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**Resilient Rhino: A Study of Year 2 Pupils'
Perspectives on Intellectual Risk**

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Abstract

Children's intellectual risk-taking behaviors influence their motivation, wellbeing, and achievement in the classroom. But how do pupils perceive their own actions in intellectual risk contexts, and what is their perception of preferred difficulty and the consequential effects of intellectual risk taking? This article presents children's perspectives on intellectual risk as transient, personalised insights which may help educators and researchers to access the multivariant realities which always exist in education, and as effective tools to explore the cognitive and lived experiences of the children in our classrooms. Through detailed consideration of recent literature, and the employment of Clifford's (1991) School Failure Tolerance Scale, I present what could be a possible framework for researching pupils' perspectives on intellectual risk taking, and consider the implications of such research in regards to my own practice.

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Note

In 2020-2021 the COVID-19 crisis disrupted the second assignment for Primary PGCEs meaning that they were unable to undertake research in classrooms. As a result the assignment was changed to make it a research proposal instead. Therefore, the articles included from the Primary PGCEs do not include results and discussions, but do provide detailed proposals for researching pupil perspectives about different aspects to school and learning.

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Introduction

'Lockdown learning' has undoubtedly had an impact on children – it is the extent and specifics of that impact which remain unknown. I have witnessed parents concerned over children's increased levels of anxiety, reliance on adults and reduction in self-belief. When interviewed by the press, Headteachers commonly noted their concerns for wellbeing as well as learning stamina (Ferguson, 2021). There is certainly a breadth of issues which could be researched in the aftermath of the Covid-19 pandemic. By focusing on just one, however, I have chosen to study pupils' perspectives on intellectual risk taking. After visiting the school in which the research would take place, I was motivated by the teachers' concern for pupils' resilience in the face of challenges and inspired by their commitment to supporting children after their return. Normally, the children at school have a learning hero, 'Resilient Rhino', and are encouraged to explore how they feel and behave when learning gets challenging. This context, and these issues, are all encompassed by intellectual risk.

Intellectual risk-taking ability concerns the subject's willingness to approach tasks which have an unknown outcome, and often have a risk of possible failure. Pupils' ability to take intellectual risks has been frequently shown to improve learning. Whilst action-research shows the important effects and impact of intellectual risk taking in children, it is crucial that we bring pupils' perspectives to the forefront of our practice also (Clifford, 1991). By asking pupils about their perspectives on intellectual risks, we may reach a deeper understanding of how to support them in adopting positive risk-taking behaviours. Dialogue between the teacher, researcher and pupil will allow for tailored and considerate practice, which hears and acts on pupils' lived experiences. This past year has been repeatedly termed as unknown and unprecedented. In this context, illuminating pupil perspectives will help teachers support children in the best ways possible.

The participants of my research will be Year 2 children. Through a mixed-method approach, I hope to discover answers to the main research question, 'How do Year 2 children perceive intellectual risks in school?'. I have broken this main research question down into three researchable components:

- What intellectual risk-taking actions do Year 2 children think they take?
- How do children perceive different levels of task difficulty?
- How do children feel about making errors at school?

In order, these questions concern action, preferred difficulty, and affect in regard to intellectual risk. These areas are crucial to the research design. By fully exploring each component, I hope to build a picture of Year 2's pupils' perspectives on intellectual risk.

Literature Review

Cook-Sather et al. (2015) have distinguished the difference between identifying pupil perspectives and learning from them. Pupil perspectives become a rich and valuable source when educators consider them in conversations about effective teaching. Children offer teachers and researchers unique perspectives on teaching and learning and deepen our conceptual understanding of the effects policies and actions have on the children in our community. If we truly seek to have children at the heart of our education system, whether that be in matters of wellbeing or intellectual capacity, then including their perspectives is essential when questioning and reconsidering our practice. As Cook-Sather et al. (2015, p.223) explain, “the capacity to learn from the student’s perspective [...] begins with a willingness to acknowledge that someone looking from a different vantage point might well see something different from what you see”.

