting a general sense of kindness and less need to use the behaviour system which was prominent upon commencing placement. Shapiro, Jazaieri, and Goldin (2012) suggests that mindfulness improves ethical decision making by promoting individuals to embrace a more unbiased point of view instead of a subjective perspective. It could be speculated that the mindfulness aids children to make more ethical decisions in the classroom and regarding their learning. However, the positive behaviour might not be as a result of the mindfulness and other externalising factors, such as changing class teachers and the reiteration of behaviour in assemblies.

In agreement with the findings of this study, Singh et al. (2013) found that there was no change in the children's positive interactions with their peers, however there was a decrease in negative interactions. A challenge commencing the researcher placement was the numerous playground fallouts which took time out of learning after lunch to resolve. This improved as mindfulness began and as the weeks went

on, suggesting that instead of engaging in high levels of negative interactions, the children simply became self-aware and moved away from some negative interactions and played by themselves (Singh et al., 2013). Furthermore, Eisenberg et al. (2010), states that engaging in mindfulness has an increased ability to control externalising behaviours. This might provide an insight into the findings as although 46% of the class agree that the behaviour, including noise level, had improved, it potential suggests a link between mindfulness and the ability to ignore distractions and noise caused by others.

Furthermore, Singh et al. (2013), suggests the importance for teachers to practise mindfulness to help change student behaviours and stimulate a welcoming environment. In turn this will help to decrease the maladaptive behaviours and increases positive social behaviours. This concept is in value as although some reported a change in disruptive behaviours, a majority still believe there was no change. Therefore a teacher's involvement in mindfulness could help control classroom behaviours so less time is spent on attending to the misbehaviour and more time is spent on the instructions, resulting in an increase in social and academic engagement (Meiklejohn et al., 2012).

Conclusion

To conclude, this action research study has explored the impact of mindfulness on children's engagement towards school and learning. On the basis of the findings, a variety of responses was evident with the effectiveness of mindfulness affected by numerous factors.

Limitations

There are certain limitations to this study which must be considered. Firstly, due to the small-scale nature of the study and the utilisation of random sampling, validity might have been impacted as data was only collected from one class, making the results specific to one educational setting. However, it is important to address that this was caused by the context of the researcher's final placement school and collecting mixed-methods data provided deeper insights to improve the validity. Furthermore, due to a high percentage of boys in the class, the researcher decided the whole class would be part of the

sample. Therefore, this presents future considerations for further school based research with a larger, more representative sample size.

When addressing the potential transferability of the findings it is probable that this research paper could be generalised due to the rich detail of data provided (Anney, 2018). It is likely that if this was conducted in another similar size school, findings would be consistent. However, it is important to consider influence of other peers and the researcher. It is likely that participants could of felt influenced by each other and the teacher during mindfulness tasks and completion of the self-report questionnaires (Yukl, Seifert, and Chavez, 2008; Grimm, 2010). In order to reduce this, one-to-one interviews was conducted at the final stage to allow a small sample of participants to express their feelings without the judgment of their peers.

Future considerations

This study presents some considerations for teachers, senior leaders and the wider population. This paper has provided the researcher with some valuable knowledge about the importance of mindfulness for engagement within school and learning, strengthening the philosophy of differentiation and highlighting the importance of mindfulness to establish a calm, reflective and non-judgmental environment. It seems there is scope for more future research to explore how individual differences effect engagement towards mindfulness. This will also allow for further analytic generalisations about the effects it has on a range of learners. Previous research has shown how gender stereotypes play a role in mindfulness (Anglin, Pirson and Langer, 2008) and although this research paper did not delve deeply into gender influences, this could open up doors for future research into this field. Looking forward, mindfulness is becoming much more prominent in schools (Brown, Creswell and Ryan, 2015) with benefits that can better prepare children for the demands of the outside world and for the classroom context. Therefore, practitioners should strive to incorporate mindfulness into the school routine.

References

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Acharya, A.S., Prakash, A., Saxena, P. and Nigam, A., (2013) Sampling: Why and how of it. *Indian Journal of Medical Specialties*, *4*(2), pp.330-333.

