IMAGINING BETTER EDUCATION

CONFERENCE PROCEEDINGS 2018

School of Education, Durham University

EDITED BY
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Foreword

The “Imagining Better Education” (5 to 6 July, 2018), the first School of Education conference established and organised by the postgraduate research students themselves, was full of impressive “imaginings” in so many ways. The proceedings presented here are a culmination of the dedication, commitment, and competence of the student conference organisers and student contributors. The papers comprising these proceedings provide students, teachers, and academics with an enduring snapshot of the excellent work being undertaken by the students in the School of Education to imagine a better education for the future.

There are several people who must be acknowledged and thanked for making IBE 2018 an outstanding success. Katie Allen and Sophie Anderson, supported by their organisational team (Katie Allen, Sophie Anderson, Martina Diehl, Emma Dobson, Lucy Hatt, Christine Jack, Xin Shao), led the planning and delivery of the conference, and developed an evocative and provocative conference title, setting the stage for follow-on conferences. Xin Shao and Emma Dobson carried the responsibility for publication of the conference papers. Emma’s excellent presentations on preparing a paper for publication, and peer review of academic papers encouraged and guided novice research students to publish their work in the proceedings. We are grateful to Xin for her initiative in obtaining an IBSN number, organising the papers into themes for the proceedings, and preparing the final publication, all of which has taken a great deal of commitment and hard work. The support offered by the organising team, and the students (as peer reviewers) were also instrumental in seeing the publication to its completion. Thank you to you all.

The conference included some special features. Special thanks go to the members of the two panels “Securing post-doctoral funding” (postdoctoral researchers Drs Judith Reynolds, Louise Gascoigne, and Taha Rajab); and “Life as an early career researcher” (Drs Oakleigh Welply, Rille Rapper, Andrew Joyce-Gibbons). Thanks also to Prof. Stephen Gorard for his keynote “Getting published is easy: A few tricks of the trade” which encouraged conference participants to imagine the best from their work by publishing it.

I am delighted to see these proceedings finally published—testimony to the excellent work students are undertaking in the School of Education, and an inspiration for future postgraduate student conferences. Congratulations and thank you to all of the students who

have led, supported, participated in, and contributed to this inaugural conference and their proceedings. I am grateful for everything you have all done and the excellent work presented here.

Prof. Prue Holmes
Director of Postgraduate Research

About the Imagining Better Education Conference

In July 2018 we welcomed postgraduate researchers from Durham University's School of Education to its first student conference. The aim of the conference was to showcase the exciting work being done by postgraduate research students in the department, as well as offering an opportunity for networking. A common aim of research is to strive towards improvements in whatever division of education one chooses to focus their attention on; hence, the title of the conference was chosen: Imagining Better Education. Sessions were organised to strike a balance between students presenting their own work and listening to experienced academics talk about their experiences on topics such as publishing and being an early career researcher. We hope students found the experience as useful and rewarding as we did.

Katie Allen & Sophie Anderson

Introduction

Durham University's first Post-Graduate Educational Research Conference, entitled *Imagining Better Education*, marked an exciting milestone for Post-Graduate Research (PGR) students here at the School of Education. Our first student-led conference saw PGRs from across the department come together to organise a two-day event in which they presented their research findings to staff and colleagues. There were 28 presentations produced by scholars and practitioners from across a range of different countries. 18 papers are included in this proceedings volume.

The conference provided a supportive and collaborative environment for PGRs to discuss their research with their peers. This acted as a forum for students to learn from each other whilst sharing their own insights into what it means to design and 'do' research. Similarly, the publication process for these proceedings was intended to support students' academic growth. Every presenter was given the opportunity to submit a manuscript for the conference proceedings. Through a blind review process, each author received feedback from two peer-reviewers. This was supported by a two-hour workshop on writing and reviewing for publication. Our aim was to make the review and editing process a learning opportunity for authors by working with an editorial team. We hope that students benefitted from the experiences of presenting, writing, and reviewing; making them more confident and accomplished authors.

It is important to acknowledge these highlights as they demonstrate the dedication of our PGR students; not only to their studies at the School of Education, but also to their desire to improve Education. The contributions by the authors in the following proceedings reflect their commitment to 'Imagining Better Education' for learners. Major themes of featured papers include: technology, Higher Education, and SEN. This breadth of coverage reflects the School of Education's standing as one of the major leaders in Educational research; with the efforts of our PGR community continuing in this endeavour by shaping policy and practice for the future. In this way, these first published proceedings build a legacy of scholarly contribution for the School of Education and its PGR students. I would like to express my gratitude to all of the authors in contributing their papers for publication in the *Imagining Better Education 2018 Conference Proceedings*. They provide a fascinating insight into how we can imagine, and strive for, better Education.

Emma Dobson

Contributors

Katie Allen
Katie Allen is a second year ESRC NINE DTP funded PhD student in the School of Education. The aim of her research is to examine the relationship between working memory and maths performance in children. The work will build upon recent research by Ashkenazi et al (2013) to develop a screening assessment to identify children with working memory deficits related to early maths development.

Sophie Anderson
Sophie Anderson is an ESRC funded PhD Education student in the School of Education at Durham University. Her research focuses on the academic buoyancy construct and other related constructs such as everyday resilience and their impact on school attendance.

Harriet Axbey
Harriet Axbey is an ESRC-funded student in School of Education, Durham University, having previously qualified as a teacher. Working within a neurodiversity paradigm, her research aims to produce a resource for the classroom to support autistic and non-autistic pupils in their interactions, through having a better understanding of each others thoughts and actions.

Tatiana Bruni
Tatiana Bruni is a teacher of Italian Language and Culture at an undergraduate college in the Netherlands and is currently interested in the fields of Intercultural Education and Student Engagement. Her research deals with teacher-student partnerships in co-designing learning environments as a means to enhance democratic (global) citizenship attitudes and actions.

Martina Diehl
With a background in English literature and language and a passion for education, Martina began her PhD journey. She has always been fascinated by poetry, and found it odd how 'dull' it is found by many teenagers. This supported her decision to explore students' creative and critical engagement with poetry in secondary schools.

Emma Dobson
Emma Dobson is a Postdoctoral Research Associate at Durham University's School of Education. Her research combines perspectives from the fields of both Health and Education to explore the concept of peer education as an approach to educate adolescents about sexual health and wellbeing.

Lucy Hatt
Lucy Hatt is a part time doctoral researcher supervised by Drs Julie Rattray and Nicola Reimann. She is researching entrepreneurship education using the threshold concept framework. Lucy is a Senior Lecturer and acting Director of Teaching and Learning at Newcastle Business School and leads their BA (Hons) Entrepreneurial Business Management programme.

Christine Jack
Christine Jack is a doctoral student in the School of Education, Durham University. Her research focuses on the use of educational technologies in early years education. She taught in early years and primary schools before working with teachers and schools to support the implementation of educational technologies, in ways that enhance teaching and learning.

Amie Key
Amie Key is currently in the MA year of her 1+3 NINEDTP Studentship, funded by the ESRC. Her PhD, starting in October 2019, will study the experiences of estranged students in higher education. This will be in collaboration with Stand Alone, a UK charity who supports those estranged from their families.

Honghuan Li
Honghuan Li is an Ed.D. student in School of Education, Durham University. His research contains two parts: a systematic review and an empirical study. The systematic review is to identify pre-service teachers' ICT beliefs and ICT use in the classroom. The mixed method empirical study investigates pre-service English language teachers' perceptions of virtual reality use in the classroom and their ICT training needs.

Lin Lu
Lin Lu is a PhD student of the School of Education in the University of Durham. Her research is about the effects of cultural difference on the rating of ADHD symptoms by comparing British and Chinese teachers' ratings. Her supervisors are Prof Peter Tymms and Dr Christine Merrell.

Linda Němečková
Linda Němečková is a PhD student at the Charles University in Prague, Czech Republic. Her research explores biology lessons at secondary schools, focusing on the professional vision and reflection of teachers. Specifically, her research includes the reflections of in-service teachers/pre-service teachers and mentoring interviews of them.

Michaela Oliver
Michaela is an ESRC-funded student in Education at Durham University. Her project takes a novel approach to exploring teaching and learning of reasoning in primary education. Drawing upon a socio-cultural framework, it aims to classify 'styles of reasoning' important within primary English, develops activities to promote these and analyses the reasoning and dialogue displayed within the group activities developed.

Emrah Özyürek

Emrah Özyürek is a first year PhD student. His research investigates virtuosity in teaching and the virtuoso teacher – an educational artist shaping society. When reflecting on the theme of 'Imagining Better Education', one must imagine an exceptionally gifted and able teacher, a virtuoso.

Anna Pilson

Anna Pilson is a NINE DTP PhD scholar in School of Education, Durham University. Her project, 'Voicing Inclusion', attempts to develop *with* children with a Visual Impairment a participatory action research model that positions children as knowledge producers. She has a cross-institutional supervisory team at Durham and Newcastle universities, and her collaborative partner is Royal National Institute for the Blind.

Michael Priestley
Michael Priestley is a first year ESRC funded PhD student at Durham University studying the political economy of student mental health and wellbeing. His research examines how

national neoliberal higher education policy factors impact on student experiences of anxiety and depressive conditions.

Xin Shao
Xin Shao is a PhD candidate in School of Education, Durham University. Her research focuses on social mobility and the equity and equality of education in the UK. Using large-scale quantitative data analysis, her PhD project examines young people's occupational mobility in terms of socio-economic origins and school segregation characteristics.