Perspectives are never fixed nor final (Cook-Sather et al., 2015). It is in their nature to be transient, as highly personalised insights into how another may see a situation or understand their own lived experience. One child in one school may perceive an area of their own learning entirely differently to another child in another school, whether that be because of social or economic contexts, age, gender, religion or even because the question is asked on a warm summer’s day versus a chilly, dark winter morning. However, their transient nature is as much what makes them valuable as it does limit their influence. In consulting pupils to identify and analyse how they perceive an area of their learning, we get as close as we can to reaching the nebulous and complex area that psychologists have sought to understand for centuries: the cognitive experience of another. Pupil perspectives are an invaluable window into how children experience education, and their perspectives on teaching and learning can help us understand the effects our day-to-day practice have on their lives. Indeed, small

case-studies into pupil perspectives on intellectual risk, taken by individual teachers in their own classrooms are a huge opportunity to respond to the needs of all pupils in the room. Through research of this kind, educators may not only show a greater understanding of the effects of their own teaching on learners, but also cautiously begin to move the specific case to analytic generalization, to help other educators make insights into their own practice regarding risk-taking and resilience (Cohen, Manion, & Morrison, 2017; Robson, 2002; Yin, 2009).

Intellectual risk, also described as academic risk across the literature, has been defined by a variety of different researchers. Beghetto (2009, p.1) summarised intellectual risk as “engaging in adaptive learning behaviours (sharing tentative ideas, asking questions, attempting to do and learn new things) that place the learner at risk of making mistakes or appearing less competent than others”. Academic risk-taking behaviour is categorized by Korkmaz as the recovery after failure and the tendency to prefer difficult actions or the tendency toward negativity after experiencing failure (Korkmaz, 2002, in Çetin et al., 2014). Students who show high levels of academic risk are willing to participate in activities even if there is risk of failure, have an inherent joy of learning, high levels of motivation and increased problem-solving skills (Clifford, 1988). Indeed, students who are intellectual risk takers are more likely to learn new knowledge and skills (Ames, 1992). The positive effects which derive from intellectual risks make this area of research highly valuable to teachers, researchers, and policy makers alike.

Conversation on intellectual risk, tolerance of failure, motivation and goal-orientation theory moved to the forefront of educational debates in the late 1980s and early 1990s (Clifford, 1991; Clifford, Kim, & McDonald, 1988; Dweck & Leggett, 1988; Elliot & Dweck, 1988). Influenced by theories of risk-taking in psychology and economics, Margaret Clifford researched the effects of moderate risk-taking as a means of enhancing learning and summarised her findings in the *Educational Psychologist* in 1991. Clifford examined a variety of different aspects of risk-taking. Across several large-scale studies of 233 nine to twelve year olds, and the creation of a Likert scale questionnaire to examine students' failure tolerance and an academic risk taking assessment compromised of tasks differing in risk level, Clifford (1988, p.27) concluded that, “consistent with decision-making theory, risk-taking theory, and motivation theories in general, students often preferred near-moderate risks,” and that the implementation of game contexts and multilevel competency criterion increased academic risk taking. Clifford's (1988) work on creating a School Failure Tolerance scale (SFT) was particularly impressive, as through statistical analysis, Clifford showed her Likert scale to be both valid and highly

replicable. Where, as Clifford described it, educational ‘popular opinion’ had traditionally sought to create failure-free schools, as learning was considered most productive where error making was minimised, this new research alongside the works of Dweck and Leggett (1988) and Elliott and Dweck (1988), sought to ignite a conversation about what kind of mindsets children were adopting in the classroom, and whether the avoidance of failure and limitation of moderate risk was the most effective way to ensure progress. In conclusion to her work, Clifford (1991, p.30) highlighted that “students' attitudes toward and interest in academic risk taking should be observed and monitored as an essential part of risk-taking research”. This is the important area which I hope to examine by researching pupils’ perspectives on intellectual risk. I wish to discover children’s insights into their own relationships with intellectual risk: in what kinds of ways do they think they take intellectual risks, how they feel about them, and how they perceive task difficulty. In this, I hope to place my research amongst the wider conversation on risk-taking, failure and goal-orientation theory, by highlighting the importance of examining the “absolute level of observed effects and the magnitude of effects” (ibid.) on how children perceive their own learning.