Albrecht, N.J., Albrecht, P.M. and Cohen, M., (2012) Mindfully teaching in the classroom: a literature review. *Australian Journal of Teacher Education*, *37*(12), pp.1-14.

Alhojailan, M.I. and Ibrahim, M., (2012) Thematic analysis: A critical review of its process and evaluation. *West east journal of social sciences*, *1*(1), pp.39-47.

Altemeyer, B., (1996) *The authoritarian specter*. Harvard University Press.

Anderson, N.D., Lau, M.A., Segal, Z.V. and Bishop, S.R., (2007) Mindfulness-based stress reduction and attentional control. *Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice*, *14*(6), pp.449-463.

Anglin, L.P., Pirson, M. and Langer, E. (2008) Mindful learning: A moderator of gender differences in mathematics performance. *Journal of Adult Development*, *15*, pp.132-139.

Anney, V.N. (2018) Ensuring the Quality of the Findings of Qualitative Research: Looking at Trustworthiness Criteria. Journal of Emerging Trends in Educational Research and Policy Studies, 5 (2), pp. 272–281.

Baer, R., (2019) Assessment of mindfulness by self-report. *Current opinion in psychology*, *28*, pp.42-48.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). Losing control: How and why people fail at self-regulation. San Diego, CA: Academic Press

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., et al. (2004). Mindfulness: a proposed operational definition. Clinical Psychology: Science and Practice, 11(3), 230e241.

Bouton, M.E., (1993) Context, time, and memory retrieval in the interference paradigms of Pavlovian learning. *Psychological bulletin*, *114*(1), p.80.

Boyatzis, R.E., (1998) *Transforming qualitative information: Thematic analysis and code development*. Sage.

Bradbury, H. ed., (2015) *The Sage handbook of action research*. Sage.

Bradbury-Huang, H., (2010). What is good action research? Why the resurgent interest?. *Action research*, *8*(1), pp.93-109.

Brefczynski-Lewis, J.A., Lutz, A., Schaefer, H.S., Levinson, D.B. and Davidson, R.J., (2007) Neural correlates of attentional expertise in long-term meditation practitioners. *Proceedings of the national Academy of Sciences*, *104*(27), pp.11483-11488.

Brown, C.G., (2019) *Debating yoga and mindfulness in public schools: Reforming secular education or reestablishing religion?*. UNC Press Books.

Brown, K.W., Creswell, J.D. and Ryan, R.M. eds., (2015) Handbook of mindfulness: Theory, research, and practice.

Brown, K.W., Ryan, R.M. and Creswell, J.D. (2007) Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological inquiry*, *18*(4), pp.211-237.

Bryman, A. (2006) "Integrating Quantitative and Qualitative Research: How Is It Done? "Qualitative Inquiry6 (1): 97–113

Canas, J., Quesada, J., Antolí, A. and Fajardo, I., (2003) Cognitive flexibility and adaptability to environmental changes in dynamic complex problem-solving tasks. *Ergonomics*, *46*(5), pp.482-501.

Coghlan, D., (2019) *Doing action research in your own organization*. Sage.

Craske, M.G., Treanor, M., Conway, C.C., Zbozinek, T. and Vervliet, B. (2014) Maximizing exposure therapy: An inhibitory learning approach. *Behaviour research and therapy*, *58*, pp.10-23.

Creswell, J. W. (2013). Qualitative inquiry and research design: Choosing among five approaches (3rd ed). Thousand Oaks, CA: Sage

Creswell, J. W., and V. L. Plano Clark. (2011) Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J.W (2005). Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research, 2nd Edition. Pearson Merrill Prentice Hal

Creswell, J.W., (2014) *A concise introduction to mixed methods research*. SAGE publications.

Davidson, R.J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S.F., Urbanowski, F., Harrington, A., Bonus, K. and Sheridan, J.F., (2003) Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic medicine*, *65*(4), pp.564-570.

Dayan, Y. and Ziv, M., (2012) Children's perspective research in pre-service early childhood student education. *International Journal of Early Years Education*, *20*(3), pp.280-289.

