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**Exploring Reception Children's Epistemic Insight (EI): A Small-Scale Case Study.**

**Introduction**

The National Curriculum (NC) (DfE, 2013, p.5) states schools should provide a "balanced and broadly based" curriculum, teaching a variety of disciplines in a creative and engaging manner. However, it appears that currently schools prioritise teaching the National Curriculum's content rather than its aims (Billingsley, 2017). This has produced a focus on subject knowledge; consequently, creating discipline isolation or "entrenched compartmentalisation" (Billingsley, 2017, p.59). Concerns for the negative impact of this isolation on pupils' educational experiences and outcomes is creating promotion of the characteristics of, and relationships between, disciplines (Billingsley, 2017; Jones, 2010; Rose, 2009). This is reflected in the new Ofsted framework (2019) which explains high-quality education will not be measured by exam results but will be based on a "rich curriculum" (Roberts, 2018) that teaches the National Curriculum's (DfE, 2013) aims.

Methods of promoting discipline relationships vary. Rose (2009, p.11) encourages "cross-curricular" teaching strategies, explaining that teaching the relationships and distinctions between disciplines benefits pupils because they can make connections and see relevance within their learning. The National Curriculum (DfE, 2013) does not contain the phrase 'cross-curricular'. However, it implies the necessity for this approach within descriptions of discipline intentions, stating pupils need to "draw on [previously studied] disciplines" (DfE, 2013, p.180) to improve abilities and knowledge.
Jones' (2010, p.3) notion of "interdisciplinary studies" and Billingsley's (2017, p.59) "Epistemic Insight" (EI) initiative expand upon cross-curricular teaching. Jones (2010) explains that interdisciplinary learning enables pupils to consider alternative viewpoints and understand subject-matter relationships between disciplines, rather than merely telling pupils about content within different disciplines. Though Jones' (2010) article is ten-years old and relates to the American education system, Billingsley's (2017) Epistemic Insight Initiative seems to support the importance of interdisciplinary learning, extending the principle further. Billingsley, Abedin and Nassaji define epistemic insight as "'knowledge about knowledge… the attitudes and intellectual capacities required to appreciate how knowledge and scholarship work within and across subject boundaries"

(2019, p.1). Though the boundaries between cross-curricular learning and epistemic insight can appear blurred, there are differences between the approaches which are explored further in this report.

Student teachers on my training programme are encouraged to engage with research to become "epistemic agents" (UCET, n.d., p.1), strengthening reflexivity, pedagogy, and ultimately pupils' educational experiences (Carter, 2015; Shulman, 1986; Stone and Billingsley, 2019; UCET, n.d.; Winch, Oancea and Orchard, 2015). Therefore, this report presents my small-scale, ethnographic case study exploring the teaching of epistemic insight  in a mixed-gender class of 28 Reception children at a mainstream, rural Church of England primary school in Kent. Initial observations explored epistemic insight within the environment, then an adult-directed activity focused upon pupils' epistemic understanding regarding health and safety. I acknowledge the scope for discussion about curriculum organisation and delivery, and epistemic insight, is expansive. However, within this report there is only capacity to critically discuss concerns regarding the National Curriculum and assessments, and an introduction to epistemic insight and its potential implementation in Reception Year.

**Literature Review**

**'Good' Education?**

Extensive literature explores issues of high-quality education and curriculum design. As far back as 1967, the Central Advisory Council for Education (CACE) recommended a varied curriculum tailored to schools' and pupils' needs, prioritising child-led, experiential play and learning. It suggested sensitive use of formal assessments, emphasising that quality of teaching and children's capabilities are not solely reflected in tests. The current National Curriculum also intends that pupils are provided with "an introduction to the essential knowledge [needed] to be educated citizens", promoting access to equitable education through a range of disciplines (DfE, 2013, p.6). Positive though these intentions seem, there is concern the aims are overlooked due to assessment pressures (Billingsley et al, 2018), provoking attempts to redress the situation. For example, Alexander et al (2009) proposed a curriculum re-organisation and

reduction of educational pressure, enabling more flexibility in how schools present disciplines.

