EDUCATION
JOURNAL MAGAZINE

Welcome

Welcome to the second volume of the Birmingham City University (BCU) Education Journal Magazine (EJM) and the first edition of this academic year. This edition contains a number of articles from a variety of sources, ranging from students, ex-students, academics and teaching professionals.

In this edition, we have a variety of topics covered, ranging from: subject based articles including drama, early reading, maths and science; professional development articles surrounding peer observation, computing education and analysis of critical incidences; and finally some fantastic and interesting work based on girls with autism and a piece based upon a poem of a clown.

In this article, we have also highlighted LGBT history month in February and this directs you towards how you can get involved and we've kept in the useful list of common abbreviations in education also.

So there's something for everyone in this edition!

I hope you find these articles engaging and interesting and you are able to reflect upon any of the findings found from these articles. Please get in touch if you have any thoughts or feelings about what you have read.

Every term we are looking for new and exciting articles to put into our next edition, so please get in touch if you have an idea or an area of interest and we can support you towards publication.

Finally I would like to say thank you to our editorial team, who have grown since volume one and who continue to review contributions and support new writers in the process of getting their articles accepted.

Best wishes

Grant Huddleston

Meet the editorial team:

Grant Huddleston	*Course Leader for BA/BSc Hons. Secondary Education with QTS*
Dr Chris Bolton	*Senior Lecturer in Drama Education*
Dr Tina Collins	*Course Leader for MA Education*
Gary Pykitt	*Senior Lecturer in Primary Education*
Mary Bennett-Hartley	*Senior Lecturer in Primary Education*
Dr Victoria Kinsella	*Senior Research Fellow in Education*
Kelly Davey Nicklin	*Course Leader for PGCE Secondary Education with QTS*

Our Aim

Our aim is to help support practice across our partnership schools and promote enquiry and research. We welcome contributions from students, teachers and academics who wish to make a positive difference to teaching and learning and believe they could help develop and support other's practice. We aim to support new and experienced writers to submit their work so that we share a variety of perspectives.

Our Goals

- *Showcase the excellent work our BCU students produce.*
- *Allow an opportunity for those interested to publish their work to promote positive development and reflection across our partnership schools.*
- *Promote confidence and competence to write for an education publication*
- *Promote interest towards research and enquiry*

How to Contribute

Anybody wishing to contribute an article for consideration should email their draft to BCUEJM@bcu.ac.uk

You do not need to decide which chapter you wish your article to appear, but you can indicate this if you wish. Please ensure you follow the house style. Final decisions on publication are made by the editorial board. You can submit as many articles as you wish. If the editorial team have received a large number of contributions, your article may be held for later editions.

House style

When submitting an article for consideration, please aim to follow the subsequent *house style*:

- Documents must be submitted in **Word** in font **Calibri**, size **11**, with **1.0 line spacing.**
- Include your full name and role/school – this will appear under the title.
- Any web links given should be accessible by the reader and not sit behind passwords or paywalls.
- Word count is expected to be **500** to **3000** words "all in" (including references lists).
- Acronyms and abbreviations must be written in full the first time they are used in each article; thereafter the abbreviation may be used, e.g. "The special educational needs and disability co-ordinator (SENDCO) is … "
- UK English should be used, e.g. "…ise" endings instead of "…ize"
- Numbers one to ten written in full; thereafter numerical (e.g. 28 pupils aged nine completed… etc.)
- Double speech marks for direct speech or quotes; otherwise single speech marks
- Please use the Harvard referencing system (where applicable – we can support with this if necessary).

Please note that the editorial team will amend the final copy to suit our house style. You will may receive a copy back if any major changes have been made for you to proof read.

Contents

Eight reasons to contribute to the BCU Education Journal…

We are incredibly thankful for all contributions sent in for our editorial team to review and discuss. However, we'd like to highlight why contributing an article is worthwhile for you and not just worthwhile for us.

Teaching and learning is an evidence based profession and engaging with this journal will help others develop their own practise.

Brings to the forefront the importance of research, evidence and literature in the profession

Supports new ideas/strategies/theories for colleagues to use/try out/reflect upon

Puts the writer's name in the 'shop window' to the partnership and nationally.

Great addition to the writer's CV

Allows an opportunity to show off the high standard of BCU trainees' thoughts/ideas/research

Allows an opportunity to signpost further research/textbooks etc.

Allows for an opportunity to get your 'foot on the ladder' in publishing and engages writer's with the processes involved.

Provides an opportunity for potential networking across the partnership.

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Birmingham City University

Socially Distant Stories from Beyond the Screen- What is the role of theatre in education in the development of the ITE curriculum?

Dr. Chris Bolton – Senior Lecturer in Drama Education, Birmingham City University

Dr. Rebecca Patterson - Senior Lecturer in Drama Education, Manchester Metropolitan University

This article is part of an ongoing research project called *Socially Distant Stories from Beyond the Screen*, which is a creative approach to research that puts to work a hybrid Theatre in Education (TiE) methodology in two Initial Teacher Education (ITE) settings. The project as a whole attempts to consider the challenging implications and positive opportunities of the 'pandemic context' on the educational experiences of secondary trainee teachers and Early Career Teachers (ECTs) as they prepare to enter the teaching profession. As part of this research process, the project is particularly seeking to explore the impact of the Covid-19 pandemic on the professional identity and practice of those training for the teaching profession.

Following the completion of an anonymous online survey earlier this year, we are now currently exploring the key findings through the application of a hybrid Theatre in Education workshop. Working from the premise that TiE uses the imaginative techniques of theatre in order to serve education (Jackson & Vine, 2013) we are reconsidering the central question of what it means to be a teacher, in a 'post-pandemic' world, using a filmed monodrama called *Socially Distant*. We recognise that the 'pandemic context' pushes and has pushed TiE toward a hybrid pedagogy that combines virtual performance(s) with live face-to-face experience(s), and are researching the impact and use of this pedagogy in ITE. This 'push' can be seen in the practice of ECTs and trainee teachers also, who have continually transitioned from live to virtual teaching practices.

Big Brum's[1] recent TiE program, 'Socially Distant'[2] a filmed monodrama[3], explores the impact of the pandemic on a man whose son has died, as he attempts to understand the meaning of his identity as both a father and a teacher. This story creates a strong, powerful and resonant space for trainee drama teachers and ECTs to consider their own rationale for becoming a qualified drama teacher during a global pandemic. Using theatre and imagination as ways to know the world, therefore, is a central aspect of the creative approach to research.

Figure 1- Richard Holmes (Artistic Director at Big Brum) performing- Socially Distant

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[1] Big Brum are an internationally renowned Theatre in Education Company
[2] Link to the trailer of Socially Distant
[3] Socially Distant Part 1; Part 2; Part 3; & Part 4

In partnership with colleagues from Manchester Metropolitan University, we have now completed the first stage of the research process- the anonymous online survey- in an attempt to understand the views of ECTs from the 2020-21 cohort and use those views as part of the 2021-22 ITE curriculum. The aim, therefore, of this article is to share some early findings.


Figure 2- Participants exploring what it means to be a teacher

The survey questions included the following:

1. How old are you?
2. How would you describe your gender?
3. On a scale of 1-10, with 10 being excellent, how would you rate your experience of teacher training/education at BCU/ MMU this academic year? (2020-21)
4. What is your specialist teaching subject?
5. On a scale of 1-10, with 10 being 'very affected', to what extent did the transition to online learning platforms impact on the teaching of your specialist subject?
6. Please describe in what ways the Covid-19 pandemic has affected your reasons and/ or motivation for becoming a teacher/ continuing with teacher training/education at BCU/MMU?
7. How has your teaching practice been affected by the Covid-19 pandemic?
8. What opportunities have been revealed by the Covid-19 pandemic in terms of your teaching practice and/or your teacher identity?
9. In a 'post-pandemic world', what kind of teacher do you imagine you will be and why?

Survey Findings/ Summary:

The survey has been very useful in gathering data around the experiences of ECTs completing their PGCE year (2020-21) in two university contexts from different regions in England. Unsurprisingly, a range of responses across different age groups has revealed that ECTs' ITE experience has been affected by the Covid-19 pandemic context. Despite this fact, the majority of ECTs (84%) rated their experience of teacher training as good or better and this was represented by responses from ECTs in each subject specialism offered by BCU and MMU.
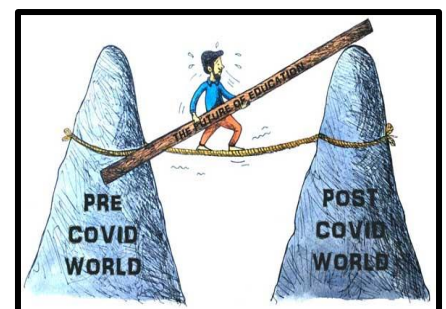
Whilst ECTs' motivation to teach in general was affected by the implications of Covid-19, the practical elements of teaching (face-to-face or virtually) seems to have affected motivation more specifically. This has led to feelings of unpreparedness, stress and under confidence, as well as implications in terms of ECTs' mental health and well-being, all element recognised by the NFER (2020). Despite this, a third of those surveyed indicated that the pandemic context

was a positive motivating factor in wanting to become a teacher and/or continuing with their initial teacher education. The survey also revealed that ECTs are resilient, creative, and adaptable and were willing to take risks when rising to the challenges of teaching during a global pandemic. Perhaps most significantly, the survey revealed that ECTs, who responded, were committed to the teaching profession!

The results of the survey also revealed that the need to develop meaningful relationships- inter-cohort, in schools, with expert colleagues and/or with university tutors –would be an important element of strengthening ECTs' motivation in the future. The continuing strength of partnerships and collaborative networks, at both BCU and MMU, is recognised as key to future motivation. Linked to this, the Covid-19 pandemic has also affected ECTs' rationale and reasons for teaching, affording them time and space to consider and re-consider their teaching rationale(s).

It is evident that the lack of practical teaching experiences has had an impact upon the pedagogical practice of ECTs, which has affected the teaching of various subject specialisms in 2020-21. This issue has been exacerbated by teaching in non-specialist spaces and having limited resources due to Covid-compliant practices. A lack of practical teaching experience, coupled with the use of non-specialist teaching spaces, for some subject specialisms such as art and design for

Figure 3- Participants discussing the development of meaningful relationships

example, seemed to have affected not only the motivation of some ECTs but also their pupils. However, this context has also afforded ECTs, through necessity rather than design, a space to re-consider creative approaches to pedagogy and the developments of innovative resources whilst strengthening their adaptability as teachers.

Online and virtual teaching spaces have provided useful and innovative opportunities for ECTs to develop their pedagogical practice and to take risks in their approaches, both online and in face-to-face settings. However, ECTs who responded recognised that these opportunities faced specific risks, particularly with schools returning to 'normality'. Some of these risks to innovative practice included lack of access to IT equipment and software in schools. Additional risks included feelings and/or expectations that practice should 'return to normal' despite the gains made by innovative practice under the restrictions of lockdown. In some cases, the use of online and virtual teaching practices not only supported young peoples' subject knowledge but also, more importantly, their mental health and well-being. This was evidenced through examples such as a music ECT sharing her experience of developing an online choir! Linked to this, it is evident from the data that 'resilience', 'adaptability', 'confidence' and 'being human' are elements increasingly valued by ECTs in developing their teaching identity(ies).

The survey also revealed the impact of Covid-19 on how ECTs imagined themselves in the future as teachers. The variety of imaginings ranged from views of becoming a 'traditional teacher' with authoritarian control to hybrid teachers that could use a blend of face-to-face and virtual learning experiences. Furthermore, many ECTs recognised the need to develop the pro-social aspects of their teacher identity with a stronger focus on pastoral elements such as empathy, understanding, patience and care.

Figure 4- Participants discussing teaching in a 'post-Covid' world

There were 73 responses to this question in particular, which demonstrated a variety of ideas about what type of teacher ECTs imagined they would be in a 'post-pandemic' world. Of those responses, only three mentioned their subject specialism explicitly, with the majority of responses fitting into four thematic views of 'a teacher': a traditional teacher, a hybrid teacher, a pro-social teacher and a future-minded teacher. Our thinking in asking this question was to reveal ECTs' 'imaginings' about the concept of 'a teacher' in a post-pandemic world. Given that the notion of a 'teacher' is too much of a generalisation, we agree with Stronach *et al*. (2002: 2) who point out that the concept of a teacher is an "...indefensible unitary construct" with ECTs developing their teaching identity(ies) between the imagined and the unrealised.

A number of the responses suggested that despite the impact of the pandemic, they would become a teacher in a 'traditional' sense. For example, despite the experience of training during a global pandemic, the response from participant 252- an 'older', male, computer science teacher -suggested that in a post-pandemic world he imagined that he would be…

> "An inclusive reflective teacher utilising direct instruction and informative assessments as these are proven strategies that enables understanding and reinforcement of what worked well and what could be improved." (Response 252)

This is a particularly interesting response given that this ECT answered question 8- how has your teaching practice been affected by the Covid-19 pandemic –with "No classroom teaching experience". What this might suggest is that potentially this ECT has had a limited experience of live school-based training and that this response merely reaffirmed his impression of what he imagines it means to be a teacher, in a traditional sense.[4]

Other responses discussed the need to be 'firm', have 'strict rules' and 'routines'. Perhaps this reveals something about ECTs' fears around managing behaviour due to a lack of direct experience in a live, face-to-face teaching environment,

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[4] It is also interesting given that the central character in monodrama- *Socially Distant* -that will be used in the next phase of the research, is an 'older, male, teacher'. There is potential here to explore this further.

something recognised by Ofsted (2021) in that "Trainees are particularly behind in their experience of managing behaviour". Alternatively, perhaps this is a direct effect of being in lockdown- a need to regain a sense of control.

