

Student Authors, Children's Literature and Early Childhood Education for Sustainability: Findings from a Pedagogic Research Project

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ABSTRACT

The focus on early childhood education for sustainability within children's literature is part of a mindful shift towards a more critical praxis with young children, families, communities and students in higher education. This paper reports on qualitative pedagogic research undertaken as part of a first-year module in an undergraduate Early Childhood Studies degree programme at Liverpool John Moores University (LJMU), United Kingdom (UK). The research involved the creation of children's literature (e-books) by students using *Book Creator*, focussed on one or more of the Sustainable Development Goals (SDGs). The overarching aim of the project was to explore how the process of creating children's literature to facilitate early childhood education for sustainability supports students to engage in cultural production. In this paper, we present an analysis of the students' e-books and supporting rationales for their storybook creation. The study findings were that student-authors demonstrated different constructions of children, cognisance of the pedagogical purpose and different ways of knowing through the storybook creation. These findings contribute to existing debates concerned with early childhood literature and sustainability, and students as authors.

Keywords: children's books; children's literature; early childhood; pedagogic research; sustainable development goals; sustainability.

Whilst there has been growing emphasis on embedding sustainability into the higher education curriculum in the last two decades (Blewitt & Cullingford, 2004; Wals & Jickling, 2002), many initiatives around Education for Sustainable Development (ESD) have been argued to be pre-occupied with problem solving, and heavily connected to scientism (Jickling & Sterling, 2017). Further, Jickling and Sterling (2017, p. 2) argue the importance of a new vision for sustainability education rather than "adding new bits to the [existing] curriculum", thereby inviting educators to respond to educational imperatives related to ecological crisis and human-nature relationships. The Early Childhood Studies programme at Liverpool John Moores University (LJMU) was developed with global relevance and cognisance of the UN Decade of Education for Sustainable Development (DESD, 2005-2014) and the Sustainable Development Goals (SDGs) (UNESCO, 2015-2030), while remaining focused on local policy contexts and relatable pedagogies for those choosing to work with babies, young children and their families.

The ambition to embed ESD into the BA (Hons) Early Childhood Studies programme was an attempt to engage students in ESD as an emergent phenomenon (Siraj Blatchford et al., 2017), and was realised in 2016 with the first iteration of an original and distinct validated programme. Thomas (2002, p. 116) asserts that a sound programme in higher education should emerge as a consequence of a well-constructed educational programme and not be, what he terms, "a gimmicky free-standing initiative". As part of the validation process, the design for a first-year undergraduate module on pedagogical approaches included explicit reference to sustainability, democracy and social justice.

There has been increasing interest in early childhood education and sustainability, including a landmark collection by UNESCO (2008) *The Contribution of Early Childhood Education to a Sustainable Society*. However, as later argued (Davis & Elliott, 2014), many papers in this collection were “aspirational, rather than based on local research or practice in education for sustainability” (p. 4). In response, this research paper highlights how pre-service early childhood education teachers were encouraged to view early childhood as a key period to foster caring attitudes and empathy vis-à-vis the natural environment (SDG 15 Life on Land), learn about gender inequalities (SDG 5 Gender Equality), and equal rights and responsibilities (SDG 10 Reduced Inequalities).

We report on pedagogic research with first-year undergraduate students enrolled in an Early Childhood Studies degree at LJMU. The study involved student creation of early childhood literature (e-books), focussed around sustainability themes. In this research context, the SDGs were discussed with students as a vehicle for the development of eco-literacy which exists not only “on the page” (Kress, 2003, p. 95), i.e. within literacy practices, but also in the social practices which surround it. We explore the pedagogic processes that enabled (re-)orientations of higher education students’ mind-sets towards sustainability and promoted change agency for sustainability. Transformative learning through sustainability education is often guided by principles of *heads, hands and heart* for higher education (Singleton, 2015), implying recognition of cognitive psychomotor and affective domains of learning to create a transformative educational experience. The overarching study aim was to explore how the process of creating children’s literature might support students to engage in cultural production (Kuttner, 2015, p. 70) around early childhood education for sustainability. According to Kuttner (2015), cultural production refers to the creation and consumption of different forms of symbolic creativity, including mass media, language and the arts. Through the storybook creation as cultural production, the student-authors demonstrated different constructions of children, cognisance of the book’s pedagogical purpose and different ways of knowing.

In this paper, we first review published works on early childhood literature and sustainability to locate this study. We then describe the research design adopted, focussing on student workshop sessions, e-books and supporting rationales. The key findings are elaborated around three themes and we conclude with a recommendation for future pedagogical research related to early childhood literature and education for sustainability.

Early childhood literature and education for sustainability

Storybooks in early childhood are reported to have a range of benefits, for instance: enhancing vocabulary and comprehensive language skills (Collins, 2010; Massey, 2013); offering character education tools (Turan & Ulutas, 2016); enabling children to make intertextual connections (Sipe, 2000); eliciting emotions (Pantaleo, 2002); and, being a “springboard to place-based embodied learning” (Wason-Ellam, 2010, p. 279). However, there have been fewer studies exploring the benefits of using children’s literature to teach about global citizenship (Bradbery, 2013). This is significant when considering the The United Nations 2030 Agenda for Sustainable Development (UNESCO, 2015) pledges to foster an ethic of global citizenship and shared responsibility, alongside inter-cultural understandings, tolerance and mutual respect. Further, this lack of academic research is also significant when considering that ESD is particularly concerned with global citizenship; that is, education that will prepare young people for life in the 21st century.