Biesta (2009, p.3) suggests re-evaluating definitions of "*good* education", pertinent when the purposes of education risk being distorted by assessment-based judgements of educational quality. Biesta (2009, p.6-7) proposes interconnected educational functions: "qualification", equipping pupils with knowledge and skills, "socialisation", enabling pupils to become social beings, and "subjectification", forming pupils' individuality. He acknowledges the subjectivity of defining 'good' education, suggesting context-specific evaluations of educational practice should occur by understanding the complexities and purposes of each element of his model. Hayes (2010) argues that high-quality education encourages children to develop critical thinking skills, which necessitates deviation from focusing on teaching discipline-specific knowledge. However, despite stating teachers have "time and space" (DfE, 2013, p.6) to teach beyond its specifications, the National Curriculum's detailed requirements for pupils' attainment appear constricting and contradictory to its proposal for diverse and high-quality education.

Billingsley et al (2018, p.1116) are concerned that secondary education's curriculum delivery and "pedagogical pressures" do not educate pupils to consider the "power and limitations" (Billingsley et al, 2018, p.1119) of science. They propose this dilutes the National Curriculum's (DfE, 2013) aims, hindering pupils' epistemic insight and abilities to address "big questions" (Billingsley et al, 2018, p.1116), those which are answerable by critically applying skills from different disciplines. At this point it is relevant to acknowledge the relationship between epistemic insight, constructivist pedagogy (Pritchard and Woollard, 2010) and "dialogic teaching" (Alexander, 2017, p.9), though there is not scope for detailed discussion of these concepts. The apparent discord between the National Curriculum's (DfE, 2013) requirements and actual classroom practise could prevent teachers from incorporating epistemic insight  into lessons, making pedagogy instructional to ensure assessment success. My professional experience suggests this concern exists regarding other disciplines, and primary and Early Years (EY) education. Early Years provision appears increasingly formalised and assessment-based (Ofsted, 2017; Standards and Testing Agency, 2020) to prepare children for the demands of statutory schooling, causing much consternation amongst educational professionals (Brogaard Clausen, 2015; Roberts-Holmes, 2015; TACTYC, 2017).

Billingsley (2019, p.1) describes narrowed thinking resulting from restrictive curriculum delivery as "entrenched compartmentalisation", supported by Robinson (2008, p.3) who proposes "divergent thinking" is educated out of pupils. Billingsley et al (2018) and Billingsley, Abedin and Nassaji (2019) suggest this stems from pressure on teachers to quantify discipline knowledge. This causes prioritisation of pupils' final outcomes above providing opportunities to develop Epistemic Insight. To attempt to address this, Billingsley et al. have (2018) designed an Epistemic Insight Framework which corresponds with Ofsted's (2019) drive to realign schools' curricula with the National Curriculum's (DfE, 2013) intentions (Billingsley, 2020).

Though the Epistemic Insight Initiative seems positive, it is still in its infancy and currently not widely researched. Cross-curricular education has however been advocated for some time (Alexander et al, 2009; Barnes, 2015; Rose, 2009). Its basic principle of exploring connections between disciplines to enrich children's educational experiences (Barnes, 2020) is reflected in epistemic insight. However, Billingsley et al (2018) appear to suggest epistemic insight expands upon cross-curricular teaching, analysing discipline content to enhance pupils' critical thinking. This includes exploring disciplines' "power[s] and limitations" (Billingsley et al, 2018, p.1119) when addressing questions, indicating that some disciplines are more suited to answer particular questions. Billingsley, Abedin and Nassaji (2019) imply supporting epistemic insight is important for several reasons. Firstly, promoting criticality when considering how to approach questions by analysing disciplines' strengths, weaknesses and relationships may avoid polarisation of disciplines. Consequently, practising epistemic insight may provoke creative, independent thinking. Lastly, consideration of the variety and contestable nature of responses to "big questions" (Billingsley et al, 2018, p.1116) may encourage tolerance and sensitivity in the context of England's cultural and religious diversity (Gandolfi, 2017). Generation of these transferable skills means encouraging epistemic insight could have positive implications for wider society as well as for individual pupils' development. For example, it seems reasonable to suggest that critical reflection, creativity and tolerance are desirable qualities for both individuals' and society's development, reflected in Biesta's (2009) notion that education can foster pupils' knowledge, individuality and social competence.