> "I imagine I will be a firm but fair teacher who build great rapport with my pupils and someone that creates an exciting but safe atmosphere in the classroom where students want to come to learn." (Response 692)

> "A firm teacher which strict rules and routines but understanding at the same time." (Response 879)

> "I imagine that I will be the teacher that is strong willed and is able to rise above any challenges that may come my way. I also imagine myself to still be the same teacher that promotes effective teaching and learning within a positive classroom environment." (Response 259)

Other 'imaginings' revealed the ECTs have developed a sense of hybridity in terms of their teacher identity, which has been highlighted by the intersections between live, face-to-face teaching experiences and virtual, online episodes. Gesturing toward this new sense of professional hybridity could be said to be a way for ECTs to future-proof themselves as 'teachers' in an unpredictable world. However, this hybridity also supports and strengthens previous findings within the survey around adaptability, resilience and confidence. Responses included:

> "A very confident one, having had both, online and face to face teaching experience." (Response 497)

> "An adaptable one, Covid 19 has mainly given me the skill to adapt and think quickly in ever changing situations." (Response 227)

> "One that is versatile, resilient and creative." (Response 210)

> "A more resilient one. A teacher who will be more open to different scenarios and situations." (Response 978)

> "I imagine I would be more prepared for any type of teaching situation, having experienced online teaching, adapting the curriculum for non-art rooms and also experiencing art rooms eventually." (Response 792)

A number of 'imaginings' (42%) also expressed the importance of the pro-social aspects of being a teacher and being 'human' in a post-pandemic world.[5] These responses demonstrated the potential liberal and pro-social aspects needed based upon the pandemic experience. However, these pro-social aspects are troubled by their relationship to the promotion of neoliberal, measurable and pro-technical elements of education, which have been exacerbated through narratives around the 'recovery curriculum' and the 'catch-up curriculum'.[6] Many ECTs imagined that they would become…

> "Understanding, passionate and inspiring." (Response 629)

> "Kind, caring, funny, smiley, bubbly, enthusiastic." (Response 427)

> "A compassionate and empathetic teacher." (Response 219)

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[5] Here we define pro-social, human aspects as 'caring', 'nurturing', 'empathic', 'listening', 'relationship building', 'patient', 'supportive', 'kind, 'compassionate'.

[6] Here we might draw on the work of Carpenter (2020) and his version of 'The Recovery Curriculum', which is a compassionate and trauma led approach to learning in schools, post-pandemic. Think piece available here https://barrycarpentereducation.files.wordpress.com/2020/04/recovery-curriculum-loss-and-life-for-our-children-and-schools-post-pandemic.pdf

"A nurturing teacher because the pandemic has highlighted the need for pupils to be supported in a pastoral as well as an educational way." (Response 205)

"My priority post pandemic is to ensure my classroom is a safe space for all. Covid-19 taught us that life is not predictable, but I want to make sure that when I have my own classroom, the space is designed to be welcoming and a great learning environment." (Response 855)

"I will be a more caring teacher as I believe everyone has gone through a tough time through the pandemic and I think we just need to be more kind and caring towards others. Due to the pandemic and the lives of children can be negative at home, I think I have become a more safeguarding minded teacher." (Response 025)

"Supportive, pastoral, kind, patient." (Response 381)

"I imagine that I will be a patient and caring teacher." (Response 671)

"… the importance of relationship building in teaching… will be something I prioritise." (Response 106)

Linked to these pro-social imaginings were notions about future-forming identities as teachers. ECTs who responded recognised the impact Covid-19 had on their education and induction to the profession. These responses considered this when imagining the type of teacher they think they would become. Responses included:

"I imagine that I will become a teacher and practitioner that is far more grateful, aware of the profession's importance and cautious of how easily the status quo of normal education can be changed." (Response 945)

"The best teacher I can be. Motivating pupils, being a kind and caring face that pupils can talk to." (Response 206)

"A confident, resilient and curious teacher, this year has taught me that my teaching practice will consistently be in a state of development. I embrace this understanding as it makes the job being a teacher so much more exciting as there is always something new to learn." (Response 299)

"I think that's a tricky one, as it's been a very strange year to be entering the teaching profession. I will be really interested to see what a 'normal' year looks like (if that is even a thing)! I think I will always take with me the need to care for the students MHWB [Mental Health and Well-Being], and allow space for students to equip themselves with strategies to care for their mental health. The experience has only strengthened my desire to champion an equitable education system, and ensure every child has access to a good, well-rounded education that serves the needs of the whole child. Although there seems to be no escape from endless assessment, or now 'catch up', this is not the only purpose." (Response 441)

This final question- In a 'post-pandemic world', what kind of teacher do you imagine you will be and why? –has revealed that ECTs from the 2020-21 cohort are resilient, adaptable, confident, committed and creative teachers despite the challenges presented by the pandemic. However, this leads to further questions about what it means to be 'a teacher' with the potential return to 'normality' in schools in the future. Will the post-pandemic context ever resemble this historic, pre-Covid sense of 'normality'? Exploring what it means to be a teacher now will be a strong focus in the next phase of the research approach.

Conclusions and Future Steps:

The anonymous online survey was a useful step in gathering initial data to inform the next steps in our research project. We have been successful in collecting data from two regions in England that represents a useful range of ECTs' age and subject specialism. Combining qualitative and quantitative questions has enabled us to see a snapshot of experiences from the 2020-21 cohort and their responses to the academic year from which we can now build and develop the research project further. The data has revealed potential areas for exploration, such as notions of motivation for ECTs in ITE, how we might promote the development of stronger professional relationships within the ITE provision(s) at BCU and/or MMU, and how we might strengthen the pro-social, 'human' elements of teacher identity that sit alongside ECTs' subject knowledge development. Additionally, it is

Figure 5- Drama trainees beginning to use 'Socially Distant' to investigate arising themes from the survey

evident that online and virtual teaching spaces have provided useful and innovative opportunities for ECTs to develop their pedagogical practice and take risks in their pedagogy. However, we might now explore to what extent this has happened out of necessity rather than design and how university tutors and/or expert colleagues based in school contexts might model and teach this as part of their ITE curricula more explicitly.

Given the findings within the anonymous online survey, it is now intended to take the key findings and explore the meaning of them further through the applications of a hybrid theatre in education programme. We intend to use the monodrama- *Socially Distant* –as a metaphoric story to explore artfully the issues raised by the data. This will result in a filmed documentary to capture and explore the stories of trainee drama teachers specifically working in secondary schools during a global pandemic and hear the impact on their experiences of hybrid learning and teaching in relation to the development of their teacher identity and practice.

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Peer Observation - A record of thoughts and experience

Heather Whitehead – Lecturer, School of Education & Social Work, Birmingham City University

When considering the HELS (Health, Education and Life Sciences) cycle of peer observations (Figure 1) I decided to attend the training to gain an insight and fresh understanding of how this model could work to enhance my practice. As Hildrew (2018) referring to Dweck (2006) asserts, a growth mind-set is essentially the key to developing an effective learning culture. Tepper and Flynn (2020) emphasise the importance of a learning culture, explaining it is essential for all stakeholders and particularly effective when working within a supportive environment. What really interested me, and the rationale behind the training, was to reconsider the value and purpose of observations from the perspective of both the observer and observee and how peer based models of learning are being encouraged and valued as a means to improving teaching and learning, particularly within the HE (Higher Education) sector (O'Leary and Savage, 2020).
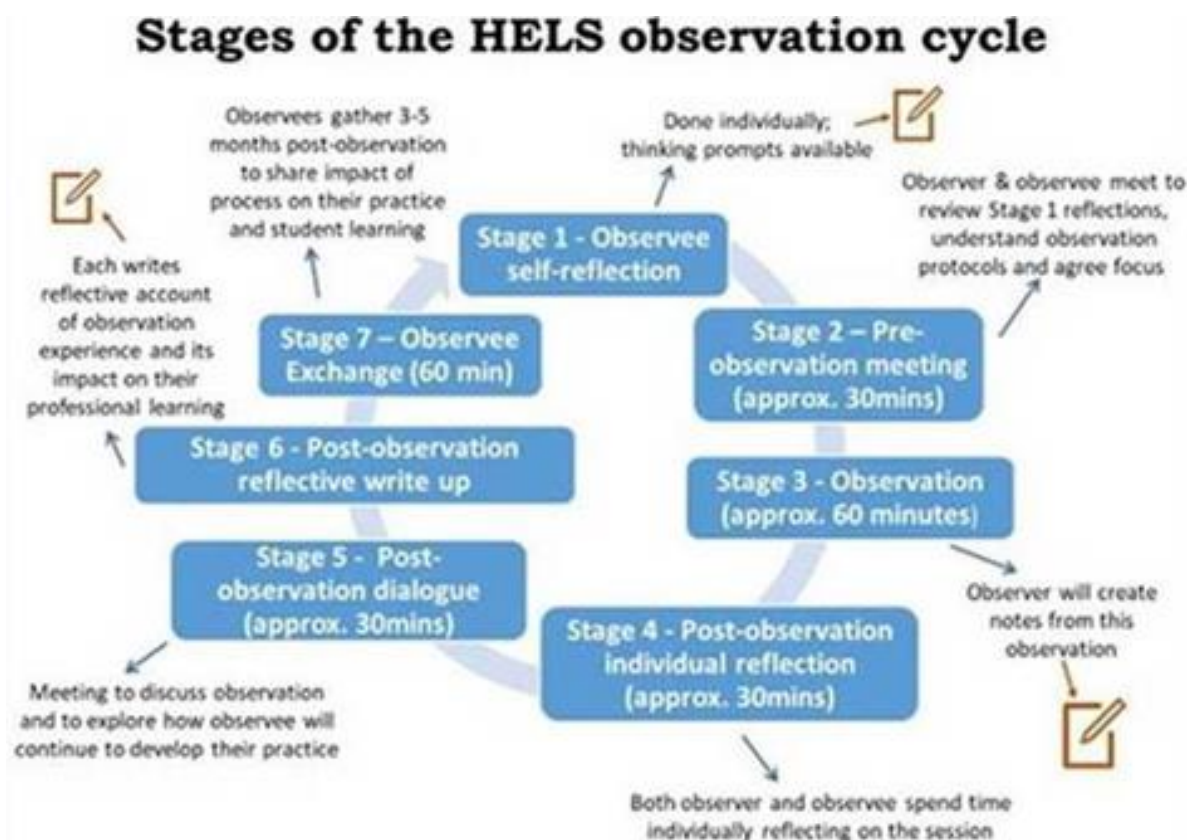
Figure 1

Although being observed and observing students and peers is not a new experience for me, I do recognise, being observed in particular, can be a source of great anxiety and apprehension as this is has commonly been used as a subjective benchmark and judge of personal performance. As O'Leary and Savage (2020:145) confirm, observation "has become predominantly associated with the performance management of teachers in education sectors, with a reliance on its use as a performative tool of summative assessment, with which to monitor and measure teacher effectiveness". The emotional impact of observations is also particularly significant. Of course observations can have very positive outcomes and be great for self-esteem, however adverse feedback can conversely have a negative effect, therefore the skills required for effective practice as observer and observee remain complex.

As an observer, I have found this can be similarly challenging at times, as Tepper and Flynn (2020:13) state, "The process of observing is not as simple as gathering a clipboard or laptop, setting foot into a room….and watching a lesson unfold. Instead, it is a complex process that requires high levels of cognitive and metacognitive processing executed in real time, when done effectively." Again when considering traditional approaches and purposes of observation, choosing the right approach to feedback to students can be challenging, particularly when trying to communicate targets that are less than well received. This does raise questions, for me, as to how these traditional approaches are conducive to developing reflective and progressive practice.

Initially, I had concerns around the time it would take to commit to this cycle of observation and primarily wondered if this was feasible within the current Covid climate and additional workload. This seemed especially pertinent as the training explained the process to be a comprehensive cycle that participants need to commit to and complete.

Nevertheless, I felt the training would provide me with a new insight and challenge my understanding of more dogmatic and potentially damaging observational processes could be. I did acknowledge personally, this might take some time, practise, and adjusting to different perceptions of entrenched behaviours, however clearly recognised the value of this reflective and supportive coaching approach.

Personal thoughts and reflections as an observee

Initial stages required writing a very personal self-reflection, which took some time and careful thought, and again made me feel somewhat vulnerable. Nevertheless, I did find it useful to give time that really considered which aspects of practice I feel positive about and which I know cause me anxiety or I am less secure in, that could impact upon student experience and progress. After sharing this with my observer, we found making time to complete the observation challenging due to our current teaching commitments. However, an opportunity did arise when a face-to-face session had to be postponed and delivered in a live online format. A short meeting to agree a focus and areas for development was agreed and preceded the observation, which was to be recorded and available for the observer. I was also particularly interested in how this session would equate to one delivered face to face with students on campus the following day. As my self-reflection noted, I feel it is important to be fully prepared prior to teaching and considered this to be particularly important when teaching online, using technologies relatively new to me and to the students. Initial preparation included provision of detailed instructions given to the students regarding engagement and participation during the session and use of the technology employed.

Post observation reflection

I was not particularly satisfied with the outcome of the session delivered in this digital format in relation to the agreed focus and spent some time reflecting upon this. Although I do feel I regularly reflect and refine my practice, again when being observed a feeling of vulnerability, exposure and disappointment can make this feel like a challenging experience. However, consideration of the underpinning principles of this peer observation cycle allowed me to consider the real purpose and value of this and the opportunities it affords for further personal development and learning that will ensure difficulties can be overcome and effective change can happen.

Meeting with my observer has also reinforced this positive approach. Detailed coaching notes and questions formed an excellent opportunity for a productive and important learning conversation that provided useful and insightful on many levels for both parties. My observer was particularly supportive and explored some key strengths of the session before we went on to discuss the agreed focus of student engagement in an online context. We both felt that the online platform needs to be delivered in a different way to the face to face content, as the same session delivered this way was far more effective. There were several reasons for this, some of which were due to a lack of knowledge and understanding of how to use some of the Microsoft Teams technology. This was an inhibiting factor when trying to develop student engagement and I felt I really need to develop my knowledge of online teaching tools that are appropriate to individual sessions. Timing was also an issue during the session as students were asked to complete collaborative tasks in breakout rooms and this influenced the flow of session, level of engagement and quality of

trainee responses. Discussion and questions raised with my observer allowed me to consider that expectations of response time need to differ in online teaching. Power points and prompts are not readily in sight as students move to breakout rooms, so are my expectations therefore realistic? This was reinforced as I monitored the chat and talked to students in their breakout rooms, they needed further reminders of the details of the task. Further ideas of students completing tasks prior to the session that would enable them to ask questions and discuss their thoughts and ideas during the session through use of shared technologies, quizzes and interactive activities would be more effective and useful. Online teaching also highlighted the importance of students understanding of current technologies and the need for further support and teaching made available to them. As Tepper and Flynn (2020:15) explain "students need repetition, are influenced by peers, arrive with different background knowledge and experiences….This means… students achieve different learning outcomes in the same classroom and from the same activities… learning doesn't come directly from classroom activities, learning comes from the way students experience these activities."