Shaun Thompson
Shaun Thompson is a part time Ed.D. student, currently in the second year of his research phase. His doctoral study is focused on exploring the conditions necessary for the bar model to support mathematical problem solving with autistic pupils. The study makes use of qualitative comparative analysis as a research approach.

Subcomponents of visuospatial working memory: Investigating the importance of order in sequential recall and its relationship with mathematics performance

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Katie Allen is a PhD candidate in the School of Education at Durham University, researching the relationship between working memory and mathematical performance in children.

Subcomponents of visuospatial working memory: Investigating the importance of order in sequential recall and its relationship with mathematics performance

Visuospatial working memory (VSWM) is responsible for storing and manipulating visual and spatial information. Its predictive relationship with mathematics performance in children is well known, especially in younger children. Research has so far not investigated the role of order during recall in sequential tasks, following its subdivision into simultaneous and sequential VSWM. This paper investigates this, in order to determine its predictive power in predicting likely mathematics performance. Children (n=204) performed a battery of WM tasks, including those drawing on both visuospatial and phonological WM, followed by a standardised mathematics test. The data showed significant differences in the number of items recalled in each task, as well as significant correlations between many of the variables. Measuring did not correlate with simultaneous VSWM or block recall, nor did shape correlate significantly with block recall. The results will be further analysed to investigate more intricate relationships present within the data.

Keywords: visuospatial; verbal; working memory; mathematics performance

Introduction

Academic achievement is a subject which gathers increasing attention worldwide, however, the performance of children in mathematics in England comes under particular scrutiny. From statistics published by the Department for Education in 2017, 37.8% of all pupils in state-funded secondary schools, including hospital schools and alternative provision, did not achieve a grade A*-C or 9-4 in GCSE mathematics or an equivalent (Department for Education, 2017). Statistics such as these highlight the need for further research into the underlying factors that contribute to underachievement in mathematics at the school level. Current research is concerned with understanding the intricacies of the relationship between visuospatial working memory (VSWM) and mathematics in young children. By focusing on early influences of this relationship, it is hoped that impact will be long-term, taking a preventative approach rather than restorative. There is, however, a gap in current understanding regarding the influence of order during the recall phase of tasks, on information recalled and its relation to mathematics.

The theoretical foundations of understanding working memory are based on the multi-component model, proposed by Baddeley and Hitch (1974). It is proposed that one component of working memory is specifically responsible for the storage and manipulation of visual and spatial information; the visuospatial sketchpad. Typically, the literature suggests that VSWM is strongly linked to mathematical ability in young children (Holmes & Adams, 2006; Ashkenazi et al., 2013), hence selecting 7-8 year olds as participants in this study as research suggests age-related differences in contribution of VSWM to mathematics (Holmes, Adams & Hamilton, 2008). Whilst previous work has sought to subdivide the influence of simultaneous and sequential VSWM (Mammarella et al., 2017), all sequential measures have relied on replication of a specific order sequence during the recall phase. Such measures have been used

alongside simultaneous tasks to determine the influence of simultaneous or sequential VSWM, however, to date, none have investigated the influence of the need for order during the recall phase. It is, therefore, logical to bridge this gap between previously used simultaneous and sequential tasks. As a result, the current study has three main aims: 1) to assess whether simultaneous or sequential presentation affects the amount of information recalled, 2) to identify whether the need for order during the recall phase of the task influences the amount of information recalled, and 3) to consider how the method of presentation and need for order in recall relates to performance on maths measures.

Method

204 (113 females) 7-8 year old children, from a range of demographic backgrounds, completed a battery of visuospatial (simultaneous, sequential without order, and block recall) and verbal (counting recall, digit recall, and backward digit recall) working memory measures before also completing a standardised mathematics test. Standardised working memory measures were administered as per the instructions provided with the Working Memory Test Battery for Children (WMTB-C), with derived measures following the same structure and administration procedure, aside from presentation using a Windows laptop. In each instance, the mathematics test (Access Mathematics Test) was administered in paper form. All children were tested individually, by a single researcher, in a quiet area of their school. Measures were administered in a randomised order, however, the size of the grids used in the derived measures of VSWM were administered in a fixed order (3x3 then 4x3, and 4x3 then 4x4, for sequential and simultaneous, respectively). A correlational design was used throughout.

For this stage of analysis, a repeated measures Analysis of Variance (ANOVA)

was conducted in the first instance, using VSWM measures as within subjects factors. Following this, correlational analyses were carried out including VSWM composite measures (composite scores for the number of items recalled for simultaneous and sequential no order measures were created by summing raw scores for individual tests respectively) and mathematical component scores. Finally, a series of hierarchical regression analyses were conducted. SPSS was used for all analysis at this stage.

Results

Initially, an ANOVA demonstrated significant differences were present between all VSWM tasks regarding the number of items recalled. The mean for each task can be seen on the bar chart, below.

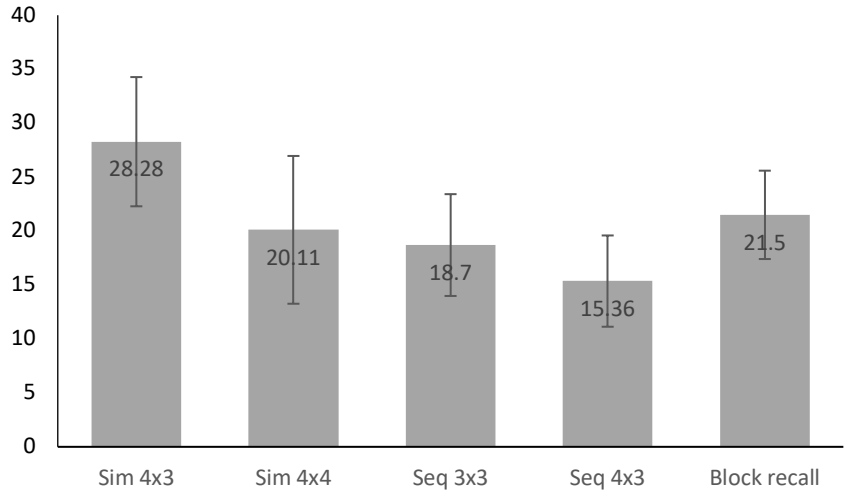

Figure 1. Figure 1 shows the mean number of items recalled for of the VSWM tasks administered. Error bars represent the standard deviation for each measure.

Higher numbers of items recalled during the block recall task (mean=21.5) than the sequential task with no order (mean=18.7 and 15.36) presents an unexpected result, however, there are a number of possible explanations for this. Perhaps the most likely is

the clarity of the task instructions for such young children to comprehend, followed by the possibility that block recall may require less mental manipulation due to the direct repetition nature of the task. The highest scores can be seen for the simultaneous 4x3 task (mean=28.28), however, this result is not consistent for the 4x4 variation of the task (mean=20.11), in which the average number of items recalled was lower than that for block recall (mean=21.5). This result may reflect the maximum grid size (4x3) that children of this age are able to cope with, hence the drop in score for the larger (4x4) grid.

Following this, correlation analyses were run to assess the relationship between each of the VSWM measures and each of the components of mathematics as measured by the AMT.

Table 1. Table 1 shows the correlations between the VSWM measures and mathematics subscales of the AMT.

	Using and applying mathematics	Counting and understanding number	Knowing and using number facts	Calculating	Understanding shape	Measuring	Handling data
Composite sim	0.333**	0.296**	0.429**	0.286**	0.271**	0.135	0.288**
Composite seq	0.247**	0.228**	0.313**	0.244**	0.144*	0.197**	0.235**
Block recall	0.269**	0.138*	0.232**	0.172*	0.012	0.048	0.165*

*p<0.005, **p<0.001

From Table 1, it is evident that simultaneous VSWM correlates significantly, but weakly, with all mathematics measures with the exception of measuring. A similar pattern can be seen for block recall, however, here understanding shape also does not

correlate significantly. Interestingly, sequential VSWM correlates significantly with all components of mathematics, suggesting it is related to overall mathematical development.

A series of regressions demonstrated the importance of simultaneous VSWM in the prediction of mathematics performance, both for mathematics as a whole, and for each individual component of mathematics, with R^2 values ranging from 10% to 21.2%. Notably, simultaneous VSWM did not make a significant contribution when predicting measuring. Rather, this component was significantly predicted by sequential VSWM.

Discussion and Current Conclusions

At this stage, VSWM appears to be the strongest predictor of the measures used, however, only accounts for up to 21.2% of the variance of mathematical performance. The predictive strength of VSWM, in terms of variance accounted for, appears to vary depending on the component of mathematics in question, ranging from 10% for calculating to 20% for knowing and using number facts.

There are some limitations inherent in this study that it will be necessary to address in future work. Regarding the measures used, verbal measures involved the use of number words, which could feasibly have altered the predictive relationship between verbal working memory and mathematics performance. This is of particular significance in an age group in which one would expect dramatic developmental changes. However, the use of such measures is in line with previous work suggesting a component of working memory responsible for numerical information (as reviewed by Raghubar, Barnes & Hecht, 2010), hence the results generated are not entirely unexpected. Continuing on from this, the study concerned only a narrow age group of typically developing children. As such, it is not possible to examine any longitudinal changes relating to age, or to highlight any differences between typical and atypical populations.

The findings from this study have important implications in educational research. An understanding of the elements of working memory that support mathematics development is fundamental for educators aiming to improve children's mathematical attainment. Research is currently trying to exploit this relationship to generate working memory training programmes (e.g., Alloway, 2012; Holmes & Gathercole, 2014). However, at present, randomised controlled trials have not identified evidence of transfer of effects onto academic tasks (e.g., Dunning, Holmes & Gathercole, 2013), though evidence is mixed (see Morrison & Chein, 2011 for a review of this literature). It would be of great benefit to educators to understand the predictive nature of working memory for individual components of mathematics as this would enable educators to highlight potential areas of vulnerability in their students.