Denham, S.A. and Brown, C., (2010) "Plays nice with others": Social–emotional learning and academic success. *Early Education and Development*, *21*(5), pp.652-680.

Dreyfus, G. (2011) Is mindfulness present-centred and non-judgmental? A discussion of the cognitive dimensions of mindfulness. *Contemporary Buddhism*, *12*(1), pp.41-54.

Dunning, D.L., Griffiths, K., Kuyken, W., Crane, C., Foulkes, L., Parker, J. and Dalgleish, T. (2019) Research Review: The effects of mindfulness-based interventions on cognition and mental health in children and adolescents–a meta-analysis of randomized controlled trials. *Journal of Child Psychology and Psychiatry*, *60*(3), pp.244-258.

Dunning, D.L., Griffiths, K., Kuyken, W., Crane, C., Foulkes, L., Parker, J. and Dalgleish, T. (2019) Research Review: The effects of mindfulness-based interventions on cognition and mental health in children and adolescents–a meta-analysis of randomized controlled trials. *Journal of Child Psychology and Psychiatry*, *60*(3), pp.244-258.

Eisenberg, N., Spinrad, T.L. and Eggum, N.D. (2010) Emotion-related self-regulation and its relation to children's maladjustment. *Annual review of clinical psychology*, *6*, pp.495-525.

Fredricks, J.A., Blumenfeld, P., Friedel, J. and Paris, A., (2005) School engagement. *What do children need to flourish? Conceptualizing and measuring indicators of positive development*, pp.305-321.

Gardner, H., (2008) The five minds for the future. *Schools*, *5* (1/2), pp.17-24.

Garrison Institute. (2005). Garrison Institute Report: Contemplation and education: A survey of programs using contemplative techniques in K–12 educational settings: A mapping report. Retrieved October 10, 2006, from http://www.garrisoninstitute.org.

Genet, J. J., & Siemer, M. (2011). Flexible control in processing affective and non-affective material predicts individual differences in trait resilience, Cognition and Emotion, 25(2), 380–388. https://doi.org/10.1080/02699931.2010.491647

Germer, C. (2004) What is mindfulness. *Insight journal*, *22*(3), pp.24-29.

Goddard, R.D., Hoy, W.K. and Woolfolk Hoy, A. (2000), "Collective teacher efficacy: its meaning, measure, and impact on student achievement", American Educational Research Journal, Vol. 37, pp. 479-508.

Gotink, R.A., Meijboom, R., Vernooij, M.W., Smits, M. and Hunink, M.M., (2016) 8-week mindfulness based stress reduction induces brain changes similar to traditional long-term meditation practice–a systematic review. *Brain and cognition*, *108*, pp.32-41.

Graue, C. (2015) Qualitative data analysis. *International Journal of Sales, Retailing & Marketing*, *4*(9), pp.5-14.

Grewal, D.S. (2014) Improving concentration and mindfulness in learning through meditation. *IOSR Journal of Humanities and Social Science*, *19*(2), pp.33-9.

Grimm, P., (2010) Social desirability bias. *Wiley international encyclopedia of marketing*.

Groark, S., (2019) *Mindfulness Intervention to Support School Engagement with At-Risk Students at an Urban Charter High School*. University of Northern Colorado.

Gross, J.J. (1998) The emerging field of emotion regulation: An integrative review. *Review of general psychology*, *2*(3), pp.271-299.

Grossman, P., (2015) Mindfulness: awareness informed by an embodied ethic. *Mindfulness*, *6*(1), pp.17-22.

Hart, S., Dixon, A., Drummond, M.J. and McIntyre, D., (2004) *Learning without limits*. McGraw-Hill Education (UK).

Herr, K. and Anderson, G.L., (2014) *The action research dissertation: A guide for students and faculty*. Sage publications.

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012).Executive functions and self-regulation. Trends in Cognitive Sciences, 3, 174–180.