In the future, we will be teaching using online formats and it is therefore essential to make sure my planning and teaching considers interactive tasks that are presented in different, operational formats and that I begin to develop a greater understanding of the technologies available. If at all possible it would be useful to be able to share knowledge and also to practise using new technologies with staff members that might enhance knowledge and confidence.

I would also be interested in receiving feedback and suggestions from students regarding their online teaching experiences as we move forward with new ways of teaching and learning which also raises questions around what the student's feel are barriers to learning and if further policies are also needed.

Thoughts as an Observer

Engaging with peer observations as an observer has been an interesting experience and I have tried to see this opportunity as a learning expedient. Nevertheless, I initially struggled with the idea of observing a colleague I held in high regard, with much greater experience and expertise and did initially find this quite daunting. However, I tried to keep in mind recent training that aimed to address the perceived ideas of a 'coaching' model that aimed to develop an inquiry based approach and that focused upon exploration and questioning that would support reflective and developmental practice (O'Leary and Savage, 2020)

The dialogue prior to observation was really useful and I tried to keep this in mind as I was observing and the questions I raised as relative to this as possible. I think moving to online learning we all have similar skills to develop, so observing gave me the opportunity to think about how I might develop my own practice further using this platform and understand this might take some time to develop.
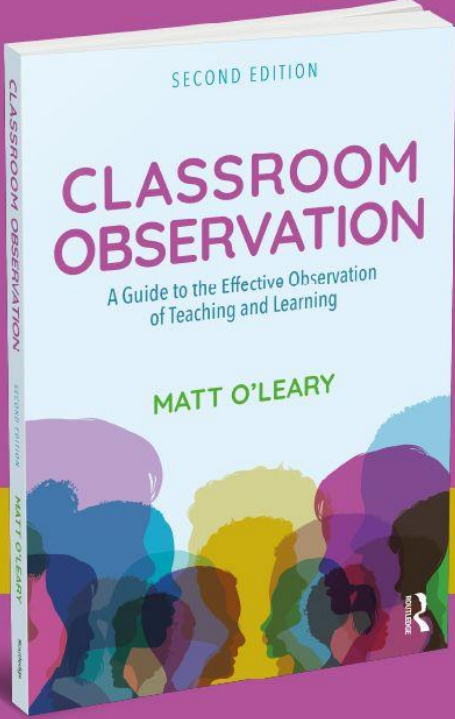
The stages of the observation process, is time consuming, however, if undertaken as intended, is time investment for valuable and worthy effect. The conversations around how we can support each other as a staff I found to be particularly meaningful, however as O'Leary and Savage (2020) note, it is imperative that for this model of peer communication, observation and feedback to be effective there needs to be good rapport and a relationship of trust. This should drive a culture of learning and build capacity for effectiveness and progress. I have a clear belief this model has had a positive impact upon my practice.

Pathways to personal growth are essential and the conversations we have around our practice must have a positive impact upon self-efficacy. I would hope that educational institutions can move towards a more progressive and enhancing approach, this may take time and there may be challenges of how thoughts and feeling of openness and staff engagement might be perceived. Nevertheless, if performance management and fear of reprisal is not at the forefront, it may drive cultural change that empowers personal growth that ultimately strives for educational equity and best outcomes for student achievement.

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Continual Professional Development in Computing Education within the BCU partnership

Chris Swan - Lecturer in Secondary Computer Science Education, Birmingham City University.

There are lots of Continual Professional Development (CPD) opportunities for teachers of Computer Science and IT (Information technology) and teachers who would be interested in teaching the subject in the future. The National Centre for Computing Education (NCCE) runs programmes via subject hubs.

Details can be found here:

https://teachcomputing.org/secondary-teachers

We have partnered with our local hub, Bishop Challoner Catholic College. Teachers can book onto courses via the link above. As well as the Subject Knowledge Certificate programme for teachers of Computer Science, there are also pathways for teachers of other disciplines who would like to teach Computer Science as an additional subject.

The NCCE site also hosts a wealth of resources for teachers and also on the Isaac Computing site:

https://isaaccomputerscience.org/

Originally Isaac supported A-level Computer Science but has a beta GCSE site too.

Birmingham City University (BCU) coordinates the Birmingham Central Secondary Community which meets once a term. Meetings are online currently but we hope to arrange a face to face event in the summer term. Events, discussions and resources can be found here:

https://community.computingatschool.org.uk/

We are also a major Academy Support Centre (ASC) for the Cisco Networking Academy. For over 20 years, Cisco has supported the Education Community by providing high quality online learning materials to support teachers and learners in a variety of topics including networking, cybersecurity, computer systems, programming, new technologies such as the Internet of Things (IoT) and the engaging hobby of tinkering. Via their powerful simulator Packet Tracer, huge networks can be simulated on school computers which can then be configured, secured and tested with no expensive equipment required. Joining the Academy Programme is free and training is provided. BCU has partnered with OCR in providing a taster course for Network Essentials which you can self-enrol onto by registering here:

https://www.netacad.com/portal/web/self-enroll/m/course-778788

To find out more about your school becoming a Cisco Networking Academy and other Computer Science CPD opportunities, please contact Christine Swan on Christine.swan@bcu.ac.uk.

An analysis of critical incidences within mentoring through Driscoll's model of reflection

Rebecca Crichton – Primary BCU Partnership Mentor

Over the course of the academic year, there were many critical incidences which have impacted my mentoring practice. I will examine one critically using Driscoll's model of reflection (1994) of 'what, so what and now what', as this will provide a simple and evaluative response to the events. It has clear stages and will support the chronological and intellectual process behind the critical incidence and how that translates into practice. Following my peer feedback at the beginning of my practice on developing students' practice in mainstream as well as SEND (special educational needs and disabilities), I planned to observe a mainstream colleague alongside the trainee. This was to support her awareness of what makes a good lesson and then use these findings to compare and contrast with the SEND classroom.

However, on the 6th January 2021, England went into lockdown and teaching was moved online. This meant that observation of colleagues was now increasingly more challenging. I decided that instead we would watch an Oak National Academy online lesson and use this as a basis for professional discussion. I chose an English video based on a lesson that we would be covering soon from the medium-term plan. Using the trainee's targets as a focus, we watched the lesson and then evaluated it together and highlighted some suggestions for how this could be adapted for our SEND pupils. This experience allowed for a greater degree of honesty in our relationship as the lesson watched was an unknown teacher without the power dynamic to affect the coaching conversation. A key element to successful observation is where there is a reduction in "the levels of stress and tension associated with observation carried out where the power differential is typically reflected by observers occupying senior positions" (O'Leary, 2014, p114).

Crasborn et al (2011) discuss the difference between a more directive supervisory style and one that draws information from a student. Our dialogue when observing the video of the Oak lesson had less mentor talk time and a greater degree of ideas and feedback shared by the trainee. This enhanced the collaborative aspect of the relationship and allowed some autonomy for the trainee with her leading the conversation. I was able to ask coaching questions which allowed her to reflect and explain her interpretation of the pedagogy behind the teacher choices. By observing a mainstream lesson, she was able to identify the difference from SEN (special educational need) and was able to show her pedagogical knowledge by suggesting how she could adapt that lesson to suit the individual needs of our class. This strategy developed her confidence to evaluate others and to know what she was looking for in a good lesson. The skills of classroom observation and reflection need to be explicitly taught so that students can accurately reflect on their own teaching. Izadinia (2015) suggests that by developing power and confidence the student will develop a

positive teacher identity and support the development of their voice. I think it is essential that the power dynamic in the relationship reminds students that we are all always learning and that the idea that a mentor is an expert may sometimes need to be balanced with the notion that CPD (continual professional development) is a constant throughout a teaching career (Orland-Barack and Yinon, 2005). This activity allowed that to happen as we discussed the lesson on an equal footing.

O'Leary (2014) discusses the idea of whether practitioners are able to reflect during action or whether they are best to reflect after the event. While an argument could be made that teachers make a great deal of decisions throughout a lesson, good quality reflections take time to process. The video element meant we were able to watch it repeatedly and pause it to enhance our discussions without needing to wait for the end of the lesson. We also didn't influence the class with our presence as O'Leary (2014) states, observers in the room can unwittingly affect the lesson in terms of the teacher and/or the students.

While the benefits of situational observation (e.g. being observed as a trainee teacher) cannot be underestimated, the benefit of co-observing has also been shown to be of value. However, as Howells et al (2021) emphasises, time considerations and the benefit of each mentoring activity with the beginner teacher taking the lead should be at the forefront of mentoring. To that end, I would use this strategy again with a clear focus on the areas that a student needs to develop as well as a clear structure for the student to reflect upon to ensure the best use of time.

Finally, the trainee taught the same lesson but using her own style and adapting it to fit the individual needs of the class. She decided to use the same lesson structure but adapted the use of language and ensured the resources were SEN appropriate. This lesson structure was observed again throughout the rest of her practice and showed that she had embedded the pedagogy and its efficacy. She was able to reflect on how that lesson went and compare it to the mainstream example we watched together, giving reasons for her pedagogical choices. Furthermore, when schools reopened, she observed the mainstream Reception class and was able to transfer the reflection skills we practised together.

In conclusion, I have audited myself against the BCU Mentoring Audit to critically reflect on my progress. This has shown that my practice has changed considerably and I feel more confident with the philosophy behind effective mentoring. My critical incident has supported my awareness of where to signpost students for support and use this experience to foster a relationship based on trust and honesty. My questioning has developed and I now put a greater emphasis on students becoming critically reflective and risk takers rather than the directive approach of giving advice and strategies initially. These are essential components in creating great teachers who are able to continue the learning and development cycle beyond their time with me. From my original audit and research into the field, I will

be ensuring that when I mentor future students or ECTs (early career teachers), I make sure that I have made contact with and foster the relationship with the HEI (higher education institute) including accessing a breakdown of the course to support enhancing the link between theory and practice for the mentee. Over the next academic year, I will be mentoring an ECT in their first year of teaching and this will support me to see the learning journey of a teacher as a more cohesive whole. I have identified that my areas to develop include a collaborative approach to reviewing key research aligned to the trainee's assignments and to reflect on how this impacts on practice. "When the mentor relationship works, it's magic" (Fink, 2016).

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LGBT History Month- A Call Out!

Bev Cole and Ross Strong

Are you thinking, or planning to, run an event in February 2022 during LGBT History month open to wider participation? If so, would you like to link up to the BCU, BCUSU and LGBT+ staff Network joint calendar of activities, with the added benefit of inclusion in University-wide promotions!

If so, could you contact beverley.cole@bcu.ac.uk and ross.strong@bcu.ac.uk. You can find out about activities advertised last year across the University on the *LGBT+ Staff Network iCity page.*

The teaching of early reading: is systematic synthetic phonics the way forward?

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The teaching of early reading is a critical aspect of early education. By developing both a competency of, and a love for reading, children gain access to the vast benefits of this. Collier (2019) reports that whilst there are the obvious academic benefits of confidence when reading, it also supports children's cognitive and social development, as well as improving their mental health and wellbeing. This essay will analyse current policy and its effectiveness in improving the teaching and learning of early reading, particularly focussing on the use of systematic synthetic phonics (SSP), considering if this is the best way of teaching primary phonics, as well as looking at past policy, namely the Rose Review (Rose, 2006), and how that has catalysed current understanding and teaching. Comparatively, it will discuss contradictory views regarding SSP and whether this is the optimal strategy for the teaching of early reading. It will also look at current assessment policy and procedure with regards to the teaching of early reading and phonics; how government has changed its approach to the assessment of the teaching of reading and phonics; and data regarding the quality and efficacy of current teaching and its reliability to evidence effective curriculum reform.

The 2006 Rose Review (Rose, 2006) was a catalyst for current teaching of early reading policies. Many of its recommendations are still pertinent today, particularly the use of SSP to teach early reading and phonics, a method that is generally accepted by policymakers, academics and teachers alike (Wyse & Goswani, 2008, cited by Wolfe, 2015; Medwell etal, 2017). Stainthorp (2020) reports that through this recommendation, government implemented programs of SSP across schools and was further reinforced by the introduction of the phonics screening test in 2011 (DfE, 2012). Within the teachers' standards (DfE, 2011), it is stated that successful teachers must have a good understanding of systematic, synthetic phonics, highlighting its importance within current education practice as a minimum expectation of good teaching. Unfortunately, this also revealed a lack of teacher training, and therefore teacher proficiency, of the teaching of early reading and phonics. Following the Rose Review, the DfE (2010), in The Schools White Paper report, stated that SSP is the best method for teaching phonics and consequently implemented strategies of developing teacher competency in teaching this strategy, as well as enforcing training within Initial Teacher Training courses to aid trainee teachers. This is further supported by then Secretary of State for Education Michael Gove (2010) stating that "synthetic phonics will drive up basic literacy standards" (para. 1). Current phonics schemes of work, such as Read Write Inc. and Letters and Sounds, make clear use of the SSP approach to teaching early reading, providing teachers with a framework and resources for learning. SSP is accredited as the best way to teach early reading, supporting children to decode, segment and orally blend both known and unknown words (Medwell etal, 2017; Glazzard & Stokoe, 2013).