Further ongoing investigation is required in order to fully understand the meaning of the data. The data will be modelled in order to highlight the most salient relationships between variables, and to identify the unique variance accounted for by each aspect of working memory. The R program (R Core Team, 2018) with the "lavaan" library (Rosseel, 2012) will be used. Model fit will be assessed using various indexes according to the criteria suggested by Hu and Bentler (1995 in Hoyle, 1995). We will consider the chi-square (χ^2), comparative fit index (*CFI*), non-normed fit index (*NNFI*), standardized root mean square residual (*SRMR*), and root mean square error of approximation (*RMSEA*). Following confirmatory factor analysis (CFA), we will conduct variance partitioning in order to further understand the contributions of each measure to mathematics.

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Promoting academic buoyancy as a pro-active approach for improving student mental health and wellbeing

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Promoting academic buoyancy as a pro-active approach for improving student mental health and wellbeing

This paper provides a rationale for undertaking a systematic review of the academic buoyancy construct which aims to answer four research questions: what is academic buoyancy?; Can academic buoyancy change?; How is academic buoyancy measured?; Do academic buoyancy interventions currently exist? To provide a rationale for undertaking the proposed systematic review this paper will reflect upon the latest educational policy reforms and recent national mental health statistics for young people in England to justify that further understanding of the academic buoyancy construct could prove useful for educational policy and practice.

Keywords: academic buoyancy; everyday resilience; wellbeing; systematic review

Introduction

Providing all children and young people in England with 'world-class' education and care is at the forefront of the Department for Education's (DfE) agenda (DfE, 2016a, p.3). To achieve this aim standards and expectations for pupils have been raised to compete with higher-performing countries across the world. These educational reforms are 'stretching' student outcomes further than before and are inevitably adding pressure on young people to improve their attainment (DfE, 2016a, p.12).

On average, one in ten young people in England have a clinically diagnosed mental health problem and in light of the new 'gold standard' qualifications and assessments it is becoming increasingly important to provide our students with the necessary skills and tools to be pro-active in dealing with their mental health and well-being (DfE, 2018). A key government priority is to support schools in developing and building resilience in their students. However, by way of definition this implies a reactive approach to dealing with major adverse situations. On the contrary, academic buoyancy promotes a more pro-active approach to dealing with the unavoidable stresses and challenges that students encounter during their academic lives (Martin & Marsh, 2008; 2009).

This paper provides a rationale for undertaking a four-part systematic review to summarise how academic buoyancy is defined, whether the construct is malleable, how it is measured and what interventions currently exist. This paper will begin with a contextual outline of current educational policy and mental health statistics to justify that further understanding of the academic buoyancy construct could prove useful for educational policy and practice.

Policy Context

As the 'engine' of the UK's economy, education remains firm on the political agenda (DfE, 2015). With the UK's economy at the forefront of political decision-making, this has guided and shaped reforms which aim to produce a better-educated and well-rounded workforce. To remain economically competitive on an international platform, the government's central goal for education is to raise standards to compete with schools in higher-performing countries, such as Canada and Finland, announced by the OECD's international league tables (Ofqual, 2014). The DfE promote three key objectives which strive to ensure that all students in England experience an excellent education, are safe and prepared for their adult lives. To achieve these aims three of the DfE's strategic priorities include: embedding more rigorous standards, curriculum and assessment; supporting and protecting children's mental health; and building character and resilience (DfE, 2016a).

In recent years, educational reforms have focused on raising attainment through embedding rigorous standards, curriculum and assessment across the key stages. In the primary phase improving literacy and numeracy have been the main priority, primary assessment measures have been strengthened and Key Stage 2 tests have been reformed. Older pupils have welcomed knowledge-rich programmes of study, more demanding subject content at key stages 3 and 4, gold-standard qualifications at key stages 4 and 5 and more rigorous examinations than before (DfE, 2014; 2016a; 2018). Schools are responsible for

teaching their students the knowledge and skills that will prepare them for careers in the industries which will enable the UK to compete in a 'rapidly changing world' (DfE, 2018). By way of example, the most recent 1 to 9 GCSE examinations have seen pupils aim higher than in previous years where students strived to achieve the best A* grades replacing these with grade 9 to inspire better performance and expose pupils to more demanding qualifications. Top 9 grades are inviting employers and universities to identify the most gifted individuals in England and higher pass levels reflect the average performance of 16-year-olds in higher performing countries across the world (Ofqual, 2014).

However, adding pressure on pupils to improve their performance has raised concerns about the emotional health and wellbeing of young people. Research literature documents a link between high educational attainment and good mental health (Public Health England, 2014). Theresa May has pledged to support and protect vulnerable children by working with schools and young people to transform mental health services. First-aid training will be provided to teachers and staff in secondary schools across England (DfE, 2017). Schools must be proactive in protecting their students by tackling issues early and providing them with the necessary skills to build character in order to be 'well-rounded', 'confident', 'happy' and 'resilient' individuals and remain 'mentally healthy' (DfE, 2016a, p.35; 2016b, p.6). The DfE support that building resilience in students will help to improve their academic attainment, employability and ability to engage in society (DfE, 2016a).

The problem

Despite an ambitious strategy to raise educational standards in England, national statistics present an alarming image of children's mental health conditions in Great Britain. In 2004, the Survey of Mental Health of children and Young People in Great Britain revealed that one in ten children aged between 5 and 16 years had been clinically diagnosed with a psychiatric condition (Green, McGinnity, Meltzer, Ford & Goodman, 2005). For context, on average this equates to three children in a standard class-size of 30 students.

In a more recent report published by Public Health England (PHE) (2016) statistics highlighted that anxiety disorders were among the most common causes of childhood psychiatric problems occurring in 4.4% of children aged 11 to 16 years. Children who worry about events, behaviours or personal abilities from the past, present or future are believed to have Generalised Anxiety (GA) (Eysenck & Calvo, 1992). Green et al. (2005) highlight possible risk factors for developing GA include worrying about school work, exams and uncertainty about their future. Other anxiety disorders include panic disorder, obsessive-compulsive disorder and social phobias (Green et al., 2005).

Another common disorder was depression which affected approximately 67,500 young people in England. It was found to be seven times more common in secondary aged students than primary school children. Risk factors include emotional distress caused by high levels of critical self-thought. Furthermore, self-harm was more common in children with a mental illness, with one in ten children admitting that they had self-harmed. There were 149 children aged between 10 and 19 years who committed suicide in 2014. Environmental factors such as academic pressures were believed to be possible risk factors (PHE, 2016).

The DfE recognise that poor mental health and wellbeing 'undermine' academic attainment. Therefore, to raise standards and deliver 'world-class education' it is essential to take proactive measures to build students' characters and provide them with the necessary tools to cope with the inevitable stresses associated with academia (DfE, 2016b, p.19; DfE, 2018). Feelings of anxiety, high levels of critical self-thought and academic pressures are potential risk factors that many students could experience during their time at school. Therefore, to lower the risk of developing psychiatric problems, early intervention and proactive strategies are important to sufficiently equip students with the skills they need to remain in control of their mental health and wellbeing.

Resilience

PHE (2016) and the DfE (2016a) promote building resilience as an important strategy for

schools to support their students with emotional wellbeing. Resilience is a widely used term across several disciplines, however, inconsistencies in defining, operationalizing and measuring the construct are commonly recognised problems amongst researchers (Pangallo, Zibarras, Lewis & Flaxman, 2015). In a systematic review of definitions, Windle's (2011) concept analysis presents a working definition:

> 'The process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaption and "bouncing back" in the face of adversity. Across the life course, the experience of resilience will vary.' (Windle, 2011, p.152)

The resilience construct acknowledges two main themes: positive adaption in the face of adversity and a successful outcome (Garmezy, 1993; Masten, Best & Garmezy, 1990; Rutter 1999; Werner & Smith, 1992; Luthar, Cicchetti & Becker, 2000; Masten, 2001). Over the last decade, research on resilience in educational settings has increased substantially and is now receiving interest from policy makers due to its perceived potential to positively impact on students' health and wellbeing.

Academic Resilience and Academic Buoyancy

Within the context of education, academic resilience may be defined as 'the ability to thrive academically despite adverse circumstances' (Windle, 2011, p.155). Martin et al. (2008; 2009) claim that academic adversity can present itself in the form of major negative events, such as: anxiety; depression; chronic failure; truancy; and disaffection from school. On the other hand, literature suggests that academic buoyancy is an important attribute for navigating low-level or 'temporary' adverse events such as the ordinary challenges of school life (Collie, Martin, Malmberg, Hall & Ginns, 2015; Dahal, Prasas, Maag, Alsadoon & Hoe, 2017, p.3). Minor events include: poor performance; discouraging feedback; regular stress

levels; dips in confidence or motivation; or threats to self-confidence (Martin et al. 2008; 2009). It is the initial aim of the proposed systematic review to define how academic buoyancy is used and understood by other researchers. The author supports a more proactive strategy for tackling student mental health and wellbeing through exploring the academic buoyancy construct.

Research Questions

An initial non-systematic literature search presents academic buoyancy as a growing yet underdeveloped area of research. The aim of the proposed research is to conduct a detailed and unbiased systematic review to answer four key research questions on the topic of academic buoyancy:

(1) What is academic buoyancy?
(2) Can academic buoyancy change?
(3) How is academic buoyancy measured?
(4) Do academic buoyancy interventions currently exist?