Høigaard, R., Giske, R. and Sundsli, K., (2012) Newly qualified teachers' work engagement and teacher efficacy influences on job satisfaction, burnout, and the intention to quit. *European Journal of Teacher Education*, *35*(3), pp.347-357.

Hölzel, B.K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S.M., Gard, T. and Lazar, S.W., (2011) Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry research: neuroimaging*, *191*(1), pp.36-43.

Hölzel, B.K., Lazar, S.W., Gard, T., Schuman-Olivier, Z., Vago, D.R. and Ott, U., (2011) How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on psychological science*, *6*(6), pp.537-559.

Hoy, W.K., (2003) An analysis of enabling and mindful school structures: Some theoretical, research and practical considerations. *Journal of Educational Administration*, *41*(1), pp.87-109.

Ionescu, T., (2012) Exploring the nature of cognitive flexibility. *New ideas in psychology*, *30*(2), pp.190-200.

Jawale, K.V., (2012) Methods of sampling design in the legal research: Advantages and disadvantages. *Online International Interdisciplinary Research Journal*, *2*(6), pp.183-190

Jennings, P. A. (2015).Mindfulness for teachers: Simple skills for peace and productivity in the classroom. New York: W.W. Norton & Company.

Johnson, R. B. and Onwuegbuzie, A. J. (2004) 'Mixed methods research: a research paradigm whose time has come', Educational Researcher, 33(7), pp. 14–26. doi: 10.3102/0013189X033007014.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. Clinical Psychology: Science and Practice, 10(2), 144-156. doi: 10.1093/clipsy.bpg016

Kalafatoğlu, Y. and Turgut, T., (2017) Another benefit of mindfulness: Ethical behaviour. *International Journal of Social Sciences and Education Research*, *3*(3), pp.772-782.

Kallio, H., Pietilä, A.M., Johnson, M. and Kangasniemi, M., (2016) Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of advanced nursing*, *72*(12), pp.2954-2965.

Karunamuni, N. and Weerasekera, R., (2019) Theoretical foundations to guide mindfulness meditation: A path to wisdom. *Current Psychology*, *38*, pp.627-646.

Karunananda, A.S., Goldin, P.R. and Talagala, P.D. (2016) Examining mindfulness in education. *International Journal of Modern Education and Computer Science (IJMECS)*, *8*(12), pp.23-30.

Kee, Y.H. and Wang, C.J., (2008) Relationships between mindfulness, flow dispositions and mental skills adoption: A cluster analytic approach. *Psychology of Sport and Exercise*, *9*(4), pp.393-411.

Kee, Y.H. and Wang, C.J., (2008) Relationships between mindfulness, flow dispositions and mental skills adoption: A cluster analytic approach. *Psychology of Sport and Exercise*, *9*(4), pp.393-411.

Kellett, M., (2010) *Rethinking children and research: Attitudes in contemporary society*. Bloomsbury Publishing.

Kielty, M.L., Gilligan, T.D. and Staton, A.R., (2017) Whole-school approaches to incorporating mindfulness-based interventions: Supporting the capacity for optimal functioning in school settings. *Childhood Education*, *93*(2), pp.128-135.

Klingbeil, D.A., Renshaw, T.L., Willenbrink, J.B., Copek, R.A., Chan, K.T., Haddock, A., Yassine, J. and Clifton, J., (2017) Mindfulness-based interventions with youth: A comprehensive meta-analysis of group-design studies. *Journal of school psychology*, *63*, pp.77-103.

Laevers, F. and Heylen, L. eds., (2003) *Involvement of children and teacher style: Insights from an international study on experiential education*. Leuven University Press.

Langer, E.J., (2000) Mindful learning. *Current directions in psychological science*, *9*(6), pp.220-223.

Lee, J.K. and Orsillo, S.M., (2014) Investigating cognitive flexibility as a potential mechanism of mindfulness in generalized anxiety disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, *45*(1), pp.208-216.

Lofland, J., Snow, D., Anderson, L., & Lofland, L. H. (2005). Analyzing social settings: A guide to qualitative observation and analysis (4th ed.). Belmont, CA: Wadsworth

Maroney, T.A., (2011) Emotional regulation and judicial behavior. *California Law Review*, pp.1485-1555. Emotional regulation and judicial behavior. *California Law Review*, pp.1485-1555.