However, the teaching of epistemic insight does have limitations. A consideration specific to this report is that Early Years children's communication skills and ability to engage with epistemic insight concepts could be limited due to developmental immaturity. Individuals' additional needs, such as speech and language difficulties, will potentially add to the challenge of applying epistemic insight to Early Years settings.

**Early Years Epistemic Insight**

Currently, research into teaching epistemic insight within schools focuses upon secondary and upper-primary pupils (Billingsley, Abedin and Nassaji, 2019; Billingsley et al, 2018; Billingsley, 2017). It has not been explored within Early Years (specifically Reception) provision, and this lack of research is interesting given the importance early learning is reported to have upon children's development and educational progress (DfE, 2017; EE, 2012).

Researching the presence of epistemic insight in Reception is thought provoking, especially regarding curriculum organisation. Early Years provision should support children's holistic development (DfE, 2017; EE, 2012), enabling experiential learning and effective interactions with adults, implying high-quality provision should limit introduction of individual disciplines. This suggests children would not be exposed to dialogue exploring how different disciplines may approach questions, and therefore that epistemic insight is not likely to be present in Reception Year. However, literature reports the presence of isolated disciplines resulting from Early Years education's formalisation (Brogaard Clausen, 2015; Roberts-Holmes, 2015), risking Early Years children's development of "entrenched compartmentalisation" (Billingsley, 2019, p.1).

Additionally, research suggests primary pupils demonstrate epistemic insight and creative thinking more than secondary pupils (Billingsley, Abedin and Nassaji, 2019). Indeed, my professional experience indicates many children in Early Years ask and contemplate "big questions" (Billingsley et al, 2018, p.1116), illustrating their capacity for learning epistemic insight. This indicates two salient issues to me. Firstly, our education system has the power to teach pupils to have either compartmentalised thinking or epistemic insight. Secondly, the apparent correlation throughout pupils' education

between increased focus on discipline knowledge and isolation, and decreased epistemic insight (Billingsley, Abedin and Nassaji, 2019; Billingsley et al, 2018; Billingsley, 2017), indicates the importance of primary and Early Years teachers promoting epistemic insight. Thus, the Early Years epistemic insight research gap and my professional observations inspired me to study Reception children's epistemic insight, leading to my hypothesis that Early Years children are capable of developing basic epistemic insight skills with effective adult support.

## Methodology

My ontological perspective aligns with the view that studying human phenomena cannot yield definitive truth because reality is subjective. This belief influenced my epistemology, causing me to employ a methodological approach within the interpretivist paradigm (Cohen, Manion and Morrison, 2011; Thomas, 2009). I obtained qualitative data analysed through an interpretive lens. Literature discusses the importance of reflexivity in interpretative research, emphasising the subjectivity of qualitative data analysis due to the individuality of researchers' and participants' experiences and perspectives (Cohen, Manion and Morrison, 2011; Ekins and Stone, 2012; Holliday, 2016; Thomas, 2016). My ontological and epistemological values rendered it not possible or desirable to disentangle myself from my research's subjective nature. As such, the research process was "iterative" (Thomas, 2009, p.15), requiring ongoing reflection of my influence upon the research questions, methods and conclusions.

## Method

I chose to conduct an ethnographic case study, exploring mine, my colleagues' and the children's understandings of Epistemic Insight. Data obtained through such ethnographic approaches is context-specific and unique due to the researcher's participation in the study (Mukherji and Albon, 2015). Critical reflection indicated this approach best suited my aim of employing interpretative, qualitative inquiry to simultaneously explore Early Years children's epistemic insight, and reflect upon my and the school's practice to consider how epistemic insight  could be further promoted. I

initially thought of conducting interviews but I knew that interviews would not enable my full immersion in the Reception class environment so I chose to use observation of teaching and learning as participant observer.