The important role of text and particularly illustration in children’s storybooks has long been documented (e.g. Anstey & Bull, 2000; Fang, 1996; Marriott & Evans, 1998; Lysaker, 2006). Illustrations add a “multi-layered richness and depth to the author’s words” (Wason-Ellam, 2010, p. 279). Arguing that images in children’s books can leave a more lasting impression in young learners’ minds than text, Muthukrishnan and Kelley (2017) emphasise the importance for children’s books to use images as a teaching tool, especially regarding global issues such as environmental sustainability. To echo Muthukrishnan and Kelley (2017), pictures alone in children’s books can convey a critical message to young readers.

There has been consideration in extant literature about electronic versus traditional storybooks (e.g. Bus, Takacs & Kegal, 2015; Moody, Justice & Cabell, 2010). In particular, Moody, Justice and Cabell (2010) found that children displayed higher levels of persistence during the adult-led e-storybook compared to the traditional storybook. However, children communicated more during the traditional storybook format. In our study, considering that the

focus of the proposed storybooks was related to sustainability, we encouraged students to create e-books due to the environmental benefits; for instance, they do not use paper and ink nor require transportation.

There is a deficit of scholarship about storybooks which include sustainability themes, concepts and motifs. Key exceptions include Gonen and Guler's (2011) discussion of the environment and its place in children's picture storybooks, Muthukrishnan and Kelley's (2017) investigation of depictions about sustainability in children's books, Medress' (2008) exploration of storybooks as a teaching tool for sustainability, and Holm's (2012) examination of environmental empathy in children's books. Gonen and Guler (2011) found that environment-related concepts predominated in storybooks for children aged six years and over, and recommended that younger children's storybooks should feature environmental concepts as well. It is only in the last decade that education for sustainability has become a key question and research focus for early childhood education (Elliott, Årlemalm-Hagsér & Davis, 2020). The debate appears split between those who claim that "young children should be sheltered from all the problems in the world" (Pramling Samuelsson, 2011, p. 103) and see children as innocent and in need of protection; and others, (Kahriman-Ozturk, Olgan & Guler, 2012; Powell & Somerville, 2018; Spearman & Eckhoff, 2012) who argue that "children need to be made aware that what affects the world affects them as well" (Burnouf, 2004, p. 3). Children have a role as global citizens and those adopting this latter lens see education for sustainability in early childhood as "essential, not an optional" (Elliott, 2010, p. 34).

In recent years, more storybooks have been published internationally which address environmental concepts (Sousa et al., 2017), perhaps owing to a renewed narrative around sustainability with sustainability celebrities Greta Thunberg and David Attenborough. Correlating with this is an increased recognition that developing understandings of the importance of sustainable futures is crucial in promoting children's development of respect for the natural environment (Littledyke & McCrea, 2009; Spearman & Eckhoff, 2012), and to become global citizens (Elliott, Årlemalm-Hagsér & Davis, 2020). As Medress (2008, p. 1) poetically puts it: "if today's children learn to make decisions with the environment in mind, tomorrow's future will be cleaner, greener, and energy leaner". However, the difficulty for parents and practitioners lies in locating these books. Whilst some books are 'badged' as focussed on sustainability through green colouring and recycling logos, the messages of environmental protection and broader sustainability themes, for instance of gender inequalities (SDG 5 Gender Equality), poverty (SDG 1 No Poverty and SDG 2 Zero Hunger), and racism (SDG 10 Reduced Inequalities), are covert in others. In many books, endearing settings and anthropomorphic characters foreground narratives around ecological sustainability, diversity, and equality; for instance, *The Polar Bears' Home* by Lara Bergen (2008) speaks to young children about global warming, whilst scaffolding children to think about notions of *home* from a personal and global perspective.

There is a deficit of academic literature focussed on student-authored children's books. Discussing the adult authoring of children's literature, Bavidge (2006, p. 321) is quick to point out that adult authoring of children's literature does not represent a child's view of the world, rather it represents "a privileged space in which we witness the operations of adult dialogues with children". Bavidge (2006) continues that, nonetheless, children's literature provides an important opportunity for the authoring adults to represent the ways in which the world is interpreted by and explained to children. In terms of engaging with children's literature as an adult, interestingly, existing literature supports reading narrative children's texts as a tool for developing social cognitive skills among adults (Dodell-Feder & Tamir, 2018; Mumper and Gerrig, 2017). In this study, we report on pedagogic research undertaken with student-authors, to contribute to the identified gap in research literature on student-authored children's books and further promote student engagement with early childhood education for sustainability. We now outline the research design employed in this study.

Research Design

In the following pages, we outline the research design including attention to the theoretical and methodological framing, the data creation methods, ethics, data analysis and study limitations.