Martin, M. (2018). Mindfulness and transformation in a college classroom. Adult Learning, 29 (1),5–10.

Martinez, M.E., (2006) What is metacognition? *Phi delta kappan*, *87*(9), pp.696-699.

Maynard, B.R., Solis, M.R., Miller, V.L. and Brendel, K.E., (2017) Mindfulness-based interventions for improving cognition, academic achievement, behavior, and socioemotional functioning of primary and secondary school students. *Campbell systematic reviews*, *13*(1), pp.1-144.

Maynard, B.R., Solis, M.R., Miller, V.L. and Brendel, K.E., (2017) Mindfulness-based interventions for improving cognition, academic achievement, behavior, and socioemotional functioning of primary and secondary school students. *Campbell systematic reviews*, *13*(1), pp.1-144.

McCaw, C.T., (2020) Mindfulness 'thick' and 'thin'—a critical review of the uses of mindfulness in education. *Oxford Review of Education*, *46*(2), pp.257-278.

McCusker, K. and Gunaydin, S., (2015) Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion*, *30*(7), pp.537-542.

McNiff, J. (2021) Action Research: All You Need to Know. London: SAGE Publications

Meiklejohn, J., Phillips, C., Freedman, M.L., Griffin, M.L., Biegel, G., Roach, A., Frank, J., Burke, C., Pinger, L., Soloway, G. and Isberg, R., (2012) Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness*, *3*, pp.291-307.

Moore, A. and Malinowski, P., (2009) Meditation, mindfulness and cognitive flexibility. *Consciousness and cognition*, *18*(1), pp.176-186.

Morris, L. and Mansell, W. (2018) A systematic review of the relationship between rigidity/flexibility and transdiagnostic cognitive and behavioral processes that maintain psychopathology. *Journal of Experimental Psychopathology*, *9*(3), p.2043808718779431.

Mulhall, A. (2003). In the field: Notes on observation in qualitative research. Journal of Advanced Nursing, 41, 306–313.

Mussey, S. (2019). Mindfulness in the classroom: Mindful principles for social and emotional learning. Waco TX: Prufrock Press Inc.

Namey, E., Guest, G., Thairu, L. and Johnson, L. (2008) Data Reduction Techniques for Large Qualitative Data Sets. In: Handbook for team-based qualitative research. Rowman Altamira.

Napoli, M., Krech, P.R. and Holley, L.C., (2005) Mindfulness training for elementary school students: The attention academy. *Journal of applied school psychology*, *21*(1), pp.99-125.

Patten, M.L., (2016) *Questionnaire research: A practical guide*. Routledge.

Perry, J., Lundie, D. and Golder, G. (2019) Metacognition in schools: what does the literature suggest about the effectiveness of teaching metacognition in schools? *Educational Review*, *71*(4), pp.483-500.

Rahi, S., (2017) Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, *6*(2), pp.1-5.

Rai, N. and Thapa, B., (2015) A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, *5*.

Randal, C., Pratt, D. and Bucci, S., (2015) Mindfulness and self-esteem: a systematic review. *Mindfulness*, *6*, pp.1366-1378.

Roemer, L. and Orsillo, S.M., (2005) An acceptance-based behavior therapy for generalized anxiety disorder. *Acceptance and mindfulness-based approaches to anxiety: Conceptualization and treatment*, pp.213-240.

Roemer, L., Williston, S.K. and Rollins, L.G., (2015) Mindfulness and emotion regulation. *Current Opinion in Psychology*, *3*, pp.52-57.

Rowley, J., (2014) Designing and using research questionnaires. *Management research review*, *37*(3), pp.308 330.

Ruedy, N. E., & Schweitzer, M. E. (2010). In the moment: The effect of mindfulness on ethical decision making. Journal of Business Ethics, 95(1), 73-87.

Schmeichel, B.J. and Tang, D., (2014) The relationship between individual differences in executive functioning and emotion regulation: A comprehensive review. *The control within: Motivation and its regulation*, pp.133-152.