Since Clifford’s initial ground-breaking work in the 1980s and 90s, the field of intellectual risk has continued to dominate large areas of educational research. Now, intellectual risk has expanded to contain conversations on failure, resilience, challenge, reward, progress, and socio-emotional development and, most famously, on Dweck’s growth-mindset. The positive effects of adopting intellectual risk-taking behaviours have been well established, especially in light of the ground-breaking work being done on growth-mindsets in schools and universities. Excellent research by academics in Turkey has further explored the meaning of ‘academic grit’ and its place in the primary classroom (Bozgün & Akın-Kösterelioğlu, 2020). All these terms interlink and encompass theories and research on intellectual risk-taking, colouring and grounding a much larger body of knowledge. In an effort to not become fixated on the impossible task of separating or identifying the value of these diverging, or converging, linguistic terms, I have considered each one as useful as another, and observed them not as singular terms but as linguistic tools which effectively tie together a wider body of knowledge. So, it is essential to explore the different breadth and variety of research which has emerged in the last ten years, into which this proposal fits.

In 2014, Bayram Cetin, Mustafa İlhanb and Ferat Yilmaz studied the relationship between intellectual risk and receiving negative criticism in University students. The population of the study comprised of 215 students who studied Education. The researchers used relational screening models, which

determine the presence and level of joint variances between two or more variables (Çetin et al., 2014). A quantitative approach was used by utilising Leary's (1983) Brief Fear of Negative Evaluation Scale (BFNES) and Clifford's (1991) Academic Risk Taking Scale (ART), the latter of which is the adult pair to the SFT. Through a canonical correlation analysis, it was found that as the fear of negative criticism increases, the tendency to take academic risks decreases (Çetin et al., 2014). This research is certainly limited in considering pupil perspectives in the primary classroom as the population of the study was solely taken from adults. It is also limited to two variables, which is problematic when there are numerous affective characteristics which make up students risk-taking behaviours in the classroom. Nonetheless, the implications of this study are important to consider. To support children in taking intellectual risks, teachers should make every effort to reduce children's fear of negative criticism. This could be done by supporting children to see that their significant fears are not realistic. More importantly, classroom cultures which value mistakes and approach criticism in an open way, centred on progress not ability, may encourage children to take intellectual risks. Children should be taught to courageously participate in class activities which are process based, so that they may understand that their learning related efforts are valuable (Haimovitz & Dweck, 2017).

Researchers have explored intellectual risk in subject specific domains. In a collaborative study between Sue Allmond, Jude Hillman, Karen Huntly, all of whom described their teaching practice as promoting a positive learning environment, and researchers Katie Makar and Mia O'Brien, it was found that through design and creation of a specialised rubric, children found handling setbacks and responding to peers to be the most challenging skills needed to support intellectual risk-taking behaviour (Allmond et al., 2016). This small case study of 84 children used observations to gather quantitative and qualitative data. Children were assessed on the 3-level rubric, 3 being the highest, on five different criteria: generating ideas, developing ideas, handling setbacks, responding to feedback and giving feedback. Scores were taken at two different points of the year to discover progress. In interviews with the teachers, qualitative assessments were used to further discuss and enhance understanding of why different children struggled or excelled taking intellectual risks in their maths lessons. Researchers also identified that the teachers emphasised creating a strong classroom culture above all other factors, which they perceived to influence the quantitative results. There are significant limitations in the reliability of this study, as it only reported at $\alpha = .05$. The sample size is also quite small in relation to the number of variables. Nonetheless, the mixed-method approach, particularly the interviews with educators, yielded significant implications for classroom practice. The aims of this study were not to examine the psychometric properties of the rubric. If used

solely as a pedagogical resource, the rubric evidenced that progress in all criteria across the year was achievable. Highlighted were children's difficulties in managing set back and providing feedback to peers (ibid.). It is certainly possible for educators to take this from the 10 analytical specific to the general, to consider how children in their own classrooms may be supported with these challenges (Yin, 2009). Indeed, the overwhelming consensus that a classroom culture is critical to fostering intellectual risk-taking behaviours was established throughout (ibid.).