Theoretical and methodological framing

This qualitative research design aligns with sustainability pedagogies in higher education and emerged from our recognition that as tutor-researchers, there is a fundamental need to realise pedagogies which reflect a desire to understand the 'other'. Our values and world views inevitably influenced the choice of a framework or ontological position, and we were guided by the exploratory methodologies of social constructionism (Denzin & Lincoln, 2013) and Constructivist Grounded Theory (CGT) (Charmaz, 2014). Social constructionism (Denzin & Lincoln, 2013) 'assumes a relativist ontology with many possible realities' (p. 26) and a CGT approach postulated by Kathy Charmaz (2006; 2014), enables a reflective stance about the possibilities of adopting a disparate range of theoretical ideas through analysis of the data.

The nature of the research methodology was aligned with the pedagogic interventions during the module delivery which included dedicated book making workshops. During the workshop, the students engaged in a search for children's literature with themes associated with sustainable development. The students were referred to specific online sites hosting books, for instance *Letterbox Library*, *Green Reads*, and *Stonewall Books*. They were later invited to create a storybook for young children using *Book Creator* (see Bookcreator.com), an online platform for creating digital books combining text, images, audio and video.

We were also cognisant of the dangers of teacher/researcher bias and as Charmaz (2014) herself recognised qualitative research can never be fully free of bias; however, we were keen to share our findings in a published research paper for future iterations of the module.

Student workshop sessions

This research was developed with students through workshop sessions to establish shared understandings of education for sustainability, with the aim of developing a collaborative inquiry (Bray et al., 2000, p. 19) to "demystify and democratize the process of constructing knowledge". During tutor-researcher delivered presentations and interactive workshop activities, the students were introduced to the SDGs as both an appeal and instruction. The underpinning aim was to foster achievement of sustainable futures by addressing global challenges such as poverty, inequity, climate change, environmental degradation, peace and justice. The language around sustainability is often considered to be confusing and ubiquitous (Kopnina, 2014) and the visual representation of the 17 SDGs and the associated (169) targets (UNESCO, 2015) have been noted as non-legally binding, encyclopaedic, and challenging in their overwhelming breadth (Easterly, 2015). Specifically, King (2017) asks whether the aspirations for expanded rights to education are prone to getting lost in translation. Despite these challenges, many in the early childhood education community have welcomed the inclusion of early childhood education in the SDGs, but the *readiness* discourse remains a contentious issue (Moss & Urban, 2017).

Multiple pillars or dimensions are often employed to define sustainability, for example socio-cultural, environmental and economic. Whilst the environmental pillar is well recognised in education for sustainability discussions, researching children's literature beyond a 'saving the world' narrative helps to move beyond the environmental pillar to acknowledge a more holistic appreciation of the socio-cultural and economic pillars (World Commission on Environment and Development, 1987). Appreciating this holistic construct, the idea of early childhood education and environmental stewardship (Taylor, 2017) and children as agents of environmental change (Walker, 2017) were broadened within the workshops to consider issues related to intersectionality and difference, including prejudice, refugees, xenophobia, racism and human rights. These tie into debates around advocating for peace and social justice through children's literature (e.g. Yokota & Kolar, 2008) and an expanded rights framework postulated by Davis (2014).

We also presented students with a range of storybooks during workshop sessions, including multicultural literature, which Cai (2008) explains describes people and events about countries and cultures distinct from the dominant ones. We specifically asked the students to pay attention to how images were used as provocations to contribute to a more holistic exploration of 'British values' within early childhood education, whilst presenting opportunities to "consider respect, tolerance and social justice rather than a narrow interpretation of Britishness" (Bourn et al, 2016,

p. 18). From this, students explored how such multicultural literature reflected the racial, ethnic and social diversity characteristic of our society (Bishop, 1997), and is, albeit sometimes subliminally, key to tackling bias.

As tutor-researchers leading the module, we invited two children's authors Heather J. Ray and Kaya Nash to participate and discuss their rationales for creating children's picture storybooks related to well-being and diversity, respectively.

Robin's Sweet Heartbeat (Ray, 2020)

This self-published book is the story of a young bird named Robin that hears his mother's heartbeat for the first time and sets out on a journey to discover where the noise is coming from. The students were introduced to the story during a guest lecture via Skype, and one of the signifying features the author used to create meaning was intertextual reference (Gamble, 2013). Whilst not explicitly badged within the sustainability genre, Ray (2020) identified the book as a resource for teaching mindfulness in early childhood education settings and noted the children "enjoy practising meditation to feel the beats of their heart and listen to the heartbeat of others". The story offered children the opportunity to help Robin find the source of the beats captured in the text, "Ba Boom, Ba Boom". The students made a connection between the narrative and SDG 3 Good Health and Well-being and considered how the book could facilitate dialogue around children's mental health and well-being.

Gracie's Birthday Party (Nash, 2019)

This storybook supports conversations about diversity, inclusion and difference. The book projects a range of families arriving at Gracie's house for her birthday party with presents in a variety of shapes and colours. Whilst the obvious pedagogical function of the book was to teach young readers about shapes and colours, the unspoken diversity of families arriving at the party provoked thinking around questions of wider social and political interest, including disability, race, gender and sexuality. In her guest lecture, Nash discussed the inclusion of images that normalised authentic representations of people in the local community. This resonated with the key ethos embedded in positive early childhood pedagogies and early childhood education for sustainability (Boyd, Hirst & Siraj-Blatchford, 2018). Students were able to make a connection to SDG 10 Reduced Inequalities. The differences among the characters in *Gracie's Party* were not made explicit as part of the narrative, only depicted visually. Arguably, this is important to avoid further perpetuating inequalities.