Shapiro, S. L, Jazaieri, H., & Goldin, P. R. (2012): Mindfulness-based stress reduction effects on moral reasoning and decision making. The Journal of Positive Psychology, 1-12, DOI:10.1080/17439760.2012.723732.

Simons, H. (2009) Case study research in practice. London: SAGE Publications

Singh, N.N., Lancioni, G.E., Winton, A.S., Karazsia, B.T. and Singh, J., (2013) Mindfulness training for teachers changes the behavior of their preschool students. *Research in Human Development*, *10*(3), pp.211-233.

Soltani, E., Shareh, H., Bahrainian, A. S., & Farmani, A. (2013). The mediating role of cognitive flexibility in correlation of coping styles and resilience with depression. Pajoohande, 18(2), 88–96.

Sünbül, Z.A., (2020) Mindfulness, positive affection and cognitive flexibility as antecedents of trait resilience. *Studia Psychologica*, *62*(4), pp.277-290.

Tang, Y.Y. and Tang, Y.Y., (2017) Traits and states in mindfulness meditation. *The Neuroscience of Mindfulness Meditation: How the Body and Mind Work Together to Change Our Behaviour*, pp.29-34.

Tang, Y.Y., Lu, Q., Geng, X., Stein, E.A., Yang, Y. and Posner, M.I., (2010) Short-term meditation induces white matter changes in the anterior cingulate. *Proceedings of the National Academy of Sciences*, *107*(35), pp.15649-15652.

Teasdale, J.D., Moore, R.G., Hayhurst, H., Pope, M., Williams, S. and Segal, Z.V., (2002) Metacognitive awareness and prevention of relapse in depression: empirical evidence. *Journal of consulting and clinical psychology*, *70*(2), p.275.

Thomas, N., (2017) Turning the tables: Children as researchers. In *Research with Children* (pp. 172-191). Routledge.

Treadway, M.T. and Lazar, S.W., (2010) Meditation and neuroplasticity: Using mindfulness to change the brain. *Assessing mindfulness and acceptance processes in clients: Illuminating the theory and practice of change*, pp.186-205.

Vago, D.R. and Silbersweig, D.A., (2012) Self-awareness, self-regulation, and self-transcendence (S-ART): a framework for understanding the neurobiological mechanisms of mindfulness. *Frontiers in human neuroscience*, *6*, p.296.

Verhaeghen, P., (2017) *Presence: How mindfulness and meditation shape your brain, mind, and life*. Oxford University Press.

Weare, K., (2019) Mindfulness and contemplative approaches in education. *Current opinion in psychology*, *28*, pp.321-326.

Wells, N.M., (2000) At home with nature: Effects of "greenness" on children's cognitive functioning. *Environment and behavior*, *32*(6), pp.775-795.

Wiles, R., Crow, G., Heath, S. and Charles, V., (2008) Anonymity and confidentiality.

Williston, S.K. and Rollins, L.G., (2015) Mindfulness and emotion regulation. *Current Opinion in Psychology*, *3*, pp.52-57.

Yukl, G., Seifert, C.F. and Chavez, C., (2008) Validation of the extended influence behavior questionnaire. *The Leadership Quarterly*, *19*(5), pp.609-621.

Zelazo, P.D. and Lyons, K.E., (2012) The potential benefits of mindfulness training in early childhood: A developmental social cognitive neuroscience perspective. *Child development perspectives*, *6*(2), pp.154-160.

Zins, J.E. and Elias, M.E., (2006) Children's Needs III. *GG Bear, KM Minke, Ed*, pp.1-13.

Zou, Y., Li, P., Hofmann, S.G. and Liu, X., (2020) The mediating role of non-reactivity to mindfulness training and cognitive flexibility: A randomized controlled trial. *Frontiers in psychology*, *11*, p.1053.