Firstly, I observed children's understanding, and adults' promotion, of Epistemic Insight throughout a day of typical Reception provision. I initially planned to structure the observations with pre-determined themes. However, I decided that narrowing my focus risked limiting the richness of data, so instead I identified themes during analysis.

Secondly, I conducted an adult-directed, small-group activity using an adapted "Discipline Wheel" (LASAR, 2020) to provide the opportunity for children to display epistemic insight which may not have arisen within general provision. Friendship groups were used because previous experience suggests children converse more successfully in these rather than age-based groups. The Discipline Wheel was made more accessible for Early Years children considering their limited reading skills. I chose the most frequently used, therefore the most familiar, images from their timetable to surround the central topic-related question. The presence of named disciplines became apparent as I selected which images to include, provoking re-evaluation of my initial assumption that discipline isolation is not present in Reception.

Original Discipline Wheel (LASAR, 2020)                    Adapted Discipline Wheel



such as unintentionally creating a sense of pressure for children to give certain answers.

This altered behaviour is labelled "the Hawthorne effect" (Cohen, Manion and Morrison, 2011, p.246). However, the practical limitations of having to conduct and record the activity myself meant the benefits of using additional adults outweighed this risk. To maintain the research's focus, pre-determined prompts guided my questions to the children. I reflected on my language throughout the activity, attempting to avoid leading the children's comments and respect contributions which did not directly align with my focus. Simplified "investigator triangulation" (Cohen, Manion and Morrison, 2011, p.196) occurred after the activity by discussing the data gatherers' and my observations, attempting to obtain parity between the data to increase the study's validity. However, the subjective nature of interpretation means data validity may not have been increased because of the impossibility of ensuring complete corroboration between people's perceptions of events and dialogue (Lincoln and Guba, 1985, cited in Cohen, Manion and Morrison, 2011, p.196).

**Analysis Method**

Critical analysis was challenging because of the subjective, interpretative nature of qualitative data. The presence of additional adults, and children's varied communication skills and domestic and socio-economic experiences, would have affected responses within the study. Additionally, despite attempts to maintain objectivity, my experiences and assumptions naturally influenced my analysis and conclusions, which would subsequently differ if conducted by other researchers. Giddens' (1984, cited in Tucker, 1998, p.43) "double hermeneutic" notion describes this subjective co-construction of knowledge between researchers and participants, acknowledging how the impossibility of reaching a definite answer to research questions potentially limits the validity of analysis (Cohen, Manion and Morrison, 2011). This has been considered throughout the analysis and discussion processes. However, this feature of interpretative research is expected, indeed welcomed, as it is perceived as illustrating the complexity of understanding social phenomena (Thomas, 2016). Wolcott (1994) suggests researchers embrace this 'messiness', adopting a reflective stance without seeking definitive conclusions.

Data was analysed using simple "content analysis" (Cohen, Manion, and Morrison, 2011, p.563). Other methods, such as "constant comparison" (Cohen, Manion, and

Morrison, 2011, p.600) and "thematic analysis" (Braun and Clarke, 2006, p.77), were considered, but content analysis was chosen because it was easily employable from my perspective as an inexperienced researcher. Similarly, the thorough yet time-consuming process of "thick description" (Geertz, 1973, p.310) was not feasible. Future studies could employ these analysis methods. The data was coded, and the codes organised into categories. Initially, codes were recorded quantitively. This was useful for seeing emergent dominant themes but was not reliable as it oversimplified the complexity of qualitative data.