However, support for SSP programmes is not universal. Shanahan (2018) argues that synthetic phonics can be "undermined by blending problems" (para. 20), and instead advocates for a mixed programme of synthetic and analytic phonics. Analytic phonics focuses on larger spelling generalisations, which Shanahan (2018) states can avoid some of the blending problems present in synthetic phonics. Furthermore, Wolfe (2015) argues that, through the exclusive use of one method of teaching, policymakers are "deskilling teachers professionally" (pp. 498-513), making them less adaptable to the needs of children in their class by reducing their exposure to various pedagogies. Even if teachers make effective use of their assessment strategies within phonics lessons, there is little room for adjustment within these lessons. Moreover, Torgerson etal (2018) argue that there is a lack of reliable evidence that proves that SSP is the most effective method of teaching phonics and early reading. They argue that due to the complexity of many grapheme-phoneme correspondences in English, further research is required to arrive at a research-based conclusion about whether SSP is the most advantageous method of teaching phonics. However, Buckingham (2020) argues that whilst it is necessary to research alternative methods of teaching, teachers must continue to follow current policy which, based on research and understanding, suggests that SSP is the best method of teaching phonics and early reading, stating it would be irresponsible to do otherwise.

It is also argued that the use of SSP has become politicised (Glazzard, 2017; Torgerson etal, 2018), with the total endorsement of SSP implying that governmental policymakers are of the opinion that this method is the only method that should be used. Glazzard (2017) argues that this is very worrying because it suggests that, even if SSP is not effective for children, teachers must persevere with it, further upholding Wolfe's (2015) view that teachers are restricted on their adaptability of approach, something that is fundamental in every other aspect of the curriculum. Furthermore, the Ofsted School Inspection Handbook (2019) reports that inspectors will look at how well early years providers teach reading systematically through the use of synthetic phonics only further exemplifying the notion that SSP is the only method that should be taught in schools. Finally, the introduction of the statutory phonics screening test (DfE, 2012) firmly solidified the place of SSP in education. By creating a high stakes test that examines children's phonics knowledge based on SSP, teachers are forced to teach to the test in preparation for this (Marshall, 2017). Contradictorily, the National Curriculum (DfE, 2013) makes no reference that phonics should be taught synthetically, just systematically. However as stated previously, the Phonics Screening Test forces teachers into adopting this approach. More clarity is required from government policymakers about whether SSP is the only method that should be taught in schools, along with credible evidence supporting this statement.

One way of analysing the effectiveness of the SSP programme, and early reading provision in general, is through the assessment of data. Results from the Programme for International Student Assessment (PISA), conducted by the Organisation for Economic Co-operation and Development (OECD) (2018) concluded that the performance of the United Kingdom in reading is significantly above average in comparison to other countries around the world (DfE,

2019), but has generally remained stable since 2006. Whilst this does date back to the initial Rose review (Rose, 2006) which recommended the use of SSP, the data is collated from 15-year-old students, implying that attainment has remained the same dating back to the teaching of reading before the Rose review was conducted implying a lack of impact on early reading.

Comparatively, the DfE (2019) reported that England "was outperformed by fewer countries in 2018 than in 2015… performed similarly to those in 4 countries that had outperformed them in 2015… [and] outperformed 7 countries in 2018 that had had similar scores to England in 2015" (p.34). Consequently, this could suggest that reading attainment is improving in England (specifically England with regards to this study, instead of the UK in general), and that now, data is starting to account for the lag between children initially being taught early reading following changes to the National Curriculum (2013), and them being assessed at 15 years of age for this study. This is an idea recognised by Courtney (2019) stating that the results from the 2021 PISA assessment will conclusively provide data about the efficacy of the changes to the early teaching of reading from recommendations from the Rose Review, and the implementations by the Conservative Government.

Another assessment of global data with regards to reading is the Progress in International Reading Literacy Study (PIRLS). Interestingly (and possibly frustratingly), this study contradicts the results found by the PISA, suggesting that reading attainment was significantly higher in 2016 than in 2006 and 2011 (DfE, 2017). This data suggests that the implementation of the recommendations of the Rose Review to solely focus on SSP has been effective, as the 2016 cohort of year 5 children will have been taught early reading using this strategy. Gibb (2017), cited by Robertson (2017), suggested that this data demonstrates that the reforms to the teaching of early reading have improved learning and proficiency. It could be argued that this data is also more reliable given that it is a direct result of primary early reading, rather than having the influence of secondary education as well.

The introduction of the statutory Phonics Screening Check in 2011 was a controversial decision that was made with the intention of ensuring that all children "have learned phonic decoding to an age-appropriate standard" (p.4) (DfE, 2012). It faced, and still faces, considerable opposition (Marshall, 2017) with the All-Party Parliamentary Group (APPG) for Education (2011) arguing that through the introduction of this test, there was worry of policymakers using 'reading' and 'phonics' interchangeably, despite them not being the same thing. The use of PIRLS and PISA data by the government to evidence success with the reform for phonics teaching is problematic itself as it supports this notion that policymakers are looking at reading and phonics interchangeably. Conversely, Lloyd-Jones (2012), cited by Gibson & England (2015) argues that the early ability to read pseudo-words is strongly linked with later success in reading, implying that the use of effective teaching of early reading and phonics can be associated with high reading ability in the future. Furthermore, the Phonics Screening Check could be seen as an effective introduction as Ofqual (2020)

reported in their National Assessment Annual Report, that 82% of all children were meeting expected standards for Year 1.

The AAPG further supported the idea that, whilst schemes of work such as letters and sounds provide an outline of support for teachers, it forces them to teach to the test through a "one size fits all approach" (p.14) instead of allowing teachers some discretion and adaptability. Marshall (2017) argues that the addition of this test is said to be to improve achievement in PISA and PIRLS assessments, however instead it is to fit a politicised agenda of tracking test results for league tables, and enforcing the accountability of teachers (Bradbury, 2014). This is reflected in my placement school's phonics policy with SSP being the only method of teaching (School X, 2020) through the Read, Write Inc. scheme of work. Teaching is effective and children achieve well in the phonics screening check, and reading abilities are high, however because of this, there is no room for adaptability.

In conclusion, it is clear that further research into the efficacy of SSP is required in order to validate and solidify its position as the best method of teaching phonics (Torgerson etal, 2019; Glazzard, 2017). Current literature highlights the lack of research into other methods of teaching phonics and suggests stubbornness within governmental policy to stick to SSP, only emphasised by the introduction of the statutory phonics screening assessment (DfE, 2012), cementing teachers to stick to this method and this method only (Marshall, 2017). However, literature supports the idea that teachers should continue teaching SSP whilst this research is conducted (Buckingham, 2020) given the benefits of SSP in supporting early learning (Medwell etal 2017; Glazzard & Stokoe, 2013; Rose, 2006). Further research can also provide more conclusive evidence with regards to the relationship between high-quality phonics teaching, and future reading capability. It can be argued that this research may be available this year through data from both PIRLS and PISA reflecting education post-reform, which will highlight whether the government's insistence of sticking to current policy, instead of changing as soon as data was not optimal, was the correct decision. Policymakers must ensure that they do not see reading and phonics as interchangeable (APPG, 2011) terminology, and that enough support is given to help children develop meaning behind the words they are reading as well. Finally, it is critical that politicised policy and ideas do not hinder children's education. Government must put children at the heart of all the research, reform and policy change; otherwise it will contradict its own aims. Data cannot be the only factor for change, and policymakers must acknowledge both academics and teachers to provide insight into the efficacy of current practice.

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Mathematical language and reasoning: A critical analysis

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Primary mathematics enhances intellectual skills in problem solving, reasoning and creative thinking (Haylock, 2019). The cognitive and innovative demands of the 21st century require education to support children in reasoning logically and problem-solving collaboratively (OECD, 2020). Although these competences lie at the core of mathematics learning, reasoning is the least attended to proficiency in many schools across England (Askew, 2016). In this article, the use of dialogic pedagogy and mathematical language to enhance children's reasoning ability is critically analysed.

Although recent non-statutory guidance emphasises the use of precise language as priority for development (DfE, 2020), the significance of linguistic representations in mathematics is repeatedly overlooked (Boaler, 1998; Bragg et al., 2016; Garry, 2020). The National Curriculum proposes that children should reason mathematically by "following a line of enquiry, conjecturing relationships and generalisations and developing of an argument, justification or proof using mathematical language" (DfE, 2013: 3). Although reasoning is evident in this policy, Year 5 pupils in England demonstrated stronger ability in the cognitive domain of knowing compared to applying and reasoning in the Trends in International Maths Science testing 2019 (Richardson et al., 2020), questioning if schools are truly developing reasoning. The call for educators to acknowledge the importance of mathematical linguistics is not new. Williams (2008) recommended that mathematical discussion should be used as a tool to propel high-quality teaching and develop reasoning. Liebeck (1984) highlighted the importance of language in his philosophy that children attain mathematical competence from experience with physical objects, spoken language, pictorial representations, and written generalisations (ELPS). The importance of ELPS aligns closely with Bruner's (1966) proposal of enactive, iconic,

and symbolic representation. This is adapted in the Singaporean Concrete Pictorial Abstract (CPA) approach that schools across the UK are adopting. Although the CPA approach is beneficial, a common misconception that it should be progressed in CPA format persists amongst educators (Garry, 2020). Language is an equally important representation (Drury, 2018) and therefore should be emphasised to aid reasoning ability.

Emphasising mathematical language is crucial for teaching (Vukovic and Lesaux, 2013). To enhance mathematical vocabulary, teachers need to reinforce the use of mathematical language (McCrea, Tharby and Allison, 2019). Bragg et al., (2016) highlight how language promotes the cognitive understanding of concepts as well as reasoning ability. This can be embedded through strategies such as stem sentences, which give pupils a structure for their thinking and mathematical discussion (Garry, 2020). Anticipating a justification for children's answers through stem sentences assists in developing reasoning and metacognitive awareness whilst cultivating a shared ownership of learning (Claxton and Carlzon, 2019). When engaging in metacognition, the learner's cognitive response is shaped by prior learning (Haylock, 2019), meaning some children require more structured guidance for their discussion (EEF, 2017). If children are unfamiliar with discussion, a 'win-lose' situation occurs where children may impose their views on each other as opposed to exchanging knowledge (Askew, 2016). To promote meaningful dialogue, teachers must carefully structure talk through modelling how to engage with discussion (EEF, 2020, Smith and Mancy, 2018), and assess reasoning through listening to dialogue (NRICH, 2014). It is crucial for teachers to structure talk carefully and embed metacognitive skills to develop reasoning ability and 21st century competencies (Boaler and Dweck, 2016).

Whilst teachers may use mathematical language in the classroom, this is often ambiguous and merely used to grasp procedural tasks. Terms such as 'crawl before you climb' or 'along the hallway up the stairs', often feature in classroom discussion when exploring areas such as coordinates. Using informal language restricts children's understanding when ideas are built upon from existing schemas (Garry, 2020; McCrea, Tharby and Allison, 2019). Mackle (2017) stresses the lasting effect of incorrect vocabulary on concept development and suggests using terms such as 'horizontal before vertical' or 'x before y' when teaching coordinates. When translating shapes, correct mathematical linguistics is also crucial. Clearly articulating the congruency of translated shapes will avoid confusion and allow for better reasoning proficiency. Garry (2020) discusses the resistance exhibited by some primary educators to teach correct mathematical vocabulary. This is similar to Liebeck (1984) who proposed that teachers often associate the term 'congruent' with secondary school geometry however this can be discussed with children to enhance understanding of translating coordinates. Teachers must ensure to embed precise language to avoid misconceptions and develop reasoning ability.

Societal beliefs that fast calculations amount to a 'good mathematician' limit depth in understanding and restrict achievement to school contexts (Boaler, 1998). This misinterpreted view often overshadows the use of vocabulary to reason and think deeply (Riccomini, Smith, Hughes and Fries, 2015) and encourages competitiveness rather than

collaboration in Western education systems (Askew, 2016). Boaler and Dweck (2016) highlight how mathematics is often presented as a 'speed-race' with apps against the clock and timed tests. This can input to an anxiety around the subject and pupils who rely on memorisation may only be successful in rapid recall problems (OECD, 2016). Instead, using a goal free question to cement learning can provide an open-ended investigation (Cotton, 2016). The use of goal-free questions enhances vocabulary development through classroom discussion whilst encouraging problem-solving skills (Blegur and Retnowati, 2018). Taking time to explore the richness of a question also allows it to act as an analogy for future learning (Mason, Burton and Stacey, 2010). Although fluency is critical in a mastery approach (NCETM, 2017), it should not be perceived as the attribute of a successful mathematician and should be taught in conjunction with reasoning proficiency.

Askew (2020) highlights how reasoning is often seen as the final task which only mathematically 'able' pupils engage with. This results in poor planning, restricting opportunities for other children to engage with reasoning. Making judgements on children's potential to achieve based on their current performance limits success (Claxton and Carlzon, 2019; Vygotsky, 1978). Reasoning is achievable by most pupils and should work equally alongside fluency (Askew, 2020; NRICH, 2014). Teachers must design lessons that enhance the reasoning ability of all children. Teachers may benefit from providing a yet-to-be-proven conjecture and adopting a neutral stance; allowing discussion to revolve around the correctness of the statement, where children's reasoning capacities are developed and connections are made (Askew, 2016). Providing a conjecture can enhance reasoning for all whilst able pupils can be stretched further by requiring visual methods for proof, such as diagrams, which are a sufficient method to reason at primary level (NRICH, 2014). Teachers who encourage and make connections see greater progress as opposed to teaching in a fragmented way (Drury, 2018), thus providing conjectures is key for developing reasoning ability.

Ensuring ample opportunity for mathematical talk is key for a collaborative learning environment to prompt children to communicate mathematically. Creating an environment that favours the collective construction and re-creation of knowledge allows children to exchange ideas and communicate mathematically (Alexander 2018; Skemp, 1989). Mathematics should be engaged with as a social subject where pupils can acknowledge others understanding (Askew, 2016; Smith and Mancy, 2018). Vygotsky (1978) proposes that through scaffolded guidance from adults and collaboration with peers, working collaboratively can open avenues that may not have been explored independently.