Student's e-books

Following the initial workshops, students were then invited to create an e-book using *Book Creator*. Class time was scheduled for the students to form and develop ideas, and a dedicated workshop session provided space and time for their book production. The topic of the storybook was open for the students to decide, as long as they could make connections with literature and key resources related to sustainability. The books were required to be eight pages in length. The students were taught the basics of how to use *Book Creator*, including importing images and videos, adding text, and recording audio. Some students chose to draw images and upload them; and, others imported copyright free images or photographs they had taken. The completed e-books were not graded, however the process of creating the e-books supports Kuttner's (2015, p. 70) previously defined notion of "cultural production".

Student e-book rationales

Students used their completed e-books as artefacts to scaffold their creation of a written rationale to justify the value of the storybook in the development of a sustainability mind-set. The rationales were graded as part of the module assessment, plus utilised as study data for the researchers to read the storybooks critically and examine their structures. The assessment criteria were employed to grade student ability to explain key sustainability terms and make connections to international policies/organisations, amongst other elements. It was in these aspects that tutor-researchers were seeking demonstration of knowledge and understandings of sustainability and UNESCO's SDGs.

A note on ethics

The students were informed about the research study in the first module session and were given participant information sheets outlining the details. The students were reminded about the research at regular intervals throughout the semester and the information sheet was placed in the Key Module Information section of our virtual learning platform, so students could access this at any time. Significantly, *after* grades and feedback for the module assessment were released, students were invited to opt into the research study and to consent to the use of their work as data. This meant students should not have been concerned about any unconscious bias in the marking should they prefer not to participate. Of the 58 students enrolled in the module, 24 opted to participate in the research and all data was anonymised.

Data analysis

Applying a CGT approach (Charmaz, 2014), we adopted a thematic approach to analysing the data from the student e-books and written rationales. At this juncture, we acknowledge the subjectivity of the tutor-researchers and the potential impact of this on data interpretation. Following Silverio (2018), to have no *a priori* assumptions entirely is a somewhat unrealistic expectation for researchers; instead, we did our best to exclude preconceptions within our data analysis through reflective practice around ontology and epistemology.

We borrowed from Silverio, Wilkinson and Wilkinson's (2020) use of grounded theory in studies of literature and visual media. We hand-coded the student rationales using a coding grid. The coding grid had four columns, the first contained the rationales created by students which were copied verbatim into the table, the second denoted which researcher's online library the book was stored in, the third enabled us to record the book title, focus, and illustrative details, and the fourth provided space for us to document key themes. In line with a CGT approach, the data analysis was an iterative process. First we undertook open coding, using verbatim words from the rationales analysed. Once the first data coding was completed, we undertook a second data coding (axial coding). We returned to the data multiple times adopting a process of constant comparison, grouping some of the open codes together under a single code; and also, comparing between the analyses of both researchers to ensure thorough interrogation of data and thematic concordance (Silverio, Wilkinson & Wilkinson, 2020). We then moved on to theme development and yielded three key themes from the selective coding. We refer the reader to Silverio, Wilkinson and Wilkinson's (2020) for a detailed step-by-step guide to data analysis of visual media.

Findings and discussion

The three key themes identified in our analysis were constructions of children, pedagogical purpose and different ways of knowing. We now discuss each of these in turn, supported by illustrative quotes from the student data.

Constructions of children

Constructions of children and childhood is a key debate in early childhood research and was a key theme identified through our analysis. The construction of children as innocent was the most prevalent construction we identified. For instance, a student noted: "*children are generally uninformed about adverse events as a form of protection*" (student comment from rationale), connecting to Sorin's (2005) argument that children are to be protected against the negative aspects of the world. Medress (2008) considers the value of storybooks as a teaching tool for sustainability and argues that environmental issues are often complex, can be disheartening and the jargon fails to translate to younger children. For example, a comment garnered from her data cites the impossibility of "teaching 'sustainability' to very young kids" (Medress, 2008, p. 9).

In many of the rationales analysed, children were positioned in ways resonating with Rousseau's romanticism (Wokler, 2001), characterised by students in their justifications for choice of language, colour and illustrative forms. Notably, of the 24 books we reviewed, 12 featured imported cartoon images which were explicitly noted as 'suitable'

for young children, with tacit suggestions that the genre may ease any contamination of children's minds with real world issues:

Throughout "Maisie's adventures" the colours used are mostly greens, blues, yellows and oranges, along with other bright colours. These colours were chosen to make the book appealing to children and represent happiness. (Student comment from rationale)

This is the reason for Myrtle's Adventure consisting of bright colours throughout until the statement about plastic pollution, pollution is not generally associated with happiness as it is a negative aspect of life. (Student comment from rationale)

As evident from the excerpts above, students particularly celebrated the use of bright colours for children. This was readily witnessed in the e-books, as depicted in Figure 1:



Figure 1: Illustration from Student e-book Fido's First Day Out

This construction of children as innocent, whilst not entirely surprising, fails to acknowledge the notion of children as competent. Davis et al. (2009), making recommendations for education for sustainable development in early childhood, notes that children are active agents in their own lives, capable of engaging with complex environmental and social issues. This steers away from romanticised notions of childhood as an arena of innocent play that positions all children as leading sheltered, safe and happy lives. Children as capable citizens was a key feature of the module with signage aligning early childhood education with pedagogies and principles of education for sustainability, yet appeared to be overlooked by some students.