**Ethics**

Considering the 'human' element of ethics (Macfarlane, 2009), the social and emotional aspect of research relationships, appealed to me. Viewing research through this relationship-based ethical lens aligns with my ontological and epistemological perspectives, helping to enrich the study's moral integrity. Macfarlane's (2009, p.41) "virtues and vices" of research were useful tools for reflecting upon my study's purposes and conduct, enabling me to attempt "respectfulness" and "reflexivity" throughout. I also believe I needed continuous "courage" (Macfarlane, 2009, p.58-59) to conduct a pioneering study, striking a balance between "cowardice", refusing to attempt the research, and being "reckless" by undertaking an unmanageably challenging project.

Ethical standards and data protection regulations were maintained throughout the process (BERA, 2018; ICO, 2018). Ethical approval was granted by my university tutor, informed consent obtained from the head-teacher and Reception staff, and children's assent was gained and their right to withdraw explained.

**Critical Analysis and Discussion**

Appendix 1 summarises the content analysis. Due to the nature of qualitative data, analysis was both "deductive", observing the research focus of EY EI, and "inductive"

(Altricher, Posch and Somekh, 1993, p.121-122), flexible regarding unanticipated findings still relevant to the research topic. This dual approach during the "constructive stage of analysis" (Altricher, Posch and Somekh, 1993, p.120) enabled me to generate theory from my data, supported by my existing understanding of EI. During the "critical stage" (Altricher, Posch and Somekh, 1993, p.120) I reflected upon the analysis process and methods. I discuss these reflections below, attempting to justify my conclusions with literature. This section presents my argument that, with adult support, EY children can learn the foundations for EI, and that due to the introduction of isolated disciplines, it may be necessary to teach EI in Reception to avoid "entrenched compartmentalisation" (Billingsley, 2019, p.1).

**Theme 1: Indications of Children's EI**

Noise-level and practical difficulties of handwriting field-notes made it challenging to accurately record a large amount of children's verbal interactions during child-initiated periods. Therefore, the initial observations did not provide much evidence of children's EI, proving most useful for exploring discipline isolation and adults' promotion of EI. However, incidental data arising from the opportunity for me to ask questions about exercise suggests children are beginning to 'think rigidly', compartmentalising discipline skills and knowledge:



NB: PE is timetabled after lunch once a week.

The DW activity necessitated much more discussion, making children's EI and 'rigid thinking' easier to observe by providing greater insights into their thoughts than observation alone, supporting the importance of "dialogic teaching" (Alexander, 2017, p.9). The discussions prompted children to make connections between life-experiences and discipline knowledge:
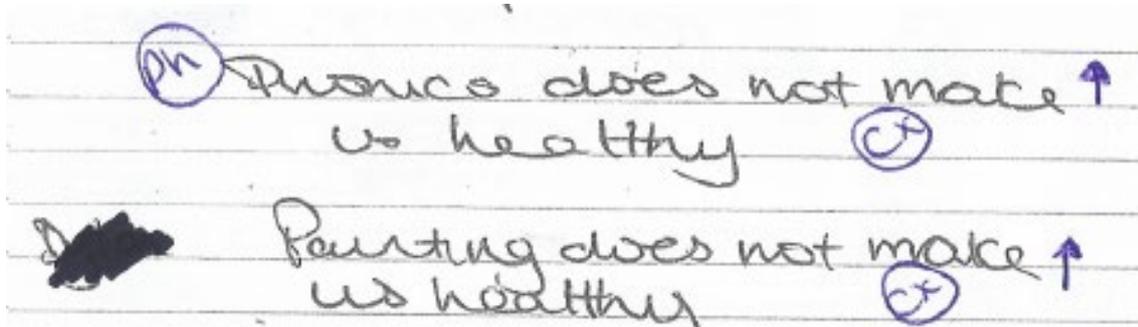


It seems understandable that children might discount art and phonics as ways of keeping healthy and safe, especially if their school-based experiences have focused on more commonly discussed aspects of health and safety, such as nutrition.

However, the curriculum could be re-considered to explore alternative health and safety aspects, such as emotional wellbeing arising from creativity. The above comments could be interpreted as children segregating discipline knowledge, indicating the beginning of their "entrenched compartmentalisation" (Billingsley, 2019, p.1) which could have been learned during their time in the Reception environment.