To the best of the author's knowledge a systematic review of this kind has not been completed before and considers this to be the most appropriate method for summarising and evaluating existing research evidence to inform the selection or creation of the most promising academic buoyancy intervention.

Research Implications

This research aims to systematically and effectively review existing academic buoyancy research literature to provide a rationale for outlining the most promising format for an academic buoyancy intervention, if this is a malleable construct. The step-wise nature of the research questions will extend current knowledge by providing a coherent summary which accurately reflects how academic buoyancy is defined conceptually and operationally in

published academic literature. The author supports that the outcomes of this research could have further reaching implications for students, researchers, practitioners and policy makers in the education sector.

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Neurotypical interventions: A neurodiverse approach to school-based social communication support

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ESRC Funded PhD Project

Neurotypical interventions: A neurodiverse approach to school-based social communication support

Working within a neurodiversity paradigm, this project will investigate potential differences in how autistic and neurotypical (NT) children interact with each other (A-A and NT-NT), and between-groups (A-NT). It will also consider whether autistic and NT individuals perceive these social interactions differently. Interactions will be coded while children recount a social scenario story, and jointly complete a spaghetti tower task along a diffusion chain. A diffusion chain design will be used as it allows cumulative effects of transmission, which are not always apparent in dyadic settings, to be examined. Ten NT and ten autistic adults will code the interactions to see if there are differences in how they are perceived depending on the autistic diagnosis. Autistic and NT children within the interactions will also be asked about their experiences of the interaction to examine synergies and differences from alternative perspectives. The information from these studies will inform the production of a resource for use in the classroom to support the social and emotional development of autistic and NT children. This resource will help autistic children develop an understanding of NT children's thoughts and behaviours, and assist NT children in their understanding of these in autistic children.

Keywords: autism; neurodiversity; education; teaching

Background

An appreciation of others' feelings, knowledge and point of view is crucial to successful classroom-based teaching and learning. Autism spectrum disorder (hereafter 'autism' and 'autistic' as per Kenny et al., 2015) is often characterised by a difficulty in understanding such mental states in others (Pillai et al., 2014). However, recent research suggests that neurotypical (NT) individuals lack an understanding of the mental states of autistic people (Sasson et al., 2017). Such a lack of understanding has far-reaching implications for the delivery of support for autistic pupils. The planned research will investigate how autistic and non-autistic people perceive each other's thoughts and actions, with an ultimate aim to develop effective and evidence-based classroom support.

Context

It is a legal requirement that every child in the UK has access to an education. However, 17% of autistic children are excluded from their schools, 47% of whom are excluded three or more times across their time in compulsory education (Reid & Ayris, 2011). This is a worrying figure, as it has been shown that school exclusions, aside from depriving children of an education, are associated with poor levels of mental health in young people (Ford et al., 2017). Autistic children are also much more at risk of experiencing bullying than their neurotypical peers (Chen & Schwartz, 2012). Some theorists believe that autistic individuals are lacking basic social abilities that allow them to integrate within the school community, leading to disagreements and exclusions (Baron-Cohen, 2008; Bogdashina, 2005). The capacity to infer others' beliefs, emotions and intentions is referred to as a 'Theory of Mind' (ToM). Baron-Cohen (2008) described autistic individuals as having 'mind-blindness'; a lack of a ToM. However, it may be that, rather than having a simple deficit in ToM, autistic individuals have lower social motivation, leading to problems with social anxiety (Chevallier, Kohls, Troiani, Brodkin & Schultz, 2012; Dubey, Ropar & Hamilton, 2017). Furthermore, counter to the deficit model of autism, autistic individuals have shown strengths in increased divergent thinking for creative purposes (Liu, Shih & Ma, 2011), and spatial abstract reasoning (Stevenson & Gernsbacher 2017).

There is a growing opinion in the scientific and business communities that autism is 'just a different way of thinking', and has many positive implications (Wille & Sajous-Brady, 2018). The author's planned research will build on this concept by testing it experimentally, and addressing the potential misconception that autistic children are 'mind-blind', and instead perceive situations differently and have different social priorities to their neurotypical (NT) peers. The findings will be used to develop classroom support resources to improve the social and emotional development of autistic and NT children. The author hopes to produce a clear guide to neurodiversity in the classroom, such as that provided by Wille and Sajous-Brady (2018), who present a succinct and clear approach to encouraging neurodiversity in the workplace, suggesting clear solutions to barriers often faced by autistic individuals; this shows that neurodiversity is catching on across sectors as people embrace the idea that different ways of thinking can be beneficial.

The author also aims to establish whether children who are NT require support developing a 'theory of autistic minds' (or autistic theory of mind, ATOM) in order to create inclusive, neurodiverse classrooms. Sasson et al. (2017) found that NT individuals show reluctance in engaging in social interactions with autistic peers. This can lead to negative effects for autistic individuals as they have fewer opportunities to create relationships and develop their social skills. Sasson et al. (2017, p.8) recommended creating interventions and education-based approaches that targeted both autistic pupils as well as their typically developing peers as this would *"offer a more comprehensive approach for improving social and functional outcomes in autism"*.

The research will work under the paradigm of neurodiversity with the aim of helping autistic children to have a better school experience, through providing tools to help them understand other people's feelings and behaviour, and vice versa.

Methods

Ethical approval will be obtained from Durham University's School of Education Ethics Committee and informed consent will be collected from all participants and their parent or guardian (for under 18s).

Study one will investigate whether and, if so, how autistic and NT children describe a social scenario differently to a peer. Social scenario stories heavy in mental state narrative will be presented to autistic and NT children. Using a diffusion-chain technique, an initial child would be told a story by a researcher, the child would then repeat the story to another child, and this would be repeated down a chain of six participants. This procedure would be repeated with autistic (A-A-A), non-autistic (NT-NT-NT) and mixed chains (A-NT-A-NT), and for two different stories where the protagonist is autistic or NT. The author will recruit four groups of six children for each condition, therefore N=72 (A=36 and NT=36). Due to the difficulty in recruiting an autistic sample, autistic children (aged 8-12 years) will be recruited first, then an equal number of NT children will be recruited (matched by age).

Diffusion chains accumulate effects, therefore there may be interaction styles seen with this method that are too subtle to be seen in one-to-one settings. These interactions will be videoed and the resulting narratives coded, e.g., mental state terms used, structure and coherence, as well as the

interaction styles, both between pairs of children in the chain and across the chains. The narratives and interaction styles for autistic and NT children will then be compared, as a whole and also when describing an autistic or NT protagonist's behaviour. This will establish whether autistic or NT children differ in their style of interaction and information transmitted based on their own characteristics and the characteristics of their partner and the story protagonist; and if they do differ, how they differ.

A second empirical study will look at a non-verbal collaborative task - spaghetti-tower building (Caldwell and Millan 2008) - to establish if similar dynamics of interaction across autistic, NT and mixed pairs occur within other domains (a novel, construction task that is not out of place in a primary school classroom). Pairs of children within the diffusion chains (NT-A, A-A and NT-NT, as in the previous study) will be asked to build a tower as tall as they can using dry spaghetti and play dough. The interactions will be coded in terms of the interaction styles and height of the towers. Again, this between-group trend-test analysis along with the changes will establish whether autistic and NT children differ in their style of interaction and task success based on their own characteristics and the characteristics of their partner and, if so, how they differ.

The videoed interactions in S1 and S2 will be coded by ten autistic and ten NT adult coders to gain an understanding of how a researcher's coding might be affected by their neurotypicality. The coders will be 'blind' to whether the children are NT or autistic and will be asked to code the interactions for, among many factors, their perceptions of fluidity, coherence, enjoyability, success and the participants' empathy, and engagement. This will allow the development of an understanding of the perceptions of NT and autistic people about interactions of NT and autistic people, rather than relying on the coding of only NT coders.

A design process will take place for the third study, to translate the results of S1, S2, and S3 into a tool to be used to help autistic children develop their theory of the non-autistic mind, and NT children develop a theory of autistic minds (ATOM). Data will be collected via three workshops in which the results from S1, S2, and S3 will be presented to professionals, researchers, and autistic and NT students. These groups will then be encouraged to reflect on the data in the light of their

experiences to establish suitable interventions to improve the interactions of NT and autistic children in classroom interactions.

The final study will evaluate acceptability, feasibility and potential efficacy of the design from study three by running it in classrooms with autistic and non-autistic pupils so as to gauge its usefulness and practicality. The study will be conducted in small groups (n=<8) as well as whole class environments (n=30). Pre- and post-intervention data regarding ToM/ATOM skills and peer dynamics will be collected through ethnographic methods including observations and diaries completed by the researcher and the class teachers. This will allow the researcher to judge the effectiveness of the intervention, as well as record how the tool is being used.

The project's plans are quite ambitious and have some risks regarding potential unmet recruitment goals of autistic individuals, however, the author has mitigated against these. The difficult recruitment goals are achievable with support from the author's supervisory team, who have excellent connections in the autistic community.

Impact

This study will provide evidence directly applicable to the neurodiversity movement and the social model of disability (Woods, 2017). It is hoped that in future, easily accessible and clearly stated pieces like Wille and Sajous-Brady's (2018) advice on embracing neurodiversity in the workplace, will be available to schools in a relevant educational format. The findings from this project will be disseminated through research papers in high quality journals. In addition, there will be a final resource aimed to improve social and emotional development in NT and autistic children; this will be shared freely online through national and international networks.