Appendices

Pupils Mindfulness Questionnaire

Directions: Rate each statement by ticking the correct box. If you have any comments leave in box provided

How far do you agree with the following statements	Strongly Agree 1	Agree 2	Very Little 3	Not at all 4	Comments about particular statement
1.Since Mindfulness techniques have been brought into the classroom, I have felt more engaged in my learning					
2.I feel like the techniques, Miss Thrower has used have helped settled me and the class					
3. Since participating in mindfulness, do you feel more focused on your learning?					
4.I have used Mindfulness outside the classroom					
5.I have put more effort into my work since beginning mindfulness					
6.After incorporating mindfulness techniques, I feel less restless before and after break/ lunch time					
7. Participating in mindful breathing has impacted my school day?					
8. Participating in mindfulness has made you more aware of yourself and others?					
9. When participating In the mindfulness activities, I do not feel judged					
10. Mindfulness has improved class behaviour (including noise level)?					

Provide an example of a mindfulness technique you liked and why?

_____

_____

_____

_____

Provide an example of a mindfulness technique you disliked and why?

_____

_____

_____

_____

How did the mindfulness activities help you within the lessons/school day?

_____

_____

_____

_____

Would you recommend mindfulness to a friend? (Circle yes/no)

Yes   **No**

Semi-Structured Interview Questions
Children

1. Have you enjoyed taking part in the mindfulness workshops?

2. How has using the mindfulness techniques made you feel more engaged in your learning?

3. Have you noticed a difference in your attention or concentration since using these techniques? Does this differ at different times of the day (Allow those who wish to expand)?

4. Has some technique increased you work standard? (If so, how?)

5. Have the mindfulness techniques motivated and inspired you to use them outside the classroom (participants can elaborate as to why if they deem?

6. Since starting mindfulness, do you think the class behaviour and noise level has been any different to your learning?

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*Further probing questions were asked on extension to the question to draw out detail in students responses.

Appendix C: Head teacher (Gatekeeper) permission form

QTS6004M Research Project Permission form

Student name: Grace Thrower

SE3 School: _____

Headteacher permissions:

I have read this student's ethical clearance form and give my permission for the conduct of this small-scale research project.

Additional parental passive consent is not required/has been obtained (pleased delete as applicable)

Headteacher's name: _____

Headteacher's signature: _____

Date: _____

Appendix D: Research project information and parental/ child consent

Dear Parent/Carer,

I am a student teacher from York St John University and am currently working in ********* at **********. Training on an undergraduate BA Primary Education degree involves a number of different components, one of which is to conduct a research project based on an area of interest. My project focusses on mindfulness for children's engagement within the classroom. As part of this project, I would like to collect the pupils' responses and conduct observations around this topic in order to develop understanding of their reactions to it and to develop lessons for future use. I would like to do this by:

Data collection:

- ***As part of this inquiry, I would like to ask pupils to complete small-scale questionnaires.***
- ***As part of this inquiry, I would like to ask a few pupils to participate in a one-to-one interview with me***
- ***As part of this inquiry, I would like to conduct a few observations in the classroom environment***

The interviews would be arranged at a time that was convenient for the pupil(s) and would last approximately ten minutes.

Pupil involvement in the research is not connected to any classroom assessments. Any pupil who prefers not to participate in this small-scale research project will not be penalised in any way. Any pupil who participates will be able to withdraw their data at any time. In all cases, the views gained will be fully anonymised (i.e. will not include the pupil's name or names of anyone mentioned during data collection; names will be changed to ensure individuals cannot be identified) and data will be held in a secure place to ensure confidentiality. At any time, parents are welcome to access data collected through this small scale project from the interviews and questionnaires with their children.

The information collected will only be used by me to aid my understanding of mindfulness for engagement levels. The assignment written about this small-scale research will ensure that complete pupil anonymity is preserved at every stage of the process. Any recordings will be destroyed as soon as possible following transcription.

If you have any further questions concerning this matter or are interested to find out more about this project, including viewing the interview and questionnaire data, please feel free to get in contact with me on the school email.

If you are not happy for your son/daughter to be involved in the collection of information or the research project please let the school office know by the Monday 9th January.

Thank you for reading this letter and for your co-operation.

Yours Faithfully

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