Reflection suggests children's ability to learn to compartmentalise disciplines paradoxically indicates their capacity for developing EI, the opposite of compartmentalisation. There were several occasions when children showed awareness that disciplines overlap:

Child: "Building keeps us safe. [You need to] stop it wobbling. Don't go on it if it is [wobbling]."

Me: "If we're building, which of these [pictures might we use]?"

(Planning, maths, draws a triangle on paper)

Child: "Building with shapes in PE."

Child: "It's exercise when [we] move our legs in tidying up."

This did not display their understanding of disciplines' "power[s] and limitations" (Billingsley et al, 2018, p.1119) when answering questions, but demonstrated their potential for learning EI with adult support.

These interactions between the children and I suggest their potential for developing either discipline compartmentalisation or EI, demonstrating that discussion is inherent to the nature of eliciting EI:

(Discipline compartmentalisation)

Child: "When we do art [it] makes us healthy. When you do it, [it] makes [you] feel better". (EI).

Me: "[What] do you know about health and safety?"

Child: "[It is] happy and safe when we do things for other [people]". (EI).

This contrasts with my initial observations which did not yield evidence of children's EI, suggesting to me that developing EY EI necessitates raising adults' understandings of their role in fostering EI by dedicating time for meaningful interactions and "dialogic teaching" (Alexander, 2017, p.9).

**Indications of adults' promotion of EI**

Adult-directed interactions with children in the initial observations frequently focused upon developing subject-specific skills, notably mathematics and phonics. Additionally, most references to named disciplines were initiated by adults. Recently the Reception provision has transitioned from being formal to play-based, with staff embracing holistic and child-led learning as much as possible. However, my initial observations indicate adults currently focus on supporting subject-specific skills and knowledge when supporting play, suggesting prioritisation of "core subjects" (DfE, 2013, p.7) without promoting EI. Adults could direct discussion to consider that keeping healthy and safe is multi-faceted and could, for example, be viewed through the lenses of art and phonics. They could then introduce the concept that these disciplines are potentially less useful at answering the question than others, in-keeping with Billingsley's (2019) EI definition. It is important to note this is not a criticism of the staffs' practice, merely an observation which is not unexpected, given concerns regarding discipline isolation and prioritisation of Government targets (Billingsley et al, 2018; Brogaard Clausen, 2015; Roberts-Holmes, 2015; Robinson, 2008; TACTYC, 2017), combined with the infancy of EY EI. Identification of these interactions provides the opportunity for reflection upon staffs' values and priorities, creating potential for adapting practice to encourage EI.

Some of my DW questions indicate that non-EI questions typically elicit answers which focus on one discipline or knowledge area:

KG Why is important that we eat

B▓▓▓. It's healthy

KG why do we have to eat healthy.

E▓▓▓ Its good for our bodies makes us fast & strong

In contrast, when posed with EI-focused questions, children demonstrated their potential for possessing EI:

Me: Types of exercise - what would that be part of AQEI

Child: "PE helps us [learn] about exercise. It's good for you, it gives you energy."

PE - helps us about exercise 'It's good for you' it gives you energy'

Tidy up time is important - phonics we exercise with actions

Me: Do we exercise in other times too?

Child: "Tidy up time is important. [In] phonics we exercise [by doing] actions."

What shapes were we talking about PE? AQEI

we talking about shape in PE & maths

Me: "What shapes were we talking about [in] PE?"

Child: "We talk about shapes in PE and maths."

KG - Does phonics keep us fit

A▓▓▓ Because we have to lear How does learning keep u Phonics isn't food

The children's responses demonstrate their potential for understanding EI. However, asking effective questions was challenging because I am learning about EI and so my questioning skills are not developed, especially as there is currently no EY EI research to draw upon. These examples illustrate children's EI potential and the importance of adults supporting this through appropriate questions and environments. It seems reasonable to suggest the DW activity questions elicited more evidence of children's EI because the questions specifically targeted this, creating implications for staff to critically reflect on how their current questions and environment supports children's EI.