In Beghetto's (2009, p.1) study on intellectual risk in elementary school science, results of hierarchical regression showed that reports of intellectual risk taking were "positively related to interest in science, creative self-efficacy, and perceptions of teacher support." In fact, of all the factors considered, interest in science was found to have the strongest positive relationship with student's self-reported intellectual risk-taking behaviour (Beghetto, 2009). Intellectual risk is a key attribute of scientific thinking. This influential paper was the first to examine intellectual risk taking within children's scientific learning. Through the use of two Likert questionnaires, children were asked to respond to statements which measured their intellectual risk-taking behaviours, self-efficacy, perception of teacher support and interest in science, and teachers were asked to rate their students demonstrated scientific understanding (ibid.). This study reported high reliability and validity values, and moved thinking on intellectual risk significantly forward, not just within science education. Beghetto (ibid.) found that student's self-efficacy was more important than ability in determining intellectual risk taking, and that their perceptions of teacher support and their joy of learning also had a positive effect. From these conclusions, Beghetto (ibid.) was able to make a new hypothesis, and open up the field to consider which factors might ameliorate declines in intellectual risk taking.

Bozgün and Akın-Kösterelioğlu (2020) from Amasya University have researched the effects of reading on pupils' academic self-concept, but also on their academic grit. Turkish studies have described academic grit as the determination to overcome obstacles, and many studies have used grit in reference to persistence and resilience. Studies have made links between academic grit and risk taking (Lee, 2017; Rojas et al., 2012; Wolters & Hussain, 2015). In Turkey, the creation of an academic grit scale by Rojas and colleagues in 2012 was tested for validity and reliability by Bozgün and Başgül (2018, in Bozgün & Akın-Kösterelioğlu, 2020). The alpha coefficient was found to be .77, which identifies good reliability. The scale has significant cross overs with Clifford's SFT scale, as well as resembling many of the features which identify the presence of a growth mindset in Dweck's theory. For example, the scale asks participants to consider whether they "keep working on

something new even when it's hard" (Bozgün & Akın-Kösterelioğlu, 2020, p.4). Using this scale, alongside other scales the measure self-efficacy and wellbeing, Bozgün and Akın-Kösterelioğlu (2020) used a cross-sectional research design with a population of 1928 fourth grade primary school children across the city centre, towns and villages of Amasya, the proportions of which were determined by the ratios of the numbers of schools to the population. Bozgün and Akın-Kösterelioğlu (2020) found that children who read daily had higher levels of academic grit as well as more confidence in and positive attitudes towards specific subject skills. The links between academic grit and wellbeing are not as strong in this research, however, the implications for considering the relationships between all three of these categories could be crucial to considering the importance of intellectual risk in the classroom.

These studies are only a small selection of those which highlight the positive impact intellectual risk-taking has on children's learning. The studies have used Likert scales, qualitative and quantitative analysis and mixed-method approaches. My own research is inspired by these characteristics, and the following research design sits very much within this literature.

Method and Research Design

Research Design

The study proposed is a case study. Arriving at a single definition of what a case study is both an elusive and contested task, and one that has been considered for many decades (Cohen et al., 2017). Adelman, Kemmis, and Jenkins (1980) explain that case studies explore an instance in action. Nisbet and Watt (1984) have defined it as a specific instance that is frequently designed to illustrate a more general principle. Stake (1995) emphasises that case studies are valuable because they see the "particularity and complexity of a single case" (p.xi). Tight (2010) neatly summarises it as a "detailed examination of a small sample" (p.337). More recently, Cohen et al. (2017, p.376) highlight the value in case studies as providing "a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles". Case studies have a number of advantages which have made them the choice of educational researchers. Case studies value reality and acknowledge the multivariant realities which exist in any situation. They are more down-to-earth and provide a natural platform for analytic generalization. Case studies recognise complexity and allow the researcher to look deeper and think deeper about the

specific (*ibid.*). This being said, case studies are less readily open to cross-checking and so risk becoming selective and subjective. They are highly influenced by observer bias. However, this limitation shifts to a strength when the case study concerns pupil perspectives (*ibid.*). In case studies' inherent tendency to rest on the experience of others, by focusing on the perceptions of children and bringing this to the forefront of both qualitative and quantitative analysis, case studies may exemplify a child's voice, and be more relevant when educators and practitioners consider how their own experiences exist alongside.