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Acts of Willpower. Developing Cosmopolitan Citizenship Through Student Engagement in Course Design

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Acts of Willpower. Developing Cosmopolitan Citizenship Through Student Engagement in Course Design

This paper presents some preliminary outcomes of a student engagement experience undertaken at an undergraduate college in the Netherlands. Six students and an alumna participated in a teacher-student partnership with the researcher to co-design a new course in critical intercultural communication. The teacher-student partnership was envisioned as a laboratory of democracy, aimed at offering students a site where the institutional educational objectives concerning global citizenship were examined by those to which they apply. Experimenting with democratic processes of co-creating learning environment and knowledge that matter to students is seen as a form of active community engagement. Preliminary analysis of the qualitative data collected show that engaging with theories of global citizenship in a setting of democratic pedagogy impacts on students' perception of themselves as global citizens and as learners. In both cases, whilst challenging, student seemed to adopt a more active role.

Keywords: student-engagement; teacher-student partnership; global citizenship; intercultural education

Introduction

Our educational systems and schools need to prepare young people to become active, participative and responsible individuals: the complex, multicultural and rapidly evolving societies we live in cannot do with less (Council of Europe, 2018a, p. 7).

The educational philosophy of the institution where I teach resonates with this statement: the college aims at developing values and attitudes essential for contemporary democratic societies, such as respect for others, self-reflection, aiming for the common good, active participation as a citizen, and international understanding, thus preparing graduates to take social responsibility and be committed to any community in which they may come to operate. This aim is however not supported by

specific curricular and pedagogic strategies and actions. The acquisition of intercultural competence is seen as deriving from the fact that students live and study in our multicultural campus and learning about global issues and perspectives in class. Relying on informal acquisition of values and attitudes for democratic citizenship is, according to Barrett, Byram, Lázár, Momport-Gaillard, and Philippou (2013), not sufficient:

> Intercultural competence may not be acquired spontaneously by individuals, and it may not be acquired simply through exposure to and encounters with people with other cultural affiliations. However, intercultural competence can be enhanced through a range of intercultural experiences …. [and] through intercultural education and training (p. 13).

In general, I am interested in exploring pedagogy that enables students to meet our institutional learning outcomes, hence I engaged in a research process that would enable me to be innovative in my teaching practices in order to offer students an experience of intercultural education. What sparked the idea for the pedagogic action that I designed and carried out is my interest in how students perceive the link between being/becoming global citizens and participating and contributing to (a democratic) society. I asked myself the following questions: do the learning outcomes we formulated resonate with them? Can we enhance their development of global citizenship by taking their ideas and needs into account? How can I shape my teaching practices to support such development?

Framing my pedagogic intervention

While there seems to be an unequivocal consensus in educational settings on the importance of education for citizenship, the field itself is extremely broad, and the literature offers a plethora of models listing competences, skills and knowledge which need to be acquired by individuals "if they are to become effective participatory citizens and live peacefully together with others as equals in culturally diverse societies"

(Council of Europe, 2016, p. 15). For example, the CoE has developed a conceptual model of twenty competences for democratic culture:

> which enable citizens to participate effectively in a culture of democracy … [where] institutions and laws cannot work in practice unless they are grounded in a culture of democracy, that is, in democratic values, attitudes and practices (Council of Europe, 2016, p. 15).

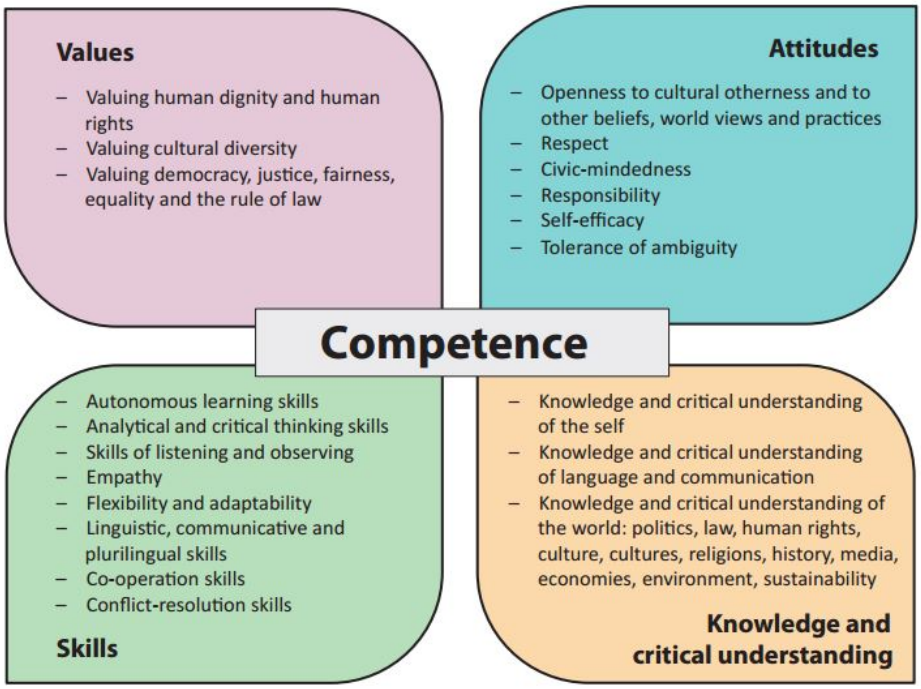

Figure 1. Model of competences for democratic culture (CDC) – from: *Competences for Democratic Culture. Living together as equals in culturally diverse democratic societies* by Council of Europe, 2016, Strasbourg: Council of Europe Publishing. ©Council of Europe 2016. Reprinted with permission

Educators wishing to apply CDC in their teaching are recommended to foster democratic processes in the classroom, which create conditions for learners to experience democratic processes first-hand. This can empower "learners and stimulate them to use these competences in the classroom, in the school and in society" (Council

of Europe, 2018b, p. 31). This means adopting pedagogies that fosters democracy and equality in the classroom through dialogue and engagement; by involving students in co-creating knowledge and learning, and by creating an inclusive community of teaching and learning where teachers also are willing to learn from students.

One way of fostering student engagement is through *faculty-student partnerships*, which is "a collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same way, to curricular or pedagogical conceptualization, decision making, implementation, investigation or analysis" (Cook-Sather, Bovill, & Felten, 2014, p. 6). Among the benefits of student engagement for both students and staff there are enhanced teaching and learning practices, together with the feeling, for students, of being heard and being able to make a valuable contribution to the teaching and learning environment. Partnership work usually challenges and changes the power-dynamics between teacher and students (Bovill, 2013), which is often seen a major challenge, not only for teachers who may fear the letting go of some of the 'power' that their role entails, but also for students, who may not be up to the amount of responsibility that they are charged with. Other challenges can be time investment and the fear of not having enough experiences and skills (Bovill, Cook-Sather, & Felten, 2011).

Engaging in a faculty-student partnership could potentially realize what Michael Fielding, in his typology of six patters of partnership, each of which entailing a different power relation, has termed *intergenerational learning for lived democracy*. It is the most comprehensive of the six, and it emphasizes "a joint commitment to the common good, and … include[s] occasions and opportunities for an equal sharing of power and responsibility" (Fielding, 2011, p. 72). The research design described below was a response to these considerations and personal interests.

The research design

By employing qualitative modes of enquiry, I attempt to illuminate to what extent the learning and lived experiences that took place in the partnership could make a difference in terms of the students' capabilities enhancement, agency and identity development. The central research question and the sub-questions which I formulated are outlined in table 1.

CENTRAL QUESTION			
In what ways can students' engagement in a teacher-student partnership with the aim of co-designing a course focusing on intercultural communication for cosmopolitan citizenship be seen to contribute to the formation of learners' cosmopolitan and learning identities, which affect their capabilities to live and act in the world as cosmopolitan citizens?			
SUBQUESTION 1	**SUBQUESTION 2**	**SUBQUESTION 3**	**SUBQUESTION 4**
How and to what extent does the engagement with existing materials and the development of new course materials and content impact students' perceptions and understanding of global citizenship?	Is there evidence of change in perceptions, understandings or acting that according to the students occurred because of engaging in the co-design partnership?	Is there evidence that valued *capabilities* are being developed because of student engagement in the teacher-student partnership? If there is evidence, how is this manifested in terms of *functionings*? How can such capabilities development be further supported?	Is there evidence of a shift in my conceptualization of the relationship between students and teacher?

Table 1 – Central research question and sub-questions

The partnership was organized at an international undergraduate liberal arts & science program in the Netherlands between March and June 2017. Participants were recruited through an open call to give all students the opportunity to participate. They applied using a form where they stated background, motivation for engaging in the partnership, and expected personal contribution and challenges. At the end, the

partnership consisted of six students (three males and three females, either in their second or their final year), an alumna who was my paid teaching assistant, and me. It was run as an assessed internship, in which students were required to actively participate as well as write a short reflective journal.

We had nine 4-hour long weekly sessions. In the final session we evaluated the process and the outcome of our work (the outline of the new course). The first four sessions were mainly conceptual: students needed to dive into fields unfamiliar to them, and we discussed terms and concepts we would be using. We first compared the vision of our college about educating for global citizenship with programs in other universities and international organizations, and with the literature in the field. We then created our own working definition of global citizenship, from which to derive the intended learning outcome for a course in intercultural communication that would fit into the college's curriculum.

Moving from conceptual work to pedagogical practice proved to be difficult, so activities were carried out to understand principles of constructive alignment, which is the relationship between learning outcomes, learning activities and assessment tasks (Manchester Metropolitan University, 2018). Being able to understand and apply these principles to the emerging course framework became a real turning-point in the experience of students because from this moment on, they felt confident that we would be able to translate conceptual work into pedagogy for the new course. In the final session, we wrote a draft course outline to be presented to the stakeholders for approval, and we evaluated the partnership experience together. Students also submitted written reflective essays on their individual experience, as was required for the internship.