McCrea, Tharby and Allison (2019) propose that language in mathematics contains two groups of words: subject-specific language, and polysemous words. Although having specific words for mathematics provides clarity, students are less likely to encounter these in everyday conversation. Worded problems often draw on everyday words from the English language (Monaghan, 2016) and children may confuse the mathematics definition with one that already exists (Gough, 2007). This often leads to teachers failing to meaningfully support learners who are new to English language

(EAL). Teachers fail to support EAL learners in linguistic skills in mathematics in comparison to English (Cotton, 2016). Everyday words in questions create barriers for EAL pupils, who will recognise arithmetic or algebra questions better (Monaghan, 2016). Language is vital to communicate higher order maths reasoning (Riccomini, Smith, Hughes and Fries, 2015) thus, should not be constrained to English lessons. Demie and Lewis (2017) discuss how the most successful schools promote collaboration and celebrate pupils first language as a tool for learning. Teachers should explicitly teach and model language, encouraging EAL learners to collaborate to deepen reasoning proficiency (Cambridge Mathematics, 2019). Concerningly, a scarcity in guidance for assessment of EAL pupils in government policy exists, with assessment for newly EAL and advanced EAL pupils the same (Demie and Lewis, 2017). This lack of guidance fails EAL pupils in their mathematics education (Vukovic and Lesaux, 2013). Government and policy makers should provide up-to-date guidance to provide EAL pupils with sufficient reasoning competence.

A language barrier not only exists for EAL pupils, but also monolingual children considered socio-economically disadvantaged (Prediger, 2019). In 2019, only 51% of children eligible for free school meals met national standards in reading, writing and maths (DfE, 2019). Socio-economic disadvantage inputs to a substantial word gap which can lead to frustration due to difficulty understanding the language requirements of mathematics (OUP, 2018). Vukovic and Lesaux (2013) highlight how mathematical difficulties can reflect linguistic as opposed to numerical difficulties. In the most successful schools for closing the attainment gap in mathematics, accelerated progress is avoided and maths is used in real-life contexts (Fair Education Alliance, 2017). It is not enough to simply expose students to mathematical vocabulary; therefore, teachers should plan for purposeful activities to facilitate competence (Riccomini, Smith, Hughes and Fries, 2015). Reasoning lies at the heart of mathematics and successful use can promote equity (Boaler and Dweck, 2016). However, time limitations in schools can result in capping content to teach 'to the test' (Garry, 2020), leading to disadvantaged pupils having a paucity of knowledge. OECD (2016) highlight how reasoning is often developed over extended periods of time, meaning schools that need to focus on basic mathematical knowledge fail to implement it, limiting children's ability to reason.

In the age of artificial intelligence, mathematics must provide children with the cognitive and logical skills to navigate in a globalised world (OECD, 2020). Having analysed the relationship between reasoning and mathematical success, there is a need for teachers to clearly consider reasoning skills when planning (Askew, 2020), provide opportunities for collaboration, and embed mathematical discussion (EEF, 2017). Justifying and reasoning are critical mathematics skills (Boaler, 2015), however, many teachers are unsure about what teaching reasoning involves (Bragg et al., 2016). School leaders should embed clear language into policies to provide clarity to pupils (Garry, 2020) and provide development opportunities for teachers regarding reasoning. Whilst new government initiatives aim to embed language into mathematics (DfE, 2020), guidance for EAL pupils is inaccurate and should be altered to ensure best practice (Demie and Lewis, 2017). Teachers should seize opportunities to reinforce vocabulary (EEF, 2020) and acknowledge that all children can reason. To truly enhance reasoning, this should persist in classrooms across England.

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Primary science policy and assessment: A critical analysis

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Primary science is crucial for helping children develop the scientific skills and knowledge they need to participate in a 21st century global society (Loxley, Dawes, Nicholls and Dore, 2018). Since its establishment as a core subject in 1989, science has been subject to meticulous contestation (Murphy, Lundy, Emerson and Kerr, 2013). One of the biggest challenges teachers face is creating accurate and manageable assessment of children's scientific skills (ASE, 2018). This piece reflects critically on the current policies and research regarding the assessment of primary science in England, proposing solutions for its weaknesses.

The removal of statutory testing (SATS) in primary science in 2009 was further endorsed by Bew (2011) who suggested teacher assessment is most appropriate for science. Critics acknowledged that it is difficult for scientific skills to be assessed through external tests (Nuffield Foundation, 2012), as test scores provide little information of children's science ability (Harlen, 2018). The Nuffield Foundation (2012) highlight how removal of SATS influenced the quality of science teaching; shifting attention to mathematics and English where high-stakes testing remained. The removal of assessment levels in 2013, in recognition of the lack of information around them, followed by a new national curriculum (NC), now relies on teacher summative assessment (Davies et al., 2014) and input to greater accountability. Although the Department for Education suggested schools could now focus on assessment of essential knowledge (DfE, 2013), SATS testing ensured that sufficient time was given to science in the curriculum and provided consistent judgement (Murphy, Lundy, Emerson and Kerr, 2013). Whilst Cutting and Kelly (2014) argue that the demands of assessment in core subjects minimise high-quality teaching, therefore the 2014 'slimmed down' science NC provides clarity for assessment, Davies et al (2017) suggests a decline in the status of science, with mathematics and English continuing to be externally assessed. Unquestionably, primary science assessment has been subject to thorough debate over the last decade.

Today, primary schools are required to provide summative teacher assessment and are subject to science sampling to monitor performance. Teachers review progress towards scientific targets in the NC formatively and produce summative reports (Harlen, 2018). New freedoms around assessment and concerns about external accountability resulted in inconsistencies in assessment following 2013 (Davies et al., 2017), with some schools confessing to minimal attention to science due to expectations of other subjects (Waller, 2017). Wishaw (2016) observed that science is a 'poor relation' of the curriculum at the expense of English and mathematics. This is also reflected nationally, with Ofsted (2019) reporting schools showing little consideration for science content and minimal understanding of progression. Wellcome Trust (2020) suggest that inadequate time is spent teaching science despite summative assessment being a statutory requirement, highlighting the disregard of science in today's primary schools.

Current guidance for science assessment is poor in both national and school level policy. From a critical perspective, it is essential to contemplate omissions from policy and what this suggests. In science assessment, only a single descriptor of attainment 'working at national standard' is provided (Harlen, 2014), in comparison to English where children are working towards, at, or above standards (STA, 2018b), advocating a scarcity of value in primary science. Incentives for quality science teaching include the Primary Science Quality Mark (PSQM), which raises the profile of science in primary schools, requiring subject leaders to develop practice and consider how science is assessed (Earle, 2014). However, Davies et al (2014) suggests that PSQM schools still fail to make effective links between formative and summative assessment. Despite limitations in current assessment policy, PSQM provides meaningful development opportunities and prioritises science, meaning teachers are more likely to receive support to develop assessment procedures (Leonardi, Lamb, Howe and Choudhoury, 2017).

Ofsted (2013) highlight a failure of school leaders to track progress in science. In 2017, only 30% of subject leaders determined science important, with time dedicated to teaching below two hours weekly (Leonardi, Lamb, Howe and Choudhoury, 2017). Although science assessment receives poor attention due to focus on other subjects, Wellcome Trust (2020) report positive changes in recent years, with science being a development focus in many schools and 61% of leaders having dedicated time to the subject. This is reflected in the Trends in International Maths Science (TIMSS) testing 2019; where year 5 pupils exhibited significant improvement (Richardson et al., 2020). Although science results have seemingly improved, Nunes et al (2017) questions if pre-service teachers are trained to purposefully develop children's reasoning and inquiry skills. This is similar to the findings of Wellcome Trust (2017) who report that trainee teachers feel unprepared to assess science following minimal experience on their courses. Initial teacher training must address science adequately to ensure sufficient teaching in primary schools.

International competitiveness and an inexorable improvement culture are deeply entrenched in England's assessment policies. This is evident in the suggestion that improving performance in English, maths and science will "be essential if our country is to match up to the best standards internationally" (DfE, 2013a, 1.1). This reflects Bew's (2011) concerns around England's target culture to drive improvement which poses a substantial weakness in the education system. Ofsted (2013) suggest that the use of assessment to inform science lessons is inadequate across England, and assessment should be used to provide meaningful feedback. However, inconsistencies are evident in their guidance in recognising that science is not mentioned in every Ofsted inspection report, in comparison to the other core subjects (Wellcome Trust, 2018). This should not be a compromise situation (Wishaw, 2016), and minimising self-contradiction by considering science in inspections is crucial for Ofsted to emphasise its significance.

When reviewing policy and research in education, it is crucial to consider hidden ideologies. Whilst evidence-based practice is effective, Biesta (2007) expresses concerns around the extent to which 'evidence-based' practice is rooted in political agenda, promoting what is 'educationally desirable'. Whilst research provides a framework, learning is constructed within a social and cultural context (Glaés-Coutts and Nilsson, 2020), where the processes of teaching and learning are measurable products with economic value in international comparison (Bell, 2004). Although the Education Endowment Foundation (EEF) fund projects such as 'Thinking, Doing, Talking Science' and the PSQM, minimal guidance is provided for primary science assessment, with a research report for secondary science only. Murphy, Lundy, Emerson and Kerr (2013) discuss a high fall-off in the uptake of science at secondary level, which may be a result of poor teaching in the earlier years. The downgrade of primary science teaching negatively influences the depth of science knowledge that pupils take into secondary school (Ofsted, 2019). To purposefully teach primary science, government must shift focus from comparative data for international ranking and provide meaningful guidance for assessment.

Effective science assessment must be valid, reliable, and manageable to enhance learning (Davies et al., 2017). This is achieved through formative assessment (AfL) and summative assessment. Children's misconceptions can be deeply rooted therefore AfL is vital to help them develop a scientific understanding (Loxley, Dawes, Nicholls and Dore, 2018). Since the purpose of AfL in science is to gather the data that arises in activities (Black and Harrison, 2004), elicitation is vital in science assessment. This takes place through observations, discussion, quizzes, sorting activities, drama, and annotated drawings. Education systems have paid significant attention to AfL over the last decade (Loughland and Kilpatrick, 2015) since Black and Wiliam (1998) highlighted its efficiency in raising achievement. However, AfL is continuously encouraged without specific support in funding or guidelines (Harlen, 2014). Pedagogical content knowledge, understanding of misconceptions, and sufficient time are central to high-quality AfL, therefore barriers arise when this is insufficient (Black and Wiliam, 2018). To successfully implement AfL in primary science, teachers need to know what to look for and quality strategies for using it in given time constraints (Harlen, 2018).

Exclusion of science at school level policy is present across many schools, where assessment for mathematics and English is required on a weekly or termly basis, failing to assess science or regarding it as 'wider learning'. Black and Wiliam (2018) discuss how teachers have been unable to purposefully implement AfL due to pressures to raise scores, which questions if teachers are assessing to enhance learning or for external pressures. Although an abundance of research explicitly highlights the benefits of AfL for science, there is a general distrust in teacher judgement (Harlen, 2018). Interestingly, teachers do not regulate their own standards, in comparison to other professions such as medicine or law (Black and Wiliam, 2018). Political groups, parents and other teachers consider teacher's judgements to be partial (Gardner, 2007) thus subject to bias. Harlen (2014) states there is a risk that detailed lists of NC statements will be treated as a checklist, reducing meaningful learning. Although this can occur when no steps are taken to assure quality (Harlen, 2018), teacher moderation can align views and provide consistency for teacher assessment (Cutting and Kelly, 2014; PSTT, 2015).

AfL in science is vital for effective assessment and drives summative judgement. Summative tests merely focus on recall of knowledge without fully eliciting children's conceptions (Loxley, Dawes, Nicholls and Dore, 2018) therefore an alternative approach is using formative assessment for summative purposes (The Nuffield Foundation, 2012). Whilst Harlen (2014) advocates that any assessment can be used for both purposes, Black and Wiliam (2018) argue that validity is compromised when the same evidence is used for formative and summative judgement. Davies et al (2017) discusses how using formative assessment for summative purposes impairs its formative role. Earle (2014) highlights how there is little consistency in the approaches being used across primary schools in England, however there is potential for evidence to be used for both purposes. The differences between formative and summative assessment should be closely considered by teachers (Harlen, 2018), and are clearly distinguished in recent innovative practices such as the Teacher Assessment of Primary Science (TAPS) project.

Since guidance for science assessment has been minimal since 2013, TAPS is a key enabler for development. Harlen (2018) suggests that 'good' assessment is valid, reliable information that is manageable for teachers, which TAPS embraces alongside a positive impact on learning (Davies et al., 2017). TAPS operationalises the recommendations from the Nuffield Foundation (2012) through a pyramid where assessment flows from initial AfL to whole school reporting and can be used for self-evaluation. By integrating assessment within a topic, TAPS provides focused assessment and a clear idea of progression (PSTT, 2015). A shared understanding of good assessment through TAPS supports summative assessment and provides consistency (ASE, 2018). Integration of TAPS in schools would address the issues raised by Ofsted (2019) and Wellcome Trust (2020) concerning inconsistencies in assessment and understanding of progression in science. TAPS supports validity of teacher assessment by encouraging educators to contemplate if knowledge, skills, and understanding are considered and if consistency is present (PSTT, 2015), which would address concerns about teacher bias, and provide internal accountability. Although TAPS is an advanced approach to science assessment, some teachers face challenges in implementation, such as insufficient time to figure how to use it, poor support from leadership, and difficulties in finding manageable systems for the data produced (ASE, 2018).

Other approaches such as 'PLAN' materials published by The Association for Science Education (ASE) and the use of 'floorbooks', are positive steps towards effective science assessment. ASE provides support for assessment by providing a matrix and exemplars for each topic, breaking down conceptual learning objectives in lesson plans. Working scientifically is woven into every plan (ASE, 2018) and many of the materials begin with assessment of prior learning. Using floor books can also promote collaborative construction of knowledge and allow for better teacher assessment (PSTT, 2021). All practical science skills can be recorded in a floorbook; thus, quality science teaching and assessment are promoted. Adopting these approaches will ensure that teachers can effectively and consistently assess children's scientific knowledge and skills, however, requires meaningful implementation and staff confidence for successful implementation.