A mixed-methods approach is proposed for the collection of data in this study. Mixed-method research does not only relate to data collection. It is built upon epistemological and philosophical assumptions too (Coolican, 2014; Greene, 2008). Mixed-method approaches recognise that the world is not strictly quantitative or qualitative (Cohen et al., 2017; Creswell & Plano Clark, 2011). Since we perceive reality in a highly pluralistic way, and case studies concern reality, it is applicable to take a mixed-method approach. Participants will fill in a questionnaire (see Appendix 1) derived from a standardised Likert scale with high reliability and validity values (Clifford, 1988). This will be followed by semi-structured interviews. This method is a form of triangulation to further ensure validity (Cohen et al., 2017). Findings will be compared, so that the response of participants in their questionnaires may be considered against their interview responses (Bell, 2005). Through a mixed-method approach, I will be able to think deeper about the results of my study, and to consider my research questions as part of a more complete observation and analysis (Cohen et al., 2017; Denscombe, 2014). The questionnaire part of my study will provide me with quantitative data. By using semi-structured interviews, I will enhance my research by providing qualitative analysis. The quantitative data will allow me to gain an overall picture and discern possible patterns of response, and the qualitative will help me "understand the context of research and the participants in it; to validate the quantitative data; to understand participants' views of the research and what is being studied" (Cohen et al., 2017, p.42)

Participants

This research will take place in a primary school in the United Kingdom. It should be noted that this research will be taking place after a period of multiple national lockdowns during a global pandemic. This unprecedented event remains largely unresearched, and the long-term effects of home-learning on children are still to be discovered. It is unknown to what extent lockdown has affected children's

risk-taking behaviour. Two classes of Year 2 children will be invited to take part in the study. Letters which describe and explain the research, along with consent forms, must be sent home to all of the children's parents or carers. It is anticipated that only a portion will be returned. All children who return the form will become participants. Those who returned the form will complete the questionnaire and quantitative data will be collected. These results will then be triangulated by interviewing 9 children from those who returned their consent forms. These 9 children will be selected by randomly selecting 3 children from within three different attainment bands. Children will be sorted into the three different attainment bands through summative data and their class teacher's professional judgement.

Questionnaire

Instead of researching the effects of intellectual risk-taking on learning or to assess the different ways to promote intellectual risk-taking, this study aims to research how pupils perceive different intellectual risks. This assessment of feeling called for the implementation of a Likert scale. It is difficult to create good questionnaires because they must be tested to ensure validity and stability (Bell, 2005). So, Clifford's existing School Failure Tolerance scale (SFT), which has established reliability and stability ratings, was used. Clifford (1988; 1991) aimed to validate the SFT scale and to identify developmental patterns and sex differences in children's academic risk-taking and tolerance for failure. Clifford's research was a large-scale study of 233 students across three school years, ranging from ages 9 to 12 years. This is slightly above the age range of my study, but the questionnaire was specifically designed for children and adapted from an adult scale and so I believe it is suitably transferable. I used the standardised SFT questionnaire due to its high reliability coefficient (Cronbach's $\alpha = .9$). In this study, the authors narrowed down the original set of 56 items to 36 by using factor analysis with a varimax rotation. The analysis confirmed the three anticipated failure tolerance components. These components of 'Action, Preferred Difficulty and Affect' can be used to summarise a child's tolerance to failure and also specifically address my three sub-research questions. 'Action' concerns the types of risk-taking actions children think they take, 'Preferred Difficulty' address how children perceive different levels of task difficulty, and 'Affect' considers how children feel about making errors in school.

The questionnaire will be composed of 12 closed questions. The benefit of this is that the answers provide data which can be easily analysed, quantified, and compared. The answers are essentially

pre-coded data (Denscombe, 2014). It is crucial that questionnaires are adapted to suit their audience, to reduce questionnaire fatigue and to consider accessibility factors (ibid.). I have modified the questionnaire to fit the context of my study. 36 different statements to respond to would be too high a cognitive load for children in Year 2. From each 12 statements which made up each different component, I have selected the 4 with high factor loadings derived from the varimax rotation analysis to help maintain the validity of my study, and that apply to the context of the school in which this research will be taken. In the study, a 6-point Likert scale was used. Children were asked to circle either 'yes' or 'no', in three increasing text-sizes for each in response, to whether they agreed or disagreed with the statement. I believe the visual representation of the big or little yes or no to be appropriate and helpful for children in Year 2. Furthermore, with clear explanation of what the big or little yes or no means prior to completion of the questionnaire, I believe children will be able to answer accurately and truthfully.