Data collection and analysis

The collected data set consists of application forms, reflective journals of the

participants (RJ), my field notes, an interview with a teacher and two focus group conversations. These are my core data items, as they represent thoughts or reflections of the participants. Other data account more for the process, such as minutes of meetings or the various versions of the course outline which show how our thinking was progressing towards the end-product. These data sets play a supporting role.

The core data will be analysed using Thematic Analysis (TA), which is a method for identifying, analysing and reporting patterns (themes) within data, described by Braun and Clarke (2006). To find evidence of change, my coding should capture ideas, thoughts and feelings before, during and after the partnership. The first of the six phases of TA, the familiarization phase was already applied to three subsets of the data: the application forms, the focus groups and the reflective journals. Table 2 shows some preliminary themes that have been identified.

Preliminary findings

Challenges identified by students	**Learnings for students: new perspective on own role as global citizens**	**Learnings for students: new perspective on own role as learners**
Lack of structure, or better, of the structure they expected	The importance of involvement in community, and acting on your responsibilities	Knowledge of what happens beneath the surface of a course": this is empowering
Gap between my knowledge as an expert, and their merely intuitive knowledge of IC and GC	Realization that you can affect the lives of others	Critical skills, useful for both students' roles as citizens and as learners
Limited time available for students to get a solid understanding of a complex field	Seeing citizenship not as an on-off switch, but rather as a lifelong endeavour and process	Being an active participant, rather than passive
Challenging and changing the roles and power-dynamics		

Table 2. Preliminary findings from data subset after the familiarization phase

Shifting power relations

The challenges identified reflect those described in literature about partnership (Bovill, 2014; Bovill & Felten, 2016; Cook-Sather et al., 2014). In particular, the knowledge gap between the students and me, however inevitable, hampered changing the power relations. Vicky (third year) wrote that this gap:

> *made it difficult to really feel that I as a student was on the same level as the teacher, it sometimes felt like it was not my place to give feedback or to voice my opinion on something* (RJ).

Nonetheless, after what we called the alignment exercise, students felt empowered and confident in contributing. Sem (second year), wrote:

> *I have always felt inferior to teachers, but now I feel, perhaps disagreeably, as an equal. Not … in knowledge, but an equal in importance and power. I feel more appreciated in my academic life* (RJ).

Mary (third year) appreciated:

> *most about the partnership-structure … the fact that it facilitated an environment where ideas, opinions, needs and experiences were easily shared and were of worth to the designing process* (RJ).

These reflections seem to indicate that intergenerational learning for lived democracy was realized to some degrees.

Students' role as learners and as citizens

Students reflected on having developed new perspectives about their role as learners and having become more active participants:

> *the internship has given me new insights on how teaching is a two-way street. It has shown me that I am the boss of my own education and that I am partly responsible for its quality* (Sem, RJ).

On the other hand, gaining new perspectives on one's role as a global citizen, as this touches on personal values and norms, didn't come easily. There is however evidence that when such a shift occurred, students took a more active role in society. Andy (second year) has noticed himself becoming:

> *more engaged in society and having more of a will to be the 'ideal global citizen' as it were* (RJ).

Mary reflected that:

> *Challenging oneself to be critical about your own thoughts and opinions is a tough thing to do; it requires willpower. Similarly, challenging other people's views is not easy. To have seen this stressed during the meetings, however, I believe might encourage me to keep doing so in the future* (RJ).

Both students thus show a commitment to engage and act, to move from awareness to praxis outside of their educational setting, where they could practice with democratic engagement.

Conclusion

This paper describes the design, implementation and preliminary outcomes of a teacher-student partnership created between the researcher and undergraduate students to co-create a course in critical intercultural communication. The aim was to engage students in a form of democratic community engagement to develop critical global citizenship and to foster intergenerational learning for lived democracy. The findings discussed here are very preliminary: they have been identified while familiarizing with three data subsets (application forms, evaluation focus groups and reflective journals).

Nonetheless, they suggest that engaging students in a teacher-student partnership for

curriculum co-design can contribute to the formation of learners' cosmopolitan and learning identities, thus affecting their capabilities to live and act in the world as cosmopolitan citizens. The challenges identified can lead to formulating recommendations for teachers considering implementing partnership-based pedagogy.

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Engaging the Poet: Exploring poetry through creativity and criticality in English secondary education

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Engaging the Poet: Exploring poetry through creativity and criticality in English secondary education

Poetry, once seen as the only form of creativity, is a valuable part of the English lesson, yet the way in which it is taught is often criticised due to the pedestrian way of unpicking the poem, rather than looking at it as a vehicle for expressing creative and critical thought. Poetry is open to interpretation and reinterpretation, and therefore lends itself well to being read in a variety of contexts. Furthermore, by looking at a poem from various angles new meanings can be discovered, offering more depth and purpose to poetry reading and analysing. By looking at how creativity and criticality can be defined and how these concepts relate to poetry, the aim is to explore how poetry can be used as a tool for inviting dialogue in the classroom. Moreover, it explores how a dialogic way of learning poetry invites looking beyond what is already known.

Key words: creativity; criticality; poetry; dialogue; interpreting

Introduction

Society continues to change, often due to technological growth or political shifts. For children to constantly adapt there is a need for an education that includes creativity and criticality, so that children are able to bounce 'forward', into the future, and to be open minded and critical of what is to come. Creativity, in this sense, is everything we do (Kress, 2012). A constant flow of thoughts needs direction. By controlling the creative thoughts for purpose and structuring them, it leads to criticality: the ability to give meaning to our creative thoughts (Freire, 2005). Introducing these concepts within poetry lessons in secondary schools aims to allow for learners to become active participants, as they review their own, their peers' and historically accepted ideas of what a poem might mean. This opposes the current notion of passive learning in poetry lessons, in which the learner is the rhetor (receiver), rather than the sender of information (Kress, 2012). In an active and participatory learning environment, the learner links poetry to the present and is invited to find how a poem is relevant to them and the world around them. Thus, learners become critical in their thoughts, and allow themselves to interpret and re-interpret their place in and with the world. Poetry can be read in a

variety of contexts, and in doing so, it allows for constant re-interpretation, which benefits creative and critical learning.

From creativity to criticality

Creativity and criticality can be defined in many ways, and thus, it is important to establish what they mean in the context of education, with particular focus on poetry learning. Creativity can be defined as everything we do, if it involves making meaning in one way or another. Gunther Kress (2012, p. 6) defines it as follows:

‘Every drawing, any representational form, every sign made, is new, an innovation; its making is ‘creative’.

Newton (2012) has a similar notion of creativity: a concept that includes something new, whether it is something new to the self or to the world. Newton (2012) gives the example that creativity can be a concept as big as the creation of a new word, but it also includes creativity on a smaller scale, such as different or ‘new’ uses of existing words (p. 8). It can then be argued that creativity is more than something novel to the world; it is the making of something novel to the self and those around us. To gain meaning from creativity an extra component is necessary. Most thoughts have little significance to daily life; it is the thoughts that have purpose that seem to stick around and become structured. When thoughts gain structure they start to be understood. Structuring thoughts often benefits from dialogue, as this supports the meaning making process (Kress, 2012; Freire, 2005(1974)). This structuring of our thoughts can be defined as the beginning of criticality.

Criticality engages the learner in a deeper understanding of the creative thoughts that appear on the surface. It leads us to controlling the quality of the ongoing flow of creative thoughts (Newton, 2012; Newton, 2013). Poetry lends itself well to this thought flow. However, in secondary schools, poetry is often analysed in set ways, as there is little time for exploring poetry for personal growth (Dymoke, 2010). Learning through dialogue provides space for seeing a poem with and within the bigger picture, whether it is relevant to historical events, to the present or to the future. Poetry ultimately plays with emotions through words. Language techniques, such as imagery, similes and

metaphors, often come in to play as they add to the visualisation of ideas and allow for poetry to be read in different contexts. Based on individual experiences, each person will have a slightly different understanding of poems, depending on the context we read it in and life experiences. These ideas can be shared through verbal or written dialogue to appreciate the various ways poetry can be analysed. Dialogue invites the learner to question multiple meanings, which is arguably one of the most valuable components of criticality as it allows for this deeper understanding.

Communicating poetry

When learners begin to read a poem, it might be more liberating for the learner to make their own meaning of a poem before being guided by existing analyses. These analyses will help the learners build on what they feel and help strengthen their arguments and deepen the learners' understanding of poetry. However, often learners want there to be a correct outcome to see whether their thoughts are right or wrong. Lambirth (2014) argues that poetry cannot be read to seek one correct outcome, as poetry is there for pleasure and is open to an infinite number of interpretations (p. 45). This leads to the poem being 'the only medium that can communicate' the entire meaning that is sought (Lambirth, 2014, p. 44). Furthermore, the poem can be interpreted as all the ideas that a poem represents to an individual or a group. If the poem is the primary communicated medium, this offers a way to promote the pleasure of reading, rather than reading to 'unpick' the poem (Steele, 2014; McGuinn, 2014). There is no longer a correct and incorrect answer, it is about how the poems and individual meanings are communicated.

There are lifelong benefits associated with creativity and criticality as it allows people to adapt in a constantly changing world. Creativity and criticality are therefore two of the most valuable assets to education, yet less room is given to their development in learners (Giroux, 2011; Kress, 2013)**.** In a society where a lot depends on numbers and measurements, it is becoming increasingly difficult for schools, teachers and learners to include creativity and criticality as a constant flow in their lessons (Stevens, 2010). Nevertheless, poetry supports the understanding of the value of language as an art and as a form of communication. Poetry enables learners to see language in a

creative and open-ended way. In this sense, Poetry allows for a way into seeking a balance between measurable outcomes, creativity and criticality.