A target-driven culture and poor curriculum design and assessment are weaknesses of primary science teaching in England. It is crucial that sufficient assessment is rooted in future practice so that children obtain adequate scientific skills for 21st century citizenship. School leaders should embed formative assessment in policy as a requirement and adopt internal accountability to evaluate the extent to which assessment is effective (Harlen, 2018), whilst sufficient time should be given to science lessons to mark its position as a core subject. However, teachers are constrained by political expectations (Black and Wiliam, 2018) therefore this is unfeasible without government support. Clear guidance should be available for AfL so that assessment can be used meaningfully (Harlen, 2014). Policy makers should provide direction for teachers to adopt innovative practices such as TAPS, whilst Ofsted should examine science systematically (Wellcome Trust, 2018) to emphasise its prevalence. Headteachers should provide meaningful

development opportunities for teachers to foster the use of AfL in science (Hondrich, Hertel, Adl-Amini and Klieme, 2016). Whereas teachers should consider the relations between policy and research to question to what extent cultural agendas are filtered through policy (Archer, 2020; Biesta, 2007). These recommendations are crucial for meaningful improvement of primary science teaching and assessment in England.

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Girls with Autism: At the School Gate – The Initial Thoughts of an Emerging Researcher at BCU

Miranda Barker – Lecturer at Birmingham City University

In this article, I will share how, in response to my experiences of transition between home and school for girls with autism, I intend to develop my small-scale research.

The school gate; full of memories and associations. As a child, the separation from my parent in a place with overwhelming sensory stimuli was traumatic; the cacophony of bustling bodies with the sights, sounds and smells, and the feeling of nausea and trepidation would begin. In my teenage years, the walk was further, the parents no longer present, yet the gated path between town and school provoked the same fears. I was stepping from a world of safety, to an environment beyond my control.

The blog explores my emerging research proposal as I pursue the question: "What are the experiences of girls with autism, as they step across the threshold of the school gate at the start of the day?" with the intention of informing the parents and professionals of the nature of this challenge and ultimately, educational practice. It includes a collage, poems from the perspective of a parent and teacher as well as focused blogs on the development of my research as I grapple with theory and methodology.

This collage was created during the second module of my Education Doctorate studies, and serves as a think piece to promote discussion around what is occurring at this 'pinch-point' transition, as the child steps between their home and school environments and reconciles their identity to this 'other environment'. This, as Wenger (1998: 160) usefully reflects, "… may be the most significant challenge faced by learners who move from one community of practice to the other," where learners, "… must often deal with conflicting forms of individuality and competence as defined in different communities." For girls with autism, who, by definition can experience significant challenges with transitions, this movement between home and school is likely to be more emotional challenging than for those

who might be considered 'neurotypical' yet is an area of research often overlooked. As noted by Hughes in Ecclestone et al (2009: 16), the transition between home and school is "… so commonplace that it might seem unremarkable and indeed it has received very little explicit attention from policy makers in the UK and elsewhere". However, in my interactions with schools, this movement between the home and school is reported to have a significant impact on both attendance, engagement, progress and wellbeing.

A critical incident in my role as a Local Authority SEND Advisor was working with an anxious girl in a primary setting. Awaiting diagnosis of autism, crippled with fear each morning, she would lash out at her parents and sibling in a 'fight or flight' response, assuming the identity of a cat, hissing and spitting. The morning home-school transition was tortuous for the whole family, and, as a result, she was frequently late and unkempt, missing vital schooling. Parents reported the dramatic transformation as she walked through the school gate, becoming the quiet, insular and conforming pupil. The only evidence of her anxiety visible in the rigidity of her jaw, the chew marks on her water bottle and whites of her knuckles as she gripped the plastic chair beneath her in the classroom.

This young lady was by no means an exceptional case and there are many girls I have encountered with a similar presentation who have been referred later in life for an assessment for autism. My own presentation at school was that of a silent shadow, so much so that teachers would often ask my parents if I had a speech impediment. The fear of the demands of the school environment meant that, as I walked to school, the pressure on my chest increased and I would enter in a state of 'shutdown', keeping as much of myself hidden behind a façade.

Similar to many women who have felt an arrhythmia in their personal and professional life, I have often felt strongly that I have a degree of autism, yet lack a medical 'label' or 'diagnosis' in contrast to younger members of my extended family; currently on a 4 year waiting list for assessment. This is not unusual, as noted by Clark (2016), "Many women remain undiagnosed until their 20s or 30s … If a woman has had children, is in a relationship, is interested in make-up, music, fashion or in my case doing stand-up comedy, this level of sophistication apparently makes diagnosis 'less clear cut' (Carpenter et al, 2019: 3). In fact, when I spoke to my doctor about my concerns, I was rebuffed with, "But you can make eye contact!"

Although there has been increasing recognition of the variation in presentation of children with autism, Bancroft et al (2012) found that only 8% of intellectually able girls with autism received a diagnosis before the age of 6 compared with 25% of boys (Carpenter et al, 2019: 3). One key explanation for this delay in diagnosis includes that the use of 'masking' or 'camouflage' strategies by girls' means that they are less likely to be diagnosed (Lai, 2015). As Sproston et al, (2017) identified, autistic girls with insufficient support can become school refusers, or demonstrate behaviours leading to school exclusion, whereas others can mask anxieties, presenting as quiet or shy (Tierney, 2016) and through masking their difficulties in public, experience emotional meltdowns or burnout at home (Suckle, 2020), without raising concerns at school.

As Atwood (1997) reflects, the process of camouflaging and masking behaviours can lead to stress responses and mental health difficulties (Cook et al, 2018). Focused 'evidence-based interventions' designed to support children with autism develop appropriate social skills or manage anxiety are commonplace within our school systems as a form of 'treatment'. Foucault suggests that human beings are 'disciplined' and 'subjectivated' through medicalisation; indicating that these girls with a diagnosis become 'lesser' by this definition or categorisation (Hancock, 2018). With the label of 'autism' often comes specific judgements; e.g. a lack of empathy, a difficulty with communication, which can lead to these children being perceived as needing to be 'cured' or 'supported' rather than considering changes to the environment or pedagogy. In other words, we provide them with support so that they

are better able to manage the neurotypical environments in place, rather than providing an environment, which is less anxiety inducing.

As noted by Bochner and Ellis (2016; 50) of themselves and other ethnographers, "Many of us were drawn to a life of research by our lived experiences of emotional epiphanies that changed or deeply affected us. We believe these experiences are worthy of observation, examination and reflection." My own personal experiences of the transition between home and school both as a young person, mother, teacher and consultant have led me to identifying this research as important work. Although the field of autism research is vast, there appears to be limited research into the views and experiences of girls at this significant transition.

In terms of methodology, I seek to capture the pupils' voices through an analysis of the 'rhythms' of the school gates, using Lefebvre's rhythmanalysis. As Lefebvre (2004: 15) notes, "Everywhere where there is interaction between a place, a time and an expenditure of energy, there is **rhythm**" breaking this down into: repetition; interferences of linear processes and cyclical processes, such as the daily routines against changing weather patterns of the season and birth, growth, peak, before the decline and end." This gate scene reflects the daily routine, imposed practices; there is consistency yet also difference. It is here that there is a discordance between the rhythms in the bodies of girls with autism and the time and space, which Lefebvre asserts, "… leads to arrhythmia and suffering" (2004: 16). As Lefebvre notes, a rhythmanalyst is 'capable of listening to a house, a street, a town as one listens to a symphony, an opera (Elden, 2004: xii). By doing this, I seek to avoid what Siraj-Blatchford (2010) cautions against; namely, missing critical aspects of the children's experiences and conceptions that might result if I solely rely on "pre-conceived categories for use in observation or questioning" (Conn, 2015: 64).

Alongside rhythmanalysis, the primary methodology to be used for this study will be ethnographic, defined by Creswell (2012) and Denscombe (2014) as "… a descriptive, analytical and explanatory study of the culture, values, beliefs and practice of one or more groups (Cohen et al., 2019: 292). Ultimately, I will be seeking to gain the girls' interpretation of their walk or journey to school, capturing their thoughts, feelings and perceptions of this important transition using walking interviews, pictorial representations or other creative approaches. However, I will need to be mindful that, "People with autism describe a subjective experience that is highly individual in nature and varied in the way the sensory aspects of the condition are experienced." (Conn, 2015: 6) and that I will need to consider how to capture the views of pupils who could be identified as 'hard to reach' (O'Hagan et al, 2021).

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Appendices – Two Poems

The Parent

We step
together
through the gate.
The shouts, cries, squeals and screeches
reverberate around the playground.
The distinctive smell of tarmac,
hot in the sun,
sticky underfoot as
we are knocked,
buffeted –
a bustle of boys race;
a ball
bouncing through the throng.
Greetings shout
through us
As we walk
parents huddle either side
keeping the circles tight,
impenetrable.
Exclusive.
Invisible.

The little fingers in my own grip tighten
and I stroke them gently with my thumb,
reassuring,
understanding,
encouraging:
we've got this.
Echoes of the past
manifested in the present.
My daughter.
'So quiet
you wouldn't know she was there.'

Hereditary?
Potential unrecognised,
talent unnoticed?
Masks pulled tight over our faces:
we brace for impact.
I smile,
pre-rehearsed greetings,
ready.

She keeps her expression
blank,
a picture of calm
over a cacophony of
emotions,
trembling.

The bell rings
and our hands
break
apart.

The Teacher

I stand,
ready.
Papers fluttering in my arms,
the smell of wet ink
Drifting on the breeze
as we watch them
move
cautiously
through the gate.
The shouts, cries, squeals and screeches
reverberate around the playground.
The distinctive smell of tarmac,
hot in the sun,
is sticky underfoot.
Inspectors lurk
Inside:
Measuring; judging.
Pre-rehearsed greetings
ready.
Flashbacks of conversations;
Chest tightens.
Running through the checklists:
Friendships, equipment, seating
Toys
Streams of demands.
Heart pounds,
perspiration forms,
a bustle of boys race
while parents crowd…

Intervention frowned upon
until they cross the threshold.
The pair tense; buffeted in the melee.
The girl reaches the end of the line:
Studious
Silent.
Eyes averted.
As I wave and smile –
a flicker of a response, then
Blank
as the mask comes down.
The bell rings;
she flinches.
I reach to take
her hand and we step across
the threshold…
Together.

"I can take the smallest thing / and help you sing with joy"

Rod Dungate - Senior Fellow Advanced HE, Visiting Lecturer RBC and Artistic Director DD Arts Birmingham

The title of this article is taken from my poem *Clown* (Dungate, 2021), accessible via my website (see below). The full poem aims to encapsulate the essence, the reason for being, of the clown. It was written in response to a research project exploring possible links between clowning, education and wellbeing (physical, mental, emotional).

The project took place in October 2021. I led the project on behalf of DD Arts Birmingham, clown work was led by director, Jane Sutcliffe, a physical comedy specialist and performer; participants were trained actors, graduates from the Royal Birmingham Conservatoire (BCU). The project was made possible with support from the Sir Barry Jackson Trust. Details around this project will be released in a future edition.

Details of the discovered links to Education and Health are outlined below; however, it is worth noting at the outset that the overwhelming emotional experiences for participants were those around *freedom, laughter, fun*. The project found that these were the gateways to maintaining wellbeing.

This was a small team working with intensity over a short time; it is valuable to note that some members of the team had significant challenges in terms of their day- to- day mental and emotional health.

The practical work with the actors and director took two days with a further day for filming; even after such a short time the links between clowning and education and wellbeing were shown to be strong. Three short films were made and can be seen on YouTube (DD Arts Birmingham, 2021) - https://www.youtube.com/channel/UCYaSvnLEYvVMTMDWrbT6_xw/playlists.

This pilot project has implications for health (especially mental health) and education; it also indicates the value of a longer research project with touring performances and inbuilt outreach programme, also furthering the research. The poem quoted above, Clown, written as a response to the work and ideas which presented during the clowning time, can be found, in full, on my website. (Dungate, 2021)

This particular pilot project was managed by DD Arts Birmingham, a company aimed at bringing together artists from different fields (for example music, literature, performance, digital arts); DD Arts Birmingham aims to keep wellbeing at the heart of its work.

Principles of clowning

Some essential principles of clowns and clowning are listed below; in contemplating the principles for a possible performance work, it became increasingly clear to me that aspects were directly relevant to wellbeing considerations. Planning took place during the Covid restrictions, so wellbeing thoughts were much to the fore. Within the company

it was felt that if we could clearly demonstrate these wellbeing elements the potential for reaching out to education, health, performance was strong.

There is no single body of knowledge that will define exactly what a clown is. If you ask ten different clowns you are likely to get ten different answers. Clowning principles we have worked with are:

- The clown struggles to make his way in the world which he frequently finds alien, confusing, working against him
- The clown lives in a world of mystery and imagination, a world in which anything can happen; he approaches adversity and advantage with childlike surprise
- The clown uses his wit, innocent playfulness, imagination, and awkwardness to fill his life with wonderment, joy, and laughter for himself and, importantly, for his audience
- The clown will frequently focus on the smallest detail of his life or environment, giving the detail profound importance, which is a kind of real-world magic
- The clown loves his audience and treats them with care and respect; his greatest pleasure is to welcome his audience into his fantastic world, to gift the audience joy and laughter.

(Within this set of principles, and elsewhere in this article, I have used the male gendered pronoun. I would like to make it quite clear that all people, whatever their sex or gender, are equally able to create their own clown. Sex and gender do not impact on the quality of clowning.)

The Programme of Work

Six actors worked over two days with Director Sutcliffe, though only four were available for filming on the third day.

Sutcliffe is an accomplished clown director and performer, described in the Guardian as "brilliant". (Guardian Guide, 2008) Her work is broad-ranging and often through *Metaphysique* (Sutcliffe, 2006). The focus of the project was to enable the actors to find their own clown from within themselves. Developing and filming two devised short plays was always intended as part of the process rather than as a finished and polished product. The films do, though, clearly serve as evidence and support for the discussions and claims below.

The powerful links with education and health stem from the processes Sutcliffe followed. Although Sutcliffe was working with trained actors it should be taken on board that all of the exercises and explorations would easily be available to untrained participants who would benefit in the ways outlined below.