Of the 24 books reviewed, seven students handcrafted their own images with overt recognition of the need for exposure of the lived realities of some children and two of the stories dealt with death (of marine life). Thus, contradictory to the excerpts presented above, the excerpt and associated illustration from the student below (see Figure 2) exhibited their understandings of the importance of realism in children's sustainability literature:

In the bedroom, the walls are cracked and dirty, the picture frame is not straight and the bedroom is not immaculate. This represents real life as not everything is perfect, which a lot of books and children's media suggests. (Student comment from rationale)



Figure 2: Illustration from Student e-book Maisie's Adventure

Thus, student authors of the analysed books adopted both sides of the debate introduced earlier in this paper, that of 'sheltering versus exposing' children to the problems in the world (Pramling Samuelsson, 2011). The student author of Maisie's Adventure (see Figure 2) clearly adopted the stance held by Spearman and Eckhoff (2012) that children should be made aware of the imperfections in the world. The student author of Our Journey to School, in making connections to SDG 3 Good Health and Well-being and SDG 1 No Poverty, adopted this stance too:

Sensitive subjects such as mental health, family relationships and wealth standing, are important topics that children need addressing to confirm a more connected community to which they belong. This outlines and explains the importance of using a book as a resource to create interest for children on challenging topics that the world faces daily. It is about bringing these subjects to the attention of children in a subliminal way as it provides a sense of safety and openness.
(Student comment from rationale)

Whilst Maisie's Adventure and Our Journey to School communicate this realism in a subtle way, the author of Adventures on Turtle Bay, responding to SDG 14 Life Below Water, adopted a more explicit approach (see Figure 3):

The ending of the book displays the death of a turtle, as a result of eating plastic. In most children's books the 'happy ending' is usually portrayed, however, the focus of this book is to show children the reality of the world and how actions have consequences. (Student comment from rationale)

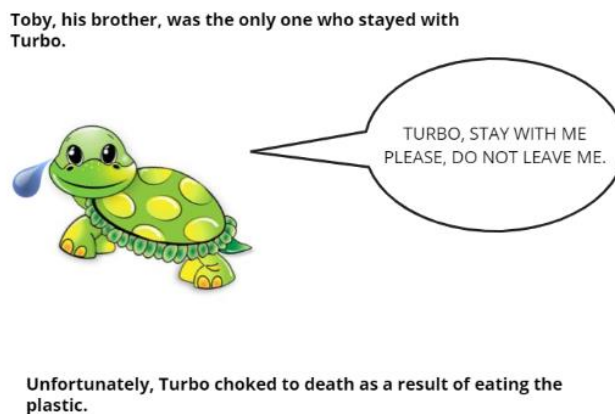


Figure 3: Illustration from Student e-book Adventures on Turtle Bay

There is, however, a feeling when viewing Figure 3 that the language used to communicate the death of the turtle “choked to death” may be too frank for young readers. We consider this in relation to debates on the idea of ‘facts not fear’ when teaching children about the environment (Sanera & Shaw, 1996). Researchers have identified that the children who were most confident that climate change would not overwhelm them, attended schools that had replaced fear with factual information and practical strategies for sustainability (Alexander, 2010). Further, between the ages of 3-6 years, children will not necessarily understand that death is final and there is a need to explain clearly that once someone (or something) has died, they will not come back to life (Fiddelaers-Jaspers, 2015). Thus, there is a need for further conversations between parent/teacher and child about what is presented in this storybook. This leads us neatly to our next theme, pedagogical purpose.

Pedagogical purpose

The second key theme identified through our analysis was the pedagogical purpose attributed to the student-authored e-books. Scrutiny of the language in the student rationales exposed explicit references to traditional developmental legacies. For example, where the stories were composed to *teach* about education for sustainability, the apparent intent was to transmit information from adult as expert to child as novice. The following excerpts highlight the student’s understanding of such “caught and taught” (White, 2017, p. 137) pedagogies:

In a school setting, the book could be used as a starting point for education for sustainability. It could be followed by trips to the beach where children could conduct a beach clean and learn hands-on about plastic pollution and recycling. (Student comment from rationale)

By encouraging children to ask questions, there is no unrealistic pressure to gain knowledge about the subject. Instead, the practitioner uses patience and understanding by allowing the child to choose what they want to know; the practitioner can then expand on the subject, subliminally giving the child more knowledge without pressurising the child. (Student comment from rationale)