Semi-structured Interviews

Although closed questions allow for pre-coded data to be collected, they do not allow for participants to give answers which fully explore the wider scope of their perspectives or more complex insights on intellectual risk (Denscombe, 2014). I have included a semi-structured interview in my research design because they allow the researcher to explore the opinions, feelings, emotions, and experiences of the participants, as well as access privileged information. Which questions I ask will depend on the questionnaire responses and will be devised after analysis of all returned. In considering the areas to discuss and questions to ask, particular focus will be given to ensuring the questions are open-ended (Cohen et al., 2017). Through using open-ended questions in an interview process, children may more sufficiently reveal their invaluable insights into their own lived experiences regarding intellectual risk. Children may be able to consider their opinions, feelings, and emotions in more detail. Through qualitative analysis of this kind of data, the case-study researcher may examine the reality in which they are exploring to a greater extent. An additional benefit is this process also triangulates the quantitative data collected in the questionnaires.

I will use a semi-structured interview approach because this allows me to address a clear list of issues whilst also being flexible. A semi-structured approach means that children will be able to develop their ideas, have some input in the direction of the interview and to speak more widely on the topic (Denscombe, 2014). It is crucial to make sure participants feel comfortable and respected during the

interview. The benefits of allowing children to partially lead the interview means that as a researcher I have access to their honest and true feelings and can gain deeper knowledge on their different perceptions of intellectual risk, but as a professional it means that children feel able to trust me and feel both heard and comfortable. As Denscombe (2014) states, “interviews are more than conversations”, but nonetheless being sensitive to the feelings of the participant and using probes in the back-and-forth are crucial skills for the interviewer (p.195). I have chosen to do individual interviews instead of group interviews, as discussions on intellectual risk can be quite personal, and I want children to feel happy that their answers are confidential. Equally, I do not wish them to be led by answers from other children; it is crucial that they give honest responses.

After the participants who return their consent forms have completed the questionnaires and they have been analysed, I will randomly select 9 children, where 3 children are randomly selected from 3 different attainment bands. This use of purposive sampling allowed me to pick participants who would cover the full spectrum of attainment context, offering a range of reflections points for my research questions, whilst also facilitating the use of random sampling to help eliminate possible bias and to ease accuracy of representation. The sample size is likely to be far too small for true simple random sampling to be used but it is nonetheless useful to randomly select within the 3 bands, instead of hand-picking them as a researcher (Cohen et al., 2017). Individual interviews should be conducted a few days after the questionnaires have been collected, and they should not last too long to avoid interview fatigue in the young children (Denscombe, 2014). Their responses will be audio recorded, transcribed, and then analysed through thematic analysis of qualitative data (Coolican, 2014).

Analysis

As Clifford (1988; 1991) explains, each three subcomponents of the SFT questionnaire yield mean average scores. Therefore, it will be possible to compare children’s perceptions on the three different categories which make up how they perceive intellectual risk taking in school: action, preferred difficulty, and affect. These three subgroups address my three sub-research questions. The 6 point-Likert scale will be converted into quantitative data points, where big yes to a big no are valued 1 to 6. As in Clifford’s original study, “scores below 3.5 signal intolerance” to intellectual risk taking (Clifford, 1998, p.23). I will use the programme SPSS to analyse my quantitative data gathered from my questionnaire responses. By conducting a Pearson’s Correlation on my data, I will be able to consider possible correlations between two variables (Cohen et al., 2017). I will compare action and

preferred difficulty, action and affect and affect and preferred difficulty. I cannot determine causation from correlation analysis, but I may be able to deepen my understanding and triangulate any findings considered from my qualitative data (Coolican, 2014). A Pearson's Correlation is suitable, as my data is interval and I can choose data pairs from a singular case, the pupil (*ibid.*). This will be visualised for further accessibility and analysis using a scatter plot. This will help me display any linearity between pairs of sub-groups, or trends in the data which are not made evident by the Pearson correlation coefficient (Denscombe, 2014).