What follows here is an account of the processes of developing the two plays, *Medals* and *Happy Birthday*. But first a note about an underlying principle about which, Sutcliffe, was most insistent. Each participant was given a red nose; the red nose signifies clown to many of us. Participants wore their noses when performing as clown but were required, without exception, to lower them or remove them at other times. The red noses acquired power through this process and enabled the performers to step instantly into and out of their clown.

Should this sound at all precious, that thought should be dismissed rapidly; the effect is absolutely tangible. In post human thinking terms, the red nose effect is a fine example of *thing power*.

The red nose is frequently described as *the smallest mask in the world*; whether or not a clown *must* have a red nose is an open-ended question.

Sutcliffe led the group through a series of exercises which were regularly returned to and developed. These were to free the performer of real-world baggage and anxieties, to create relaxation, and to open up imagination. The body and mind then become open to the impulses and ideas of the unconscious – which is where the best ideas come from. This state is one in which occurrences, accidental juxtapositions, tangential thoughts give rise to marvellous ideas. "The best bits are when you are caught off-guard," is how Clown Carl puts it. Or from Clown Hugo: "No space for fear, it's a special treat." Please note that all the Clown quotes in this article can be found in the three short YouTube uploaded films (link mentioned earlier). The link referenced will connect to the DD Arts Birmingham channel, and the films selected from there. (DD Arts Birmingham, 2021).)

The central importance of imagination can be seen in the clown principles above. Exercises were directed and focussed; they incorporated stillness and physical action. Not only did they encourage awareness of self, but also developed a powerful sensitivity to others, and a strong sense of working together, of give and take. All exercises were flexible enough to work with a wide range of people with a wide range of abilities.

The two filmed clown plays were developed from scratch; both are clear examples of clowns living in the moment in their clown world. They examine clowns' ability to celebrate their own unique being; or, as Clown Emmeline explains it, to find: "bits you don't like, you find confusing, to play with it." Each is built around a single, small event which within its context, carries a profound meaning. In *Medals* a person is rewarded for learning to play an instrument, in *Happy Birthday* a clown, who thinks his birthday has been forgotten, is visited by another clown with a birthday cake. The ability of the clown to render a small thing as a profound thing is another principle of the clown. Plus, of course, and forget this at your peril, the clown's ability to make us laugh. It should be noted that the while the short plays themselves are potentially profound, their plots are short and simple. Such work is suitable for young students, possibly primary and for use in, say, assemblies.

Neither of these plays explicitly presents the clown's ability to overcome (or not) obstacles in a world that is against him. This is an important, potentially cathartic, element of clown work. For the first two days of the project an additional pair of women were working with us, but were not available for filming. Their play, *Handshake*, was built around an individual going for an interview; the interview does not go according to plan in our Covid society, as the protocol of hand disinfecting and handshaking dominates proceedings. This directly examples the clown being overwhelmed by the real world. All readers will be able to relate to the confusion and discomfort we felt as we became used to hand-sanitising and mask-wearing protocols. In this not-filmed play the clown offers us our anxiety to laugh at.

The third film uploaded (YouTube link from earlier) is the discussion from the performers; we see that this is the performers' reactions, not the clowns' – red noses are not worn. The film exists because of the power of the performers' discussion. It is worth examining, for a moment, the means by which this discussion came about.

Further development

It will already be clear that this was a (post)-qualitative research project. In a sense, the filming of the plays represents the end of the process. But post-research, it is interesting to assemble a record of the factors surrounding the process and seeing how this informed the powerful discussion, which then, itself, became part of the research.

I had set up the framework for this research as producer and research leader; two days preparation and devising and one day for filming. However, the following circumstances came to bear. This was the first time since Covid lock-down the participants had worked freely and closely together (specifically mentioned by Clown Carl in the discussion), they worked well together and enjoyed each other's company and invention, the room used was comfortable and a pleasant space in which to work. The way Sutcliffe led the events relaxed them, moving them forward, opening up new areas of exploration for them and that, as a team, we kept wellbeing in our minds, fed a feeling of *doing something important*. I had had to change the working space at the last moment. We were offered space inside the Birmingham Hippodrome, one of the West Midlands' most prestigious venues; this may seem irrelevant, but was specifically referred to by Clown Carl in a later conversation: "We were surrounded by other performers, if you left the room you were likely to bump into someone in some costume or other. An actor even came into our room to see if he'd left his script from the day before." The powerful effect of the red noses has been mentioned above. Finally, an all-important element was shared joy and laughter.

The discussion itself can be seen and heard in the uploaded film. Relevant to the debate within this article, it should be noted that the performers regularly return to their own wellbeing being enhanced by clowning; how they could examine aspects of themselves including aspects they did not much like in a non-threatening, purposeful and fun way; that the working together lifted spirits; that they enjoyed the free imagining; and that they could see links with the real world.

There is one further element I would like to incorporate into this account. It is one that took me completely by surprise and indicates a strong link with poetry.

It can be seen from both plays and from much of the discussion that detail is greatly important, and the meaning is carried, in part, through the detail. It struck me that this is how poetry works. It could be argued that this is my personal bias as I work as a playwright and poet. This might well, to an extent be true; however others have noted this similarity. LeCoq (2002), recognised as one of the world's leading teachers of clowning, titled his book, in which he sets out his performance principles, *Le Corps Poetique, The Poetic Body.* (LeCoq, 1997) In English the title is *The Moving Body,* a much less poetic title (LeCoq, 2002)*.* In addition, one of Sutcliffe's solo shows was reviewed in *The Stage* with the description that she "creates a poem with her movement." (Dibdin, 2002) There would be much to be gained in exploring this connection in performance and literature sessions. I endeavoured to encapsulate this aspect, which I believe goes to the heart of clowning, in the final stanza of the *Clown* poem:

<blockquote>
I can take the smallest thing

and help you smile with joy within

a warm embrace you'll not forget,

this is my clown-world, welcome in.

(*ibid*)
</blockquote>

To conclude

DD Arts Birmingham's research into clowning and wellbeing is a work in progress; the main threads we have discovered so far, outlined below, have given us the intention to continue the work. At this stage we would argue:

- There is much to be gained emotionally through the cathartic effect of watching the clown deal with life's adversities with the laughter it encourages. Clown Ralph: "The clown has to overcome adversity and failure, but the clown uses it to his advantage."   The process of engaging physically and emotionally in clown work – its preparation and performance – offers liberation through enriched imagination and a helping hand with dealing with personal challenges that can affect wellbeing negatively in the real world. Clown Hugo: "I get confused, I feel lonely, the clown is my little friend, I don't need to be on my own." There is much to be gained from an intellectual examination of clowning and its relationship with literature. Note the title of LeCoq's book, *Le Corps Poetique*

- The essential simplicity of the clown world and its imaginative environment means that clown work is ideal for primary age children, possibly for performances in assemblies, while the conciseness of clown plays is ideal for devising with young people of all ages, examining real-world issues. "It's not Naturalism, it's human, things we can relate to." Clown Emmeline.

As mentioned above, DD Arts Birmingham is keen to take this work further, incorporating a full-length performance and related outreach activities. In addition, we would aim to examine further and build up a body of theory around external elements of performance as research, and the effect they may have on the research itself. This will all form the basis of future applications to the Arts Council of England and other interested charities.

Any thoughts, feedback, or ideas readers may have would be most welcome. Please write to me: Rod.Dungate@BCU.ac.uk.

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Climate Change Education: coming to an approved platform near you

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This 'think-piece' is in response to the draft strategy on sustainability and climate change presented by the Secretary of State for Education at COP26 (DfE 2021). The strategy is considered in relation to existing debates in the fields of environmental education (EE) and the emerging field of Climate Change Education (CCE) research. The treatment is partly a polemic provocation and is shaped by my own position as a teacher educator struggling with how my professional ethical responsibilities intersect with my personal political engagement in climate activism and protest. I explore how the strategy seeks to utilise notions of teacher impartiality to depoliticise CCE while simultaneously advancing a neoliberal agenda and constraining debate on issues of justice, equity and values.

I hope, as a think piece, it opens up space for debate and critical reflection to challenge the boundaries of our professional responsibilities as educators.

The full text of the Draft Strategy 'sustainability and climate change- A draft strategy for the education & children's services systems' (DfE, 2021) is available here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1031454/SCC_DRAFT_Strategy.pdf

Introduction

As an educator who has campaigned to see climate change taken seriously in the curriculum, I can see much to celebrate in the strategy. It shows a breadth of ambition.

> *"Through a better understanding of the facts, a greater appreciation of nature, and practical opportunities to participate in activities to increase climate resilience and enhance biodiversity, we will empower all young people to be truly global citizens, able to take positive steps to improve their local communities, their country and the planet."*

(DfE 2021:12)

It may seem churlish of me to look a gift horse in the mouth but, at the risk of mixing metaphors, before wheeling this particular gift horse through the city gates it may be advisable to look at what hides within.

A new curriculum?

A broad taxonomy in Environmental Education (EE) categorises education 'about', 'in' and/or 'for' the environment (Hedefalk, Almqvist and Östman, 2014). These strands are evident in the strategy with an emphasis on a 'knowledge rich' curriculum (about), establishing a new virtual National Education Nature Park (in), and encouraging children to participate in projects improving the sustainability and biodiversity around their schools (for). Each of these areas might be deconstructed but I start here with considering the curriculum approach to CCE within the strategy.
It would be easy to take the impression from the strategy that the curriculum will undergo radical change. To the contrary, the strategy seems to restates previous DfE assertions (e.g. Gibb, 2021) that the existing curriculum already covers the content required.

> *"Within schools, the science, geography and citizenship programmes in the National Curriculum at both primary (KS1-2) and secondary (KS3-4) cover key content which supports knowledge and understanding of sustainability and climate change"*

(DfE 2021:12)

There is no mention here of an intention to rewrite the curriculum except in relation to primary science where the

strategy will…

> "Develop a Primary Science Model Curriculum, to include an emphasis on nature and the recognition of species – including species native to the United Kingdom – to ensure all children understand the world around them."

<div align="right">(DfE 2021:12)</div>

Given the existing primary curriculum (DfE, 2013) already expects children to be able to identify common species and has a strong emphasis on biology this is hardly a ground-breaking shift. The strategy focusses on giving children the 'building blocks of knowledge needed to understand' (DfE 2021:12) the 'causes and impacts'(Ibid.) of climate change.

The draft strategy repeatedly talks about these 'causes of climate change' but avoids delineating what causes are to be considered legitimate for inclusion. The focus on science as a curriculum area implies a narrow definition of causes centred on understanding the science or physical geography of global warming and the anthropogenic emissions of greenhouse gases.

However a key enduring and discomfiting finding in the Environmental Education (EE) literature is that knowing *about* environmental issues does not by itself have much impact on behaviours *for* the environment (Kollmus and Agyeman, 2002; Marcinkowski and Reid 2019) and learning is strongly mediated by existing worldviews (Kahan, Peters, and Wittlin, 2012).

Presenting CCE as being concerned simply with scientific knowledge *about* climate change leaves little space for the very important work of education as a whole in responding to what it *means* for humanity, ethically, morally, culturally, emotionally and ultimately ontologically. Without enabling children to explore the ethical, social and historical dimensions of climate change and their own concerns and anxieties they remain unable to critically engage with the issue. The conclusion for many in EE is that it is not possible to separate environmental education from political education (Niebert, 2019: Hodson, 2014; Bencze and Alsop, 2014).

Henderson et al (2017) argue that the field of CCE should extend beyond science education to disciplines not currently engaging in the problem and ask:

> *"What are the ethical and moral obligations for those tasked with educating about climate change?"*

A search in the draft strategy for ethics and morals or a search for 'values' or 'climate justice' reveals these concepts are entirely absent despite intergenerational justice and global inequality being central to any appreciation of the social impacts of climate change.

Furthermore, Busch, Henderson and Stevenson (2018, citing work by Howell (2013) and Howell and Allen (2016)) conclude that significant early life experience (for example spending time outdoors) or having biocentric values such as 'a connection to nature' are not strongly correlated with adopting pro environmental behaviours. What appears more significant is if the participants' value system is based on altruism; values including equality, social justice and peace.

Values and justice are political concepts and Social change sits at the heart of environmental education's mission (UNESCO 1978) but the approach to climate change and sustainability within the strategy is studiously apolitical.

In contrast the strategy keeps a tight focus on ensuring children will be 'equipped with the right knowledge, understanding and skills to meet their biggest challenge head on.' (DfE 2021:4) This challenge is framed primarily as a technical problem and therefore CCE becomes centred on climate science literacy and techno-optimism and the production of STEM (Science Technology Engineering and Maths) graduates working to find technical solutions for adaptation and mitigation.

Within the strategy CCE is transposed via STEM from a 'challenge' (p6) to an 'opportunity' (p6) before emerging as a space for 'innovation' (p15) as 'Britain leads the world into a new Green Industrial Revolution (p15)'. Climate change education is thereby folded into a business as usual neoliberal education system to 'help grow future talent pipelines and deliver the skilled individuals needed' (p15). The use of the word pipeline is appropriate given the petro-chemical industry's ongoing engagement in 'petro-pedagogy' and the promotion of a neoliberal model of STEM education based on its own corporate and capitalist interests (Tannock, 2020).

The impartial teacher.
The draft strategy exhibits an almost palpable paranoia over teachers who might explore climate change education from a political perspective; the section on curriculum (DfE 2021:12) devotes nearly as much space reminding teachers and schools of their legal duty to political impartiality as it does to saying how it proposes to enhance climate change education.

Perhaps this is understandable given UK based research showing 'a teacher workforce with an interdisciplinary vision for CCE encompassing social justice issues and participation in social action'…, 'ready and willing to move forward with radical, action-oriented CCE programmes that can help drive change rather just respond to it.' (Howard-Jones, Sands, Dillon and Fenton-Jones, 2021). This vision of radical social action sits in stark contrast with the 'knowledge-rich curriculum'(DfE 2021:13) espoused in the strategy to give children 'a better understanding of the facts' (Ibid:12). When the strategy does acknowledge that wider socio-political issues exist it does so with an immediate warning attached: 'in climate education there may be relevant political issues and partisan political views, for example on social and economic reform, that should be handled in line with schools legal duties on political impartiality.' (Ibid:12). This is hardly a welcoming invitation for UK teachers to explore these 'relevant political issues' and they could be forgiven for limiting their role 'to conveying factual information about climate science' in the same way as some American science teachers have (Monroe et al , 2020).