Reading poetry in context

Many teachers will include dialogue as it is easier for students to learn with ideas bouncing off each other and to create a deeper understanding of what a poem may mean. Nevertheless, students are still very much steered towards what they need to know for the exam, rather than for their own personal growth (Steele, 2014). The issue with looking at poetry from a perspective where the meanings are set, is that poetry is not necessarily made relevant to the learner. If there is little to no relevance, there is no direct purpose in learning a poem because there is existing knowledge on the meanings of that poem. The learners do not feel like they are adding anything, and therefore are likely to disengage. A change in teaching and learning poetry to gain relevance would be a way to stimulate poetry in English secondary schools. There are a number of ways to look at poetry, so it can still be seen in contexts, rather than just from the personal perspective of the learner, some of which could be:

- Historical context
- Political context
- Religious context
- Social context
- Cultural context
- Gender context
- Emotional context

Most poetry can be read in all these contexts, and thus, the meaning of the poem will be different each time. It is up to the teacher to guide the learner in different directions of ways of seeing the poem. Stevens (2010), makes mention of a number of these contexts, and argues that looking at literary texts in different contexts ‘celebrates diversity’ (39). Stevens (2010) continues to argue that, although reading a text in a variety of ways can be demanding, the text becomes more exciting to the

reader when it becomes apparent that there is more than one way of reading it. This implies that within the limits of what the learner knows, there are 'multiple ways of seeing' (Hatch & Yannow, 2008).

A case study design

To look further into how poetry is taught in classrooms, and to see how learners respond to a variety of poetry activities, an exploratory case study will be conducted at a variety of schools, with a particular focus on the GCSE years (9-11), as there is a greater focus on the exam. Although the assumption is that there is little to no time for exploring poetry in different contexts, it might well be that individual cases are engaging in such activities. By looking at the learners' experiences with poetry from different angles, it is the aim to explore how learners engage with poetry through dialogue. By inviting learners to fill in surveys on their opinion of poetry lessons and their understanding of creativity and criticality, it is the aim to see how these learners experience poetry lessons. Additionally, observations will be done to see how groups of learners engage with poetry. To understand in more depth how the students perceive and understand the value of poetry teaching and learning, focus group interviews will be held. This will be done over a two-year period, to grasp an understanding of how the learners' perceptions might change as they get closer to their exams. It will be fascinating to see whether these students' opinions and the observations are in line with existing research on whether and how creativity and criticality happen in the classroom.

Conclusion

When students are enabled to see beyond the set analyses of poems and beyond their own experience, they are becoming more creative and critical in their thinking. Dialogue can be used as a tool to achieve this, as dialogue allows for creativity through language and for using language as a vehicle for understanding. Creativity and criticality are vital concepts in all aspects of education, as they allow the learner to become engaged and open minded. Poetry reading and writing helps stimulate the

ability to discuss various interpretations through language play. Furthermore, through language play learners can learn from each other and will understand more deeply those with, and around, them. Poetry, as an art, lends itself well to looking at various interpretations and to re-interpreting texts based on different contexts. Sharing these interpretations through dialogue (either verbal or written) aims to lead to innovative critical analyses of poetry. Consequently, by guiding the learners in reading poems in a variety of contexts, poetry becomes relevant to learners as they begin to see themselves not only in, but with, the world around them (Freire, 2005). It will be intriguing to explore how poetry learning is perceived in the secondary school classroom.

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A theory-driven thesis: Utilising theory-driven evaluation to guide the conduct and content of a PhD thesis examining peer-led Sex and Relationships Education

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A theory-driven thesis: Utilising theory-driven evaluation to guide the conduct and content of a PhD thesis examining peer-led Sex and Relationships Education

The following article discusses the content and conduct of a PhD thesis exploring the utilisation of peer education to deliver Sex and Relationships Education (SRE) to adolescents in the United Kingdom. Evaluative literature currently suffers from a lack of theorisation and an absence of mechanistic investigation. In attempting to address this limitation, the PhD evolved from one study into a series of five separate studies. It is hoped that by drawing findings together from separate studies, the work as a whole will form a more complete, cohesive and comprehensive understanding of peer-led SRE. The purpose of this article is to describe how undertaking Theory-Driven Evaluation facilitated the evolution of the PhD from one proposed study to five; present an argument as to why this was the best approach to conduct the PhD study; and to outline the strengths and limitations of employing such an approach to compile the PhD thesis.

Keywords: evaluation; theory-driven evaluation; sex education; peer education

Researching peer-led SRE

One of the most popular justifications for the utilisation of young people as peer educators in Sex and Relationships Education (SRE) is the 'open communication' (Milburn, 1995) between peer educators and students. This is thought to imbue participants with 'the confidence to actively participate in discussion and to ask sensitive and intimate questions' (Fletcher, Hurst, Bolzern, & Schulkind, 2015, p.96); leading to improved knowledge and behaviour.

Discovering a theory-practice inconsistency

Despite such claims, there is limited and uneven evidence of effectiveness for peer-led SRE (Harden, Oakley, & Weston, 1999; Milburn, 1995; Stephenson et al., 2004; Stephenson et al., 2008; Tolli & Tolli, 2012) and no research investigating communicative mechanisms. Communication claims should be assessed as 'detailed analysis of social interactions between young people engaged in peer education is lacking' (Price & Knibbs, 2009, 298). This is an example of a 'theory-practice inconsistency' (Smith, 2006). There are a number of potential explanations as to why communication claims have not yet been subject to investigation (Dobson, 2016). The following article will postulate that existent evaluative literature has deterred mechanistic evaluation and proposes theory-driven evaluation as a solution to address this.

Divisive design dichotomies

Peer education research can be located in one of two academic 'camps'. Typically this is framed using language such as valuing outcomes or process (quantitative or qualitative data), effectiveness of intervention or experience of participants (positivist or constructivist). Whilst some believe that the 'paradigm wars' have abated (Arnd-Caddigan & Pozzuto, 2006), the debate is still driven by stereotypes on both sides (Gould,

2004) and appears unescapable (Maudsley, 2011). It is reminiscent of quizzes featured in *Cosmopolitan* magazine: 'Do you like numbers? If yes, go to Box 1. You are a Positivist and can only conduct outcome evaluation focussed on effectiveness'. 'If you answered no, do you like words? If yes, go to Box 2. You are a Constructivist and can only conduct process evaluation focussed on participant experience'.

This is obviously a gross simplification and caricature, but it is surprising how often peer education research positions itself in this manner. Such an approach to research is damaging. It suggests that researchers have to choose a side and collect quantitative outcome or qualitative process data based on whether they value experimental effects or participant experience. It is also a fallacy; a variety of methods and perspectives can be combined to answer research questions. Finally, it limits evidence to an 'end product'. In the case of peer education, where there is mixed evidence of effectiveness, researchers need to consider the theory at the beginning and mechanisms in the middle of an intervention, to better understand outcomes at the end.

Evaluating peer-led SRE

Evaluation of peer-led SRE has sought to establish intervention effectiveness or examine participant experience. Both goals are important, but solely focussing on these products leaves unresolved questions regarding the mechanisms at work in interventions.

Establishing effectiveness through outcome evaluation

A review of UK-based literature identified effectiveness as being assessed through either RCT or pre/post-test design. Rarely do these provide information such as where the intervention might work, for whom and under what conditions (Wrigley, 2018). Instead they aim for generalisability across large populations. This is not to dismiss RCTs. They provide the strongest evidence of causal effect (Bonell, Fletcher, Morton, Lorenc, &

Moore, 2012), but this knowledge is limited without understanding how an intervention produces its effects. 'Emphasis on measuring outcomes throws little light on the processes of learning' (Turner & Shepherd, 1999, 243). Consequently, these designs as they are currently utilised in peer education research, don't reveal which mechanisms are at work and whether these work as hypothesised.

Exploring experience through process evaluation

Most UK-based studies of peer-led SRE are process evaluations. The majority use the retrospective accounts of students, teachers and peer educators to establish acceptability or discuss technical aspects of provision such as peer educator selection and training (Forrest, Strange, & Oakley, 2002; Strange, Forrest, Oakley, & RIPPLE Study Team., 2002; Tripp, Dixon, Rees, & Kay, 2002). These are presented as evidence of effectiveness. Evaluations are typically case studies, rarely including a comparative element. Without an equivalent comparator, they cannot provide a definitive answer as to whether peer-led approaches increase enjoyment, comfort or communication in SRE compared to alternative provision (Mellanby, Rees, & Tripp, 2000), although many claim to do so.

The importance of investigating mechanisms

Current evaluative focus sheds little light on which mechanisms specifically influence intervention effectiveness or acceptability and how they do this. The practice of evaluating effects, rather than *how* effects are produced, is referred to as 'black box' evaluation. 'Much of the existing literature on peer education closely aligns with the black box approach' (Southgate & Aggleton, 2017, p.6). It rarely examines what peer educators do, or how their activities are experienced and interpreted by participants. There is nothing wrong with black box approaches to evaluation if the evaluation aim is to judge

effectiveness. Difficulties arise when products from the black box are inconsistent. Consequently, when studies of peer-led SRE are 'contradictory' (Borgia, Marinacci, Schifano, & Perucci, 2005, 514), existing research evidence doesn't suggest which factors may be responsible for this (Cornish & Campbell, 2009).