In these excerpts, both students also imply the value of adult-child conversations about their stories. This can be interpreted in relation to Vygotsky’s social cultural theory of child development and co-construction of meanings through conversation (Milburn et al., 2014). Whilst casting shared reading as a social practice, student rationales often posed shared reading as an emotional situation where any subliminal messages could be articulated as a positive approach to examining others’ perspectives. Here we were drawn to Bakhtin’s concept of *utterance* as “the primary link in a chain of communication and *heteroglossia* as the complex space in which language gives rise to certain meanings in social discourse” (White, 2017, p. 131). The following excerpt from a student rationale illustrates how such communication can add meaning:

Like many children’s books, this book can be used as a resource to aid an open-ended, pedagogical approach...The reader and the child may discuss what they think the adventures will be about. Other conversations may be provoked such as what healthy foods the child likes to eat or what they would like to try. (Student comment from rationale)

Here the pedagogical purpose of the storybook was significant. Without such conversations between parent/teacher and child, there is a fear that children will become “smug crusaders whose foundation of knowledge is shaky at best” (Sanera & Shaw, 1996, p. 36). Applying Bakhtin’s heteroglossia to early childhood, the words and illustrations produced by the students become “half someone else’s” (White, 2017, p. 135). The student-author of Maisie’s Adventure, focussing on SDG 10 Reduced Inequalities, articulates the importance of using the e-book as an open-ended resource *with* children (see Figure 4):

When Maisie takes a trip to the bakery in the storybook, she goes with her Uncle Patrick and Uncle Dan who are a LGBT couple. This isn’t talked about or mentioned in the book at any point, but it can be seen through the illustrations. This allows the child to ask questions from their own accord [sic]. Some children may not, however if they do, then it is a good opportunity for the parent to discuss with the child about these modern, accepting times. (Student comment from rationale)



Figure 4: Illustration from Student e-book Maisie's Adventure

The student author of *Maisie's Adventure* promotes a dialogic view of learning and young children as capable and sophisticated language users, who are able to shape others in the same way they are shaped through dialogue themselves (White, 2017). This suggestion of agency reflects the idea of "children as peers instead of inferiors" (Medress, 2008, p. 23). Much emphasis is placed on dialogue in early childhood education, not least the pedagogy of listening as embedded in the highly regarded Reggio Emilia education approach (Rinaldi, 2006). In addition, the promotion of sustained shared thinking within the UK English Early Years Foundation Stage (English Department for Education (DfE), 2017) is an effective pedagogical strategy to establish intersubjectivity or what Oates and Grayson (2004, p. 56) frame as "a meeting of minds".

During the student workshops, we discussed the Early Childhood Studies Subject Benchmark Statement (Quality Assurance Agency (QAA) 2014; 2019) which describes the national academic standards required of graduates in our university degree programme. The Subject Benchmark Statement for Early Childhood Studies highlights the advocacy role of students. Perhaps owing to the introduction of this document, recurrent in our analysis was the notion of students as advocates when authoring their e-books. Here the pedagogical purpose of student-authored storybooks was realised as the 'extra benefit' of the learned content. For instance, the student-author of *Myrtle's Adventure*, responding to SDG 14 Life Below Water, provided a hyperlink to "6 tips to help save our oceans" at the bookend. Other examples of students as advocate are evident in the following excerpts:

The reason behind the creation of Myrtle's Adventure children's book was to spread awareness of the current sustainable crisis, which is pollution. (Student comment from rationale)

I want those children suffering with their mental health to identify with my book and feel as though they are being represented within the books [sic] narrative...This is why I felt the duty to make this book, to really ignite the conversation regarding mental health to encourage the government to invest in such an important cause as this one. (Student comment from rationale)

I wrote this book to broaden children's knowledge of diversity within their own community and to enhance the message of bullying and why it is happening around us and how we can stop it. (Student comment from rationale)

Here we consider it helpful to reference Gaard's (2008, p. 14) notion of an eco-pedagogy which "distinguishes itself from a type of environmental education that seeks accommodation within a global neoliberal framework, championing sustainable development without challenging the unsustainability of an economy advocating endless growth". This mirrors the call by Elliott, Årlemalm-Hagsér and Davis (2020, xxi) for researchers "to be a bigger, bolder radical activist group expressing our values and advocating for significant social and political change" through early childhood education for sustainability research. This advocacy features explicitly in the UK Subject Benchmark Statement for Early Childhood Studies (QAA, 2019, p. 4) and invites students as researchers to "challenge gender and other inequalities and facilitate recognition of the rights of children to actively participate in their world", also connecting to SDG 5 Gender Equality and SDG 10 Reduced Inequalities. Thus, student-authors invited readers to adopt a more critically reflective pedagogical stance in the consumption of children's sustainability literature.

Gaard's (2008, p. 15) advocacy for "stories for democracy, social justice and post colonialism" particularly resonates with early childhood education for sustainability and "little S sustainability" (Spearman & Eckhoff, 2012, p. 15) which concentrates on day-to-day activities and experiences which invite young children to make sense of their own worlds. This segues to our third theme related to different ways to *understand* and *know* the world.