**Indications of discipline isolation**

There was evidence throughout both research elements of adults isolating disciplines, potentially arising from a desire to promote and assess children's discipline-specific skills and knowledge. This could be in response to top-down assessment pressure, concerns for which are previously discussed, causing construction of teachers' educational priorities. Below are some examples:
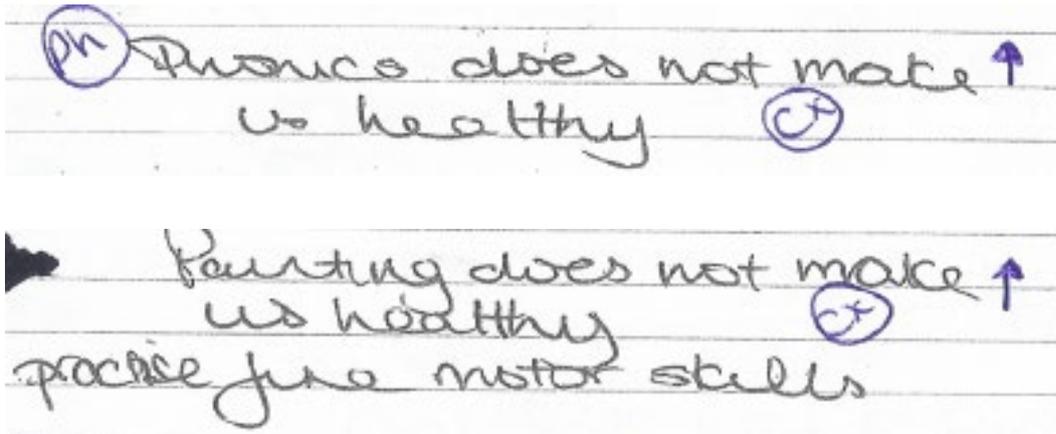
The children also demonstrated discipline compartmentalisation:



The last comment could indicate discipline compartmentalisation, suggesting the child's lack of awareness of potential health benefits from painting (which others have recognised, as previously discussed). However, there is simultaneously an indication of the child's potentially emergent EI, connecting painting and "fine motor skills", but without acknowledging the connection to physical health. Again, this indicates that EY children can be taught to isolate disciplines and learn EI, reinforcing the argument for adults' awareness of EY EI and reflexive practise when supporting its development.

Environmental observations indicated various examples of discipline isolation: the daily visual timetable, mathematics and phonics displays, dedicated areas for discipline-specific resources, and discrete teaching focused upon mathematics and phonics. This school's play-based approach is designed upon the premise that EY provision should be child-led to optimise children's engagement, learning and well-being, with the understanding that adults have ultimate influence upon the construction of learning environments (Bottrill, 2018; EE, 2012; Ephgrave, 2018). It seems logical adults influence

children's experiences, and subsequent discipline isolation and EI, through these environments. Again, this is not a criticism of the school's practice but an opportunity for reflecting upon how adult constructs affect children's learning opportunities and experiences. If staff's professional values align with the potential benefits of promoting EY EI, they could synthesise supporting subject-specific skills and knowledge with fostering EI.

**Reflexive Analysis**

The study necessitated constant re-evaluation of my EI understanding, but did demonstrate EY children are capable of learning basic EI. Children do not naturally distinguish between disciplines during play; discipline compartmentalisation is a construct created and reinforced through adults' teaching. Therefore, it appears that children need to be taught EI to counteract the potential for learning "entrenched compartmentalisation" (Billingsley, 2019, p.1). It seems reasonable to suggest distinct disciplines and EI can be complementary when both are taught effectively. Some subject-specific skills, such as mathematics, need teaching discretely, but EI could be synthesised with pupils' skills and knowledge to consider the usefulness for disciplines when answering "big questions" (Billingsley et al, 2018, p.1116).