I will also use a box and whisker plot as it is a useful way of representing and comparing the distribution of data, especially when the sets are measured on the same interval scale (Salkind, 2010). By creating a box and whisker plot for each subgroup from the questionnaire, I will be able to compare distributions and to summarise their characteristics. This way of representing the data will be particularly useful in this case study, as I will be able to see the range of responses from the children. Within the closed classroom environment, for example, it would be interesting to see a small range at extreme of the interval scale. It would be equally interesting to discover a large range, especially if a particular strategy regarding intellectual risk taking was currently being implemented as part of the professional's practise, and children's day to day life at the school. My sample is likely to be small. So, it is highly unlikely that any statistical significance is possible. However, the scatter plot and the box and whisker plot will both help me to compare the linearity, and the variability and concentration of values within a distribution, despite a non-significant result (*ibid.*).

For my analysis of qualitative data, I will transcribe all the interviews and use a partial version of Grounded Theory (GT) analysis (Coolican, 2014). It is not the full version, as I will only be able to perform one round of interviews. By coding and categorising the data, I may more greatly discern the meaning contained within the answers (Denscombe, 2014). The key cognitive skills for analysing qualitative data are that transcripts are recorded exactly as spoken, that transcripts are approached without prejudice, the development of categories and the constant checking of these categories against the data (Coolican, 2014). Unlike Thematic Analysis, GT aims to develop a theory out of the data and to leave as few "rogue raw data" out of the final analysis (*ibid.*, p.315). From the data, I will create codes which centre on descriptions of the different areas participants are talking about. For example, implied from the previous literature, 'fear of failure' or 'openness to asking questions' may arise as codes. It is crucial that memo writing is included as this process is performed across all 9 different interviews, as memos will be used to justify and explain my different decisions as a

researcher (Coolican, 2014). After this has taken place, I will be able to “combine early simple codes into larger constructs which will eventually combine into explanatory categories” (ibid., p.316). However, I will not except these final categories as stationary bodies, but continue to question them, so that the codes which lead to these final categories remain important factors which shape my contextual categorisation of the data. My analysis will be embedded with direct quotations from the transcript and will refer to the quantitative data from the questionnaire. This will help me to get a clearer picture of this particular case, and, considering the epistemological factors which shape the use of qualitative data in a case study, will help me try and access the lived experience, the reality, of the participants

Ethics

It is crucial that educational research considers ethical implications and issues. At every stage of this process, I have considered how advice and judgement from professionals in a position of care to the participants, the children, and official ethics guidelines may be followed. It has always been my priority that children would feel comfortable throughout this study. Before any research is undertaken, a document must be submitted to the Faculty tutor at the University and to all relevant staff at the school in which the research will be taken. This document outlines the project, explaining the research questions and framing the focus of the study amongst the wider academic context. Verbal conversations discussing this document should be priority, as it is paramount that thorough consultations take place to ensure that there are no concerns about the research (Bell, 2005; BERA, 2018). Through consultations with the children’s class teachers, it became apparent that whilst intellectual risk is a sensitive area, they were very open and keen for the children to talk about this. The Key Stage has a ‘Resilient Rhino’ learning hero and children frequently discuss emotional responses to their own learning, so they would not be new to conversations on intellectual risk and be knowledgeable of the effects of risk taking on their own learning. I was able to learn about these already existing strategies, to help reduce the effects of the research on participants (Cohen et al., 2017).

After all prior documents have been shared and the study approved, I will be able to invite the Year 2 children to become participants. Participants’ voluntary informed consent must be obtained at the start of the study (BERA, 2018). As described by BERA, voluntary informed and ongoing consent is the “condition by which participants understand and agree to their participation, and the terms and

practicalities of it, without any duress, prior to the research getting underway” (ibid., p.5). As the participants are children, parental consent is required for them to participate (Cohen et al., 2017). A consent letter will be sent home to explain the aims of the project, why I have chosen to undertake it, how their child would experience the study and the confirmation that all data would remain anonymous and confidential. In regard to transparency, I will always endeavour to be open and honest with both children and parents and carers. Alongside this letter of consent to parents, children must also give their consent. I will explain the study to the children, in appropriate and accessible language, to avoid any deception. They shall be made aware of “what they will be asked to do, what will happen to the information they provide, how that information will be used and how and to whom it will be reported” (BERA, 2018, p.5). If they consent, they will sign their own form and bring home the consent letter to their parents.