Different ways of knowing

The third theme identified through our analysis is characterised as 'different ways of knowing'. Here we argue for the university classroom as a fertile space for exploring what Moss (2019, p. 4) refers to as "the importance of narratives, that is the stories we hear and tell, for how we interpret or make meaning, of ourselves and our lives, of our families and other relationships, and about what goes on in the world around us". The English Statutory Early Years Foundation Stage (EYFS) (DfE, 2017) features broadly in the first year of the Early Childhood Studies degree programme, with acknowledgement of the overarching principles of a unique child, positive relationships, enabling environments and the individuality of development and learning. Thus, it was no surprise that student rationales were peppered with assertive references to the EYFS with explicit connections to the areas of learning and development, the characteristics of effective learning and the (often contested) notion of 'British values' (DfE, 2017). The student-authored e-book *Mr Cloud*, responding to SDG 3 Good Health and Well-being and SDG 4 Quality Education, was one of the simplest stories which portrayed a rainy cloud battling to develop a sense of worth as he measured himself against the useful sunny clouds (see Figure 5):



Figure 5: Illustration from Student e-book *Mr Cloud*

Despite its simplicity, the rationale for this story challenged superficial interpretations of the requirements within the EYFS (DfE, 2017). The student-author of *Mr Cloud* considered the illustrations in *Gracie's Birthday Party* (Nash, 2019), with tacit reference to the concept of othering and inclusion:

Gracie's Birthday Party' by Kaya Nash (2019) ...had hidden messages about diversity embedded into it and promoted positive attitudes towards others which is an example of 'British values' which are incorporated into the EYFS, as well as Development Matters (DfE, 2017). (Student comment from rationale)

She also made connections to *Robin's Sweet Heartbeat* (Ray, 2020) around interconnectivity, some EYFS areas of learning and development (DfE, 2017), and recognised the SDGs:

Robin's Sweet Heartbeat (Ray, 2020) was set around mindfulness to explore our inner world through our heartbeat. The underlying message is that we may all look different, but we all have heartbeats that connect us to each other. This ties in with education for social and cultural sustainability as children are being taught to offer mutual respect to those who may appear different (Boyd, Hirst and McNeill, 2017). This is an aspect I wanted to incorporate within my book, to respect those who may seem different to us when the sunny cloud reminds Mr. Cloud that it is okay to be different.

In recognising the 17 SDGs, the book relates to SDG 4 [Quality Education] as it is proposed to enhance children's learning and understanding of the world around them which also reflects the specific area of learning within the EYFS (DfE, 2017). (Student comments from rationale)

Understanding the World is a specific learning and development area in the EYFS (DfE, 2017) and this can be negotiated through the critical pedagogies most often associated with education for sustainability. In particular, critical theorist Freire's notion of "reading the world" before "reading the word" (Gruenewald, 2003, p. 5) as social sustainability, demands an ethos of compassion, respect for difference, equality and fairness. As noted in a chapter reviewing how children come to understand their worlds, early childhood education for sustainability provides a vision of early childhood education and care that seeks to balance human/non-human and economic well-being with cultural traditions and respect for the environment (Hirst, 2021).

Some students employed their storybook as a stimulus for exploring points of difference. Bourn et al. (2016, p. 8) argue that "the tendency in England has been to focus on the social relevance of education in terms of addressing *problems*, such as global terrorism, through attempts to *prevent* radicalisation and the promotion of Fundamental British Values". They argue that 'British values' is a contested term and here we draw on the recent Reflecting Realities¹ report (CLPE, 2020, p. 17) to consider how stories can be used to avoid "paint [ing] the collective realities of people with the 'we're all the same' brush [which] diminishes the truth of people's lived experiences". In other words, storybooks can provide recognition and affirmation for readers who can identify, whilst providing invaluable insights into those who may not. Such insights were evident in the student-authored e-book *Mateo Meets His New Classmates*. Responding to SDG 10 Reduced Inequalities, the student introduced Mateo who is a new pupil in a school (see Figure 6):

He does not speak nor understands English very well, and therefore he struggles to make friends...Mateo feels emotionally down and confused and would like to talk to other children, but the language barrier prevents Mateo from starting a conversation with them.' (Student comment from rationale)

¹ The Reflecting Realities report (CLPE, 2020) was a survey of ethnic representations within UK literature.

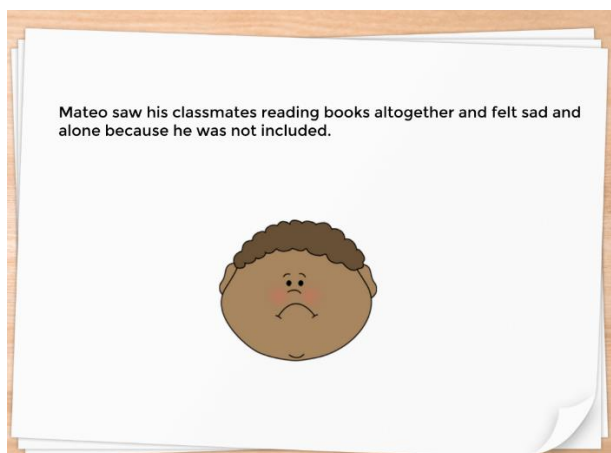


Figure 6: Illustration from Student e-book Mateo Meets His New Classmates

Recognition of the value of Mateo's home language in the story could exemplify Freire's interpretation of critical theory (Quintero, 2017) and critical pedagogy to enable change in thinking around the value attributed to languages other than English. Quintero (2017, p. 166) asserts that she often "encounters scepticism about the possibility of Freire's lofty, intellectual and activist ideas relating to young children". However, her work with students in Higher Education explores Freire's 'reading the world and reading the word' (Gruenewald, 2003) at the heart of literacy learning, with literacy seen as valuing children as active participants in culture and cultural production (Kuttner, 2015). In addition, Mardell and Kucirkova (2017, p. 173) draw on research by González, Moll and Amanti (2006) and the idea of celebrating 'funds of knowledge' which acknowledges the diversity of practices within families and how they negotiate the cultural-historical contexts of literacy learning. Here the student-author of *Mateo Meets His Classmates* could have celebrated her own Spanish heritage and increased Mateo's agency by using her home language within the story.