However while science education *about* the environment can be presented in an impartial way it is not immediately obvious if this is also true when it comes to education *for* the environment . As Ferkeny and White (2013:11) explain, 'Executing the pedagogical equivalent of putting an 'environmental responsibility pill' in students' drinking water, for instance, would not do'. If educating *for* the environment includes the aim of transforming children into environmentalists it becomes incompatible with the fundamental ideals of a liberal education to create autonomous citizens.

There are certainly moral dilemmas here facing teachers willing to engage with a more politicised climate change education but the concept of neutrality is a red herring. As Richard Shaull reminds us in his introduction to Paulo Freire's pedagogy of the oppressed.

> "There is no such thing as a neutral educational process. Education either functions as an instrument that is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it, or it becomes "the practice of freedom," the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world."

(Shaull, 2015).

Today more than ever in the face of the climate emergency and the complexity of the social justice issues it raises we need an education system willing to respond to this challenge and allow the next generation the opportunity to escape the taken for granted that is destroying their future to satisfy the needs of the present.

Jensen and Schnack (1997) initiated the idea of 'action competence' as a means of promoting such agency but without advocating for a particular position and restricting autonomy. Their approach presents children with authentic

problems where they are involved in making decisions and, crucially, carry out activities they themselves identify as helping to solve the problem. In this manner they build up a repertoire of competencies as active empowered citizens. Research in the UK indicates that the majority of teachers believe the right to take part in legal protests or even civil disobedience should form part of this repertoire for action competence which children should develop as they grow into active democratic citizens (Howard- Jones et al. 2020). The strategy however takes another opportunity to caution against empowering pupils in overtly political activity and reminds teachers of their neutrality: "Whilst schools should support pupil's interest in climate change and tackling both its causes and effects, it would not be appropriate to encourage pupils to join specific campaigning groups or engage in specific political activity, such as protests."(DfE 2021:12). Indeed, the right of political protest itself is under threat in the UK (Liberty, 2021:11).

The taken for granted view of teachers as needing to leave their personal politics at the classroom door is co-opted to make a case that schools should be free of all politics. Giroux (2020, pp223) identifies the argument, advanced by proponents of the status quo, 'that schools should be places where matters of power, values, and social justice should not be addressed' and if there is any transgression of this principle of teacher neutrality then ' the usual scornful accusation ... is that teachers who believe in civic education indoctrinate their students'. By utilising teachers own anxiety over the charge of indoctrination he argues 'pedagogy is reduced to a banal transmission of facts in which nothing controversial can be stated and teachers are forbidden to utter one word related to any of the major problems facing the larger society.' Teachers may therefore avoid straying too close to advocacy (Monroe et al, 2020) or activism (Campigotto and Barrett, 2017) as conflicting with their own socially curated professional self-image. The identity of the impartial teacher instils a governmentality where the professional ethics that police the norms and behaviours of the teacher become an internalised technology of the self (Foucault, 1988).

The draft strategy proposes teachers improve climate education by using free 'high quality curriculum resources' delivered through 'approved platforms'. But where will these free high quality resources come from and by whom and by what criteria will approval be regulated? While the strategy demands teachers remain impartial the question arises if the government is prepared to do the same. For the past 50 years Environmental Education has been concerned with highlighting the deleterious effects of extractive deregulated neoliberal market fundamentalism on the environmental commons. If the strategy is serious about empowering children to understand the causes of climate change then some consideration and criticism of the role of capitalism is surely central (Klien, 2015). Yet in 2020 the DfE censured the use of anti-capitalist materials in the teaching of Sex and Relationship Education (DfE 2020). It is doubtful the DfE Approved platforms will countenance materials from organisations that question the neoliberal ideology of our time or any that encourage genuine transformational and radical education to explore the values at the root of the Anthropocene. Might we expect instead, the following cheery offering from British Petroleum's education service.

"How will we tackle climate change? How can we make energy cleaner? What will we eat tomorrow? Science can help us find innovative technological solutions to the challenges we face."

(BP International Limited ,2021)

Summary
I have focussed on those aspects of the draft strategy that seem to me to be problematic; on how neoliberal conceptions of education embedded within the strategy play on our own subjectivities as educators to constrain the scope of legitimate action and how this limits CCE to a technical rather than moral endeavour.
The account is partial and I would add that alternative readings will find aspects to celebrate in the draft strategy. At the very least it signals a first step in responding the climate and ecological crisis and an acknowledgment of the DfE's responsibility to young people to develop a curriculum fit for the challenges ahead. But, ultimately, despite its grand sounding claims, the strategy seeks to maintain business as usual within our existing curriculum, control how CCE is framed and supress political dissent.

The challenge for educators is to have the courage to craft new spaces away from 'approved platforms' and if necessary away from schools entirely. To place justice above neutrality in our professional identity and empower children to replace the dysfunctional logic of the present system.

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Common abbreviations in Education [originally published in Vol 1 (3)]

A	**A level**	Advanced level examinations	**AQA**	Assessment and Qualifications Alliance Examination Board	
	ACE	Advisory Centre for Education	**AST**	Advanced Skills Teacher	
	ADHD	Attention Deficit Hyperactivity Disorder	**AT**	Attainment Target (in National Curriculum)	
	APT&C	Administrative, Professional, Technical and Clerical	**ATL**	Association of Teachers and Lecturers	
B	**BA**	Bachelor of Arts (qualification)	**BEd**	Bachelor of Education (qualification)	
	BAC	Behaviour and Attendance Collaborative	**BSc**	Bachelor of Science (qualification)	
	BAME	Black, Asian and Minority Ethnic	**BSP**	Behaviour Support Plan	
	BDA	British Deaf Association	**BSS**	Behaviour Support Service	
	BDA	British Dyslexia Association	**BTEC**	Business and Technology Education Council (a vocational qualification)	
C	**C&G**	City and Guilds	**CCT**	Chartered College of Teaching	
	CAD	Computer Aided Design	**CDT**	Craft, Design and Technology	
	CAF	Common Assessment Framework	**CIF**	Common Inspection Framework	
	CAMHS	Child and Adolescent Mental Health Service	**CPD**	Continuing Professional Development	
	CAT	Cognitive Ability Test	**CRB**	Criminal Records Bureau (DBS is now used)	
	CCF	Core Curriculum Framework	**CTC**	City Technology College	
D	**D&T**	Design and Technology	**DDA**	Disability Discrimination Act	
	DBS	Disclosure and Barring Service	**DfE**	Department for Education	
	DCPO	Designated Child Protection Officer	**DI**	The Dyslexia Institute	
E	**EAL**	English as an Additional Language	**EWO**	Education Welfare Officer	
	EBD	Emotional and Behavioural Difficulty	**EYCS**	Early Years and Childcare Service	
	ECF	Early Career Framework	**EYDCP**	Early Years Development and Childcare Partnership	
	ECT	Early Career Teacher	**EYDP**	Early Years Development Plan	
	EHCP	Education Health Care Plan	**EYFSP**	Early Years Foundation Stage Programme	
	ESW	Education Social Worker	**EVC**	Educational Visits Coordinator	
F	**FAETC**	Further and Adult Education Training Certificate	**FLLN**	Family Literacy, Language and Numeracy	
	FE	Further Education	**FS**	Foundation Stage	
	FEFC	Further Education Funding Council	**FSM**	Free School Meals	
	FEX	Fixed Term Exclusions from school	**FTE**	Full Time Equivalent	
	FFT	Fischer Family Trust (a charity that provides estimates of pupil performance)			
G	**G&T**	Gifted and Talented	**GCSE**	General Certificate of Secondary Education (qualification)	
	GCE A	General Certificate of Education Advanced Level (qualification)	**GNVQ**	General National Vocational Qualification (qualification)	
	GCE AS	General Certificate of Education Advanced Supplementary (qualification)	**GTC**	General Teaching Council	
H	**H&S**	Health and Safety	**HODs**	Heads of Department	
	HE	Higher Education	**HOYs**	Heads of Year	
	HMCI	Her Majesty's Chief Inspector	**HSE**	Health and Safety Executive	
	HMI	Her Majesty's Inspector(ate)	**HT**	Headteacher	
	HMSO	Her Majesty's Stationery Office			
I	**IB**	International Baccalaureate	**ISEB**	Independent Schools Examination Board	
	IEP	Individual Education Plan (now an EHCP)	**ISI**	Independent Schools Inspectorate	
	INSET	In-Service Education and Training	**IT / ICT**	Information Technology / Information Communication Technology	
	IRT	The Identification, Referral and Tracking of children and young people at risk	**ITT / ITE**	Initial Teacher Training / Initial Teacher Education	
	ISA	Independent Schools Association	**IYSS**	Integrated Youth Support Service	

	ISC	Independent Schools Council			
J	JCQ	Joint Council for Qualifications			
K	KS	Key Stage	KS3	Key Stage 3 Years 7-9 (12-14 year olds)
	KS1	Key Stage 1 Years 1-2 (5 - 7 year olds)	KS4	Key Stage 4 Years 10-11 (15 - 16 year olds)
	KS2	Key Stage 2 Years 3-6 (8 - 11 year olds)	KS5	Key Stage 5 Years 12-13 (Post 16 year olds)
L	LA	Local Authority	LLDD	Learner with Learning Difficulties or Disabilities
	LAC	Looked After Children	LO	Learning Objectives / Outcomes
	LD	Learning Disability	LP	Lead Practitioner
	LEA	Local Education Authority	LPSA	Local Public Service Agreement
	LGPR	Leadership Group Pay Range	LSE	Library Services for Education
M	M.Ed	Master of Education (qualification	MIND	National Association for Mental Health
	MA	Master of Arts (qualification)	MLD	Moderate Learning Difficulty
	MAT	Multi-Academy Trust	MPS	Main Pay Scale
	MFL	Modern Foreign Languages	MSc	Master of Science (qualification)
N	NAHT	National Association of Headteachers	NPQH	National Professional Qualification for Headship (qualification)
	NAPE	National Association for Primary Education	NPQSL	National Professional Qualification for Subject Leaders (qualification)
	NASUWT	National Association of School Teachers/Union of Women Teachers	NQT	Newly Qualified Teacher (from Sept '21, an 'ECT')
	NC	National Curriculum	NSPCC	National Society for the Prevention of Cruelty to Children
	NCVQ	National Council for Vocational Qualifications	NUT	National Union of Teachers
	NoR	Number on Roll	NVQ	National Vocational Qualifications (qualification)
O	OCR	Oxford Cambridge and RSA Examinations (Examination Body)	OOHL	Out of Hours Learning
	OFSTED	Office for Standards in Education	OU	Open University
P	PANDA	Performance and Data Analysis	PoCA	Protection of Children Act
	PANDAS	Performance and Assessment Documents	PoS	Programmes of Study (in National Curriculum)
	PAT	Professional Association of Teachers	PPA	Planning, Preparation & Assessment time
	PCT	Primary Care Team	PRB	Performance Review Board
	PE	Physical Education	PRC	Pupil Referral Centre
	PGCE	Postgraduate Certificate of Education (qualification)	PRP	Performance Related Pay
	PGDE	Postgraduate Diploma in Education (qualification)	PRU	Pupil Referral Unit
	PHE	Public Health England	PSA	Parent School Association
	PIN	Parents Information Network	PSHE / +C	Personal, Social and Health Education (& Citizenship)
	PIs	Performance Indicators	PTA	Parent Teacher Association
	PLP	Primary Leadership Programme	PTR	Pupil Teacher Ratio
	PMLD	Profound & Multiple Learning Difficulties		
Q	QA	Quality Assurance	QCA	Qualifications and Curriculum Authority
	QAA	Quality Assurance Agency for Higher Education	QTS	Qualified Teacher Status
	QAN	Qualification Accreditation Number		
R	R (Y1, Y2 etc)	Reception (Year 1 etc)	RgI	Registered Inspector
	RE / RS	Religious Education / Religious Studies	RoA	Record of Achievement
	READS	Racial Equality and Diversity Service	RSA	Royal Society of Arts Examination Board
S	SATs	Standard Assessment Task/Test	SMART	Smart, Measurable, Achievable, Relevant, Time-scaled targets
	SDP	School Development Plan	SMSC	Social Moral Spiritual Cultural
	SEF	School self-evaluation form issued by Ofsted	SMT / SLT	Senior Management Team / Senior Leadership Team

	SEN / SEND	Special Educational Needs / Special Educational Needs & Disability	**SOP**	School Organisation Plan
	SENCO / SENDCO	Special Educational Needs Coordinator / Special Educational Needs & Disability Coordinator	**SoS**	Secretary of State
	SENDA	Special Educational Needs Discrimination Act	**SoW**	Scheme of Work
	SHA	Secondary Heads Association	**SpLD**	Specific Learning Difficulty
	SIMS	Schools Information Management System (provided by Capita)	**SSCO**	School Support Coordinators
	SLA	Service Level Agreement	**SSGO**	School Sport Games Organiser
	SLD	Severe Learning Difficulty	**STRB**	School Teachers' Review Body
	SM	Special Measures		
T	**TA**	Teaching Assistant (& can sometimes be noted as 'Teacher Assessment')	**TLR**	Teaching and Learning Responsibilities (payscale)
	TES	Times Educational Supplement	**TP**	Teachers' Pensions
	TIB	This is Because'	**TTA**	Teacher Training Agency
U	**UCAS**	University and Colleges Admissions Service	**UPN**	Unique Pupil Number
	ULN	Unique Learner Number		
V	**VA**	Voluntary Aided	**VC**	Voluntary Controlled
W	**WAGOLL**	What A Good One Looks Like'	**WBL**	Work Based Learning
	WALT	We Are Learning To'	**WILF**	What I'm Looking For'
Y	**Y1, Y2 etc**	Year 1, Year 2 etc	**YOT (or S)**	Youth Offending Team (or Service)
	YIST	Youth Inclusion and Support Team	**YTS**	Youth Training Scheme
	YPLA	Young Person's Learning Agency		