Throughout the project, before the questionnaire and interviews, and during, I will remind participants that they can withdraw at any point (BERA, 2018). Anonymity and confidentiality are important ethical considerations. I will explain what confidential and anonymity means to the children, so that they understand that anything they said or was recorded would be confidential and that if I write anything up, I will use a different name for them (ibid.). I will also explain that I will destroy all the data once the study had been completed (BERA, 2018; Cohen et al., 2017; Denscombe, 2014).

Implications for Future Practice

It is unknown the extent to which children’s resilience and risk taking has been affected by lockdown. Teachers now face the vital task of determining where their support needs to focus across the knowledge curriculum, in children’s social and emotional wellbeing, and in their skill development as learners. As a teacher, it is one of my core values to create positive learners, who are open to challenges and who take risks. I hope to inspire children to ask questions, to be open to the unknown, and to explore, with a positive and open mindset, the furthest reaches of their cognitive space. The implications of the research outlined above is not apparent yet, but the literature nonetheless lays out a clear foundation for the importance of encouraging intellectual risk-taking behaviours in the classroom. Through intellectual risk taking-behaviours, children become willing to participate in activities even if there is risk of failure, and have an inherent joy of learning, high levels of motivation and increased problem-solving skills (Clifford, 1988).

To encourage this, I hope to include, alongside my school's values and behaviour policy, a classroom value concerning risk taking in my practice. Pupils will be taught that, 'we are risk takers.' Through children's literature, positive reminders, celebration, displays, dialogic teaching which emphasises that everyone in the room should never be afraid to ask questions and a culture which values mistakes, I hope to create a classroom culture where children can learn to become confident risk-takers. I hope to create tasks that encourage risk-taking and curiosity, by offering children challenging and creative ways into the curriculum. Children may pick their challenges and will be praised for their risk-taking behaviour. A 'risk-taker of the week' - someone who has shown that they can be brave in the face of challenges, responds positively to getting things wrong and is not afraid to ask questions - will further create a culture where children can collectively celebrate this skill, and the achievement of their peers.

By sharing children's mistakes and reflecting on emotions that come from failure as a class, especially in plenaries, I hope to incorporate and show children that we value the process as much as the results of learning. By using the visualiser to show children's work, I will explore mistakes and the difficulties which may arise from challenging tasks and reduce the fear of negative criticism. I hope to normalise the process of responding positively and productively to errors. Through emotion boards, such as the 'Blob Tree' or 'Feeling Zones', I hope that children may access and understand their own responses to getting things wrong. This is an important aspect of the meta-cognitive development which assists intellectual risk taking. For children of all attainments and needs, the skill is no less important than another. Whether they are making mistakes in challenging greater depth work or experiencing cognitive stress when trying to reach the age-related expectations, the process of learning from mistakes and asking questions is essential. Furthermore, I hope that children will trust me as a professional to support their intellectual risk taking, especially as the evidence suggests that teacher support has an impact on children's positive risk-taking behaviours (Beghetto, 2009). I will never make a child feel ashamed for asking a 'silly' question, and will praise, nourish, and celebrate the process, so that children trust that even when things get difficult, that I will support and encourage them.

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Appendix 1:

Sample Questionnaire

Circle either a big, medium or small yes or no for each of the statements.

1. If I make lots of mistakes in school, I feel very moody or angry.

Yes **yes** yes no **no** **no**

2. If I give a wrong answer to a teacher's question, I feel terrible.

Yes **yes** yes no **no** **no**

3. I get very discouraged if I make errors on a task I am trying to learn.

Yes **yes** yes no **no** **no**

4. When I start something new in school, the first thing I think about is that I might fail.

Yes **yes** yes no **no** **no**

5. School work that is difficult is more fun than work that is very easy.

Yes yes yes no no **no**

6. If I could choose my math problems, I would pick hard ones rather than easy ones.

Yes yes yes no no **no**

7. I like to do school work that is difficult for me.

Yes yes yes no no **no**

8. The easier school work is for me, the more I like it.

Yes yes yes no no **no**

9. When I make mistakes in my school work, I just keep trying and trying.

Yes yes yes no no **no**

10. If a school task is difficult. I try to get by without doing it.

Yes **yes** yes no no **no**

11. I would rather guess at something and get it wrong than ask a question that may sound silly.

Yes **yes** yes no no **no**

12. I almost always learn a lot from the mistakes I make in my school work.

Yes **yes** yes no no **no**