The *Reflecting Realities Report* (CLPE, 2020) documented it was often difficult to locate and recognise ethnic minority presence in the texts reviewed. In equal measure, Beneke and Cheatham (2019, p. 121) argue that teachers were often "enacting discourses" in teacher-child interactions, predominantly colour identification, and matching skin tones, rather than having any authentic discussions about race or multiculturalism. Here we draw on a further excerpt from the student-author of *Mateo Meets His New Classmates*:

The identification of the child in the wheelchair and the coloured child, will stimulate questions around disability and diversity. (Student comment from rationale)

The use of language is important and here we highlight the student's word choice 'coloured' which could be considered offensive / a racial slur. Drawing on the *Reflecting Realities Report* (CLPE, 2020, p. 16), this could be seen as an opportunity to encourage the less talked about issue of "colourism" noted in a *Guardian* newspaper article (Adegoke, 2019) as "the daughter of racism" by author and actor Lupita Nyong. Whilst it is understood that books can promote interpretation of deficit perspectives, without language to interpret and discuss racial diversity (Beneke & Cheatham, 2019), many readers may internalise inaccurate or racially biased messages (Siraj-Blatchford, 2008). Whilst the student-author of *Mateo Meets His New Classmates* carefully selected an illustration and named her key character to match his ethnic identity, the student author of *Our Journey to School* instead produced featureless, simplistic hand-drawn images in a bid to avoid stereotypes (see Figure 7):



Figure 7: Illustration from Student e-book *Our Journey to School*

In this modern world where stereotypes rage within the media, it is important that the book underlies the idea of inclusion. The book was created to allow children from all backgrounds to be able to relate to either a character or a theme, furthermore, enhancing a child's self-esteem as it links to one of the three pillars for sustainable development, social equality, as they will feel accepted by society. (Student comment from rationale)

The hand-drawn images suggested that inspiration was taken from the distinct features represented in *Gracie's Birthday Party* where the author wanted to 'normalise different representations of children' (Nash, 2019). Further, whilst the *Reflecting Realities Report* (CLPE, 2020, p. 9) quite rightly argues for more ethnic minority presence within children's literature, the intertextuality of the faceless cues could encourage a reading of the story as a positive pedagogical resource to establish a non-judgmental and interactive approach to unlearn prejudice and challenge discrimination. As with the visitors in *Gracie's Birthday Party* (Nash, 2019), there is no need to itemise the characteristics of the visitors, as the illustrations invite children's own interpretations of the story as it unfolds.

Conclusions

We envisage the focus on early childhood education for sustainability within children's literature as integral to a mindful shift towards a more critical praxis with young children, among families, communities and teachers, both pre-service and in-service. This pedagogic study with pre-service early childhood teachers in our university degree programme offered a contextualised reading of the English Early Years Foundation Stage (DfE, 2017) and associated guidance. We purport that, whilst the emphasis on books, stories and reading is commendable (pilot EYFS, DfE, 2018), children's understandings of their world "should not be about 'books read in class' as it is more about experience, conversation and meaningful personal histories" (Early Education, 2018, p. 26), or what we termed pedagogical purpose. We argue, after Quintero (2017), that simply reading to young children about important sustainability topics with no space for communication could be construed as an unforgivable tacit banking concept of knowledge. The banking concept of knowledge positions learners as "empty vessels to be filled with knowledge" (Alam, 2013, p. 27), and has been criticized as damaging the true meanings of learning and inhibiting the creative power of learners.

Our research identifies that children's literature can be a powerful tool through which to communicate important messages related to the SDGs for a sustainable future, and that the process of creating these e-books was an equally powerful tool for educating pre-service early childhood teachers. Our findings indicated the need to avoid catastrophising children's understanding of their worlds, whilst acknowledging their capacities for understanding and talking about sustainability issues from a young age. In creating the e-books, students demonstrated different ways of knowing and came to view early childhood as a key period to foster caring attitudes and empathy towards the natural environment and more broadly learning about inequities, rights and responsibilities. We acknowledge the inevitability of study limitations, for example, whilst the interpretation of data were explored between

researchers, the opportunity to explore directly with the students would have helped to foreground their voices and help us to seek a more holistic understanding of the social and pedagogic phenomena. Extending on this study, further research could include student interpretations through follow-up interviews and a collection of children's responses to the student-authored e-books. This would further extend our understandings of the pedagogical purposes of the e-books, particularly in relation to early childhood education for sustainability.

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