Much literature expresses the importance of student teachers "engaging with research" to establish an "evidence-based profession" (Carter, 2015, p.8; Shulman, 1986; Stone and Billingsley, 2019; UCET, n.d.; Winch, Oancea and Orchard, 2015). Engaging with EI research (Billingsley, Abedin and Nassaji, 2019; Billingsley et al, 2018; Billingsley, 2017) has been hugely influential to developing my practice. Analysing literature and conducting this study has illustrated the importance of fostering EI. It seems reasonable to suggest altering the focus of teaching to reflect the NC's (DfE, 2013) aims and promote EI would improve pupils' educational experiences by expanding their critical understanding of disciplines. Transferable skills of critical, creative and reflexive thinking could be encouraged too, potentially benefitting wider society if viewed through the lens of Biesta's (2009) educational functions. I am now particularly aware of my and other adults' questions and our impact upon the learning environment, and how these affect

children's EI and discipline perception. This would not be possible if the study had not provoked me to reflect on EI's relevance within Reception, and education in general.

Before conclusions can be drawn about EI's place within our education system (including student teacher education programmes), and corresponding change can be actuated, more research is needed. Large samples sizes across all educational phases need studying, along with EI's long-term effects. As discussed, re-prioritising educations' aims seems challenging given teachers' accountability for, and preoccupation with, ensuring pupils meet specific targets. Despite this, there are two allied considerations which I would like to acknowledge. Firstly, adults must think reflexively about how their responsibility for shaping educational environments impacts pupils' experiences. Subsequently, given EI's potential importance to pupils' education and later lives, those responsible for curriculum design and implementation on national, local and individual school levels should acknowledge EI's place within education, and how it can be promoted.

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**Appendix 1**

**Codes, Categories and Themes**

Table 1: codes identified from all field-notes during the initial stages of analysis, and the frequency with which each code occurred.

| Codes | Meaning/References to | Observations of Typical Reception Provision | Observations from Adapted Discipline Wheel Activity | |
|---|---|---|---|---|
| | | | Data gatherer 1 | Data gatherer 2 |
| **E** | English | 1 | 0 | 0 |
| **W** | Writing | 3 | 0 | 0 |
| **M** | Mathematics | 8 | 1 | 4 |
| **Ph** | Phonics | 9 | 4 | 7 |
| **VT** | Visual timetable | 2 | 2 | 3 |
| **AX** | Adults making verbal links to children's existing knowledge/experiences | 8 | 0 | 0 |
| **CX** | Children making verbal links to their existing knowledge/experiences (including home, food, space, animals) | 3 | 27 | 53 |
| **AQ-EI** | Adult questions/comments related to EI | 4 | 6 | 21 |

| AQ | Adult questions/comments not relating to EI | 3 | 13 | 14 |
|---|---|---|---|---|
| ↑ | Children's 'rigid' thinking about a concept | 3 | 2 | 5 |
| ☐ | Visual supports/displays/resources in the Reception environment segregating disciplines/knowledge | 8 | 1 | 1 |
| PE | Physical education | 4 | 3 | 9 |
| Ex | Exercise | 2 | 5 | 11 |
| EM | Emotional Health | 0 | 0 | 2 |
| Art | Art | 0 | 0 | 2 |
| UW | Understanding the World | 0 | 0 | 4 |

## Categories

- **Named disciplines** (English; mathematics; phonics; PE; writing; art; understanding the world)
- **Environmental factors that suggest discipline isolation** (visual timetable; visual supports, displays and resources in the Reception environment segregating disciplines/knowledge)
- **Adults' questions/comments** (relating to EI; not relating to EI; adults making verbal links to children's existing knowledge/experiences; reference to 'exercise' instead of 'PE')
- **Children's questions/comments** (children making verbal links to their existing knowledge/experiences; children's 'rigid' thinking about a concept; reference to 'exercise' instead of 'PE', and emotional health)

## Themes (Categories may be applicable to more than one theme.)

- **Indications of children's EI**
- **Indications of adults' promotion of EI**

**Indications of discipline isolation**