Compiling a theory-driven thesis

In the context of peer-led SRE, evaluative literature is problematic for two reasons: firstly, it does not evaluate theory. 'If a program is based on a faulty theory it will not bring about the desired change' (Astbury & Leeuw, 2010, 364). Secondly, it does not investigate mechanisms. Instead 'emphasis on measuring outcomes has led to a diminished focus on the educative processes and practices associated with peer education' (Southgate & Aggleton, 2017, 5). The original aim of the thesis was to compare different educators' communicative styles in SRE classrooms. Upon reviewing the literature however, it became clear that studies to identify and refine programme mechanisms needed to be undertaken before an experiment could be conducted.

Theory-driven evaluation

Research aims were influenced by theory-driven evaluation (TDE). The purpose of TDE is to assess the robustness of a programme's underlying assumptions (Astbury & Leeuw, 2010), focusing on intervention implementation, effectiveness, and causal mechanisms and contextual factors that facilitate or inhibit change (Chen, 1990).

TDE is recommended when:

> 'RCTs have produced inconsistent estimates of efficacy and there is no consensus on when, how and with whom to use these interventions… or when the existing research on a particular intervention is made up of mainly disparate studies and grey

> literature which do not lend themselves to statistical analysis but provide a rich source of qualitative data'
>
> (Wong, Greenhalgh, Westhorp, & Pawson, 2012, 94).

These are precisely the problems identified with the existing evidence base for peer-led SRE, making TDE a useful framework to guide the PhD study.

TDE is a general term used to describe any approach that is focussed on theory development and/or examination. As such, it can refer to an array of different evaluative approaches (Donaldson & Lipsey, 2006), the most popular being 'Theories of Change' (Weiss, 1995) and 'Realist Evaluation' (Pawson & Tilley, 1997). 'Theory-driven evaluation' was used to describe the thesis as it mixed both Theories of Change and Realist Evaluation. This balanced broad strategic learning from Theories of Change and more specific investigation through Realist Evaluation (Blamey & Mackenzie, 2007).

Thesis aim

Assumptions about open communication in the context of peer-led SRE have not been clearly articulated or evaluated. Existent literature presents some vague hypotheses about how open communication increases effectiveness; but a clear, consensual vision of this process is lacking. There is a need to develop the programme theory and mechanisms of peer-led SRE. These can be synthesised into a consistent theoretical format, producing testable hypotheses to be investigated via experimentation.

Consequently, the overarching aim of the thesis was to identify mechanisms underlying peer-led SRE to help specify and refine programme theory (Chen, 1990) to be empirically tested.

Thesis structure

Following a TDE approach, the thesis was divided into two distinct phases:

(1) Phase One: located in an inductive theoretical drive, Studies I and II examine theoretical and empirical literature. Study III explores the individual and collective practices and experiences of peer educators, practitioners and other stakeholders involved in peer-led SRE to identify programme mechanisms. Findings from these studies thereby develop a more specified and refined programme theory.

(2) Phase Two: located in a deductive theoretical drive, Studies IV and V focus on observing the presence of, and measuring changes arising from, programme mechanisms and testing these against programme effects as suggested by programme theory.

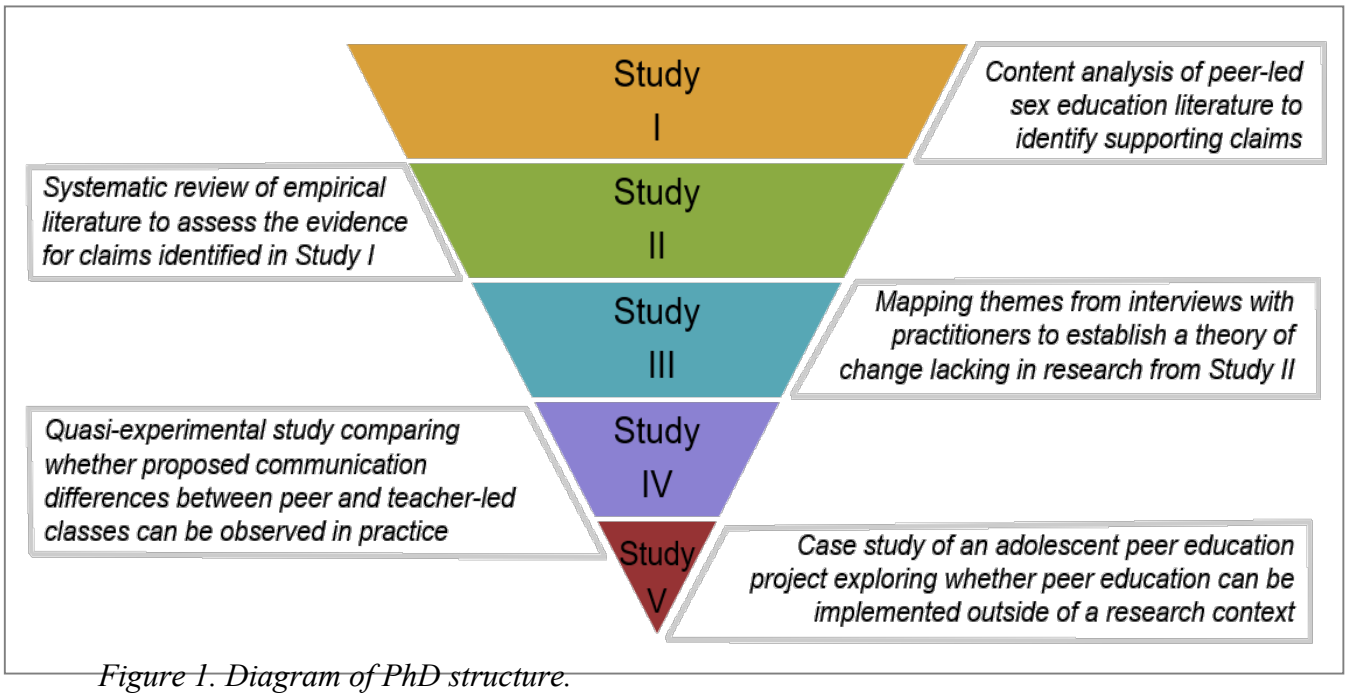

Figure 1. Diagram of PhD structure.

This structure, as depicted in Figure 1, facilitated a cumulative approach to knowledge generation and represented a retroductive narrowing of focus as the thesis progressed.

Assessing the appropriateness of a theory-driven thesis

Strengths

Adopting a TDE approach focused evaluation design by identifying research questions to test whether the proposed theory and its associated mechanisms worked as intended in practice. It also encouraged the conduct of research in different ways, as the choice of method was dictated by the research question (McEvoy & Richards, 2006). Utilising mixed methods helped to create a bridge between 'diverse perspectives on the phenomena being studied, so as to deepen, rather than simply broaden or triangulate the understanding gained' (Maxwell & Mittapalli, 2011, 147).

The approach also required a 'more intensive relationship between evaluators and key stakeholders' (Blamey & Mackenzie, 2007, 451) to uncover programme theory and the practicalities of programme delivery. Practitioner insights can be lost in research (Gough, 2004), thus it was beneficial to include their views in the research process. This may foster a sense of ownership amongst practitioners, thereby increasing engagement with research findings.

Limitations

There are no accepted quality criteria for TDE (Marchal, van Belle, van Olmen, Hoerée, & Kegels, 2012). This lack of methodological guidance is identified as a limitation when undertaking theory-driven evaluation (Rycroft-Malone, Fontenla, Bick, & Seers, 2010). This can also be a strength of the approach as its lack of prescription allows the researcher to be methodologically flexible. Despite a lack of guidance, core texts recommend evaluators start by scrutinising existing theory. A major challenge therefore is a lack of relevant theory (Chen & Rossi, 1989). This was an issue for the current thesis, but encouraged the researcher to seek out a range of literature to systematically search for

and identify programme theory, leading to a thorough understanding of the research and evidence-base.

This was a long, time-consuming process however and is an example of the most common critique of theory-driven evaluation; that it is resource and time intensive (Blamey & Mackenzie, 2007; Mackenzie & Blamey, 2005; Pedersen & Rieper, 2008).

> 'Program theory in many fields is at a low stage of development… theories that evaluations are likely to be testing are low-level approximations, riddled with inaccuracies and false paths. To discover their flaws and painstakingly revise and improve them will take multiple iterations. This is an arduous way to generate generalizable knowledge'
> (Weiss, 1998, 69).

Whilst this is a necessary caution, these efforts are more ethical than wasting funds researching or implementing interventions based on faulty or disproven theories. Considering this, it could be argued that the systematic approach of theory-driven evaluation is *more* time and cost efficient than uncoordinated efforts (Bonell et al., 2012).

Conclusion

Problematic evaluation is not specifically limited to peer-led SRE but is a common issue across disciplines such as Social Work, Education and Health. Undertaking theory-driven evaluation may be a useful approach to address this. It provides a systematic way to tease out, theorise and test mechanisms without getting lost or tied up in the various strands of the complex intervention being evaluated (Marchal et al., 2012). In this way, TDE may be of use to other PhD students when conducting their research as it helps to identify and prioritise key evaluation questions and guide the selection of data collection methods and analytical techniques. The PhD is a learning journey, and as such, should be a time in which students can experience a variety of research methods from different disciplines.

The methodological flexibility of TDE provides students with an opportunity to do this. Finally, the time required to undertake such an approach should not be a deterrent for students commencing PhD study, as they have several years of 'academic apprenticeship' to invest in their research (!).

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Learning to become an entrepreneur: integrating the threshold concept approach and social learning theory in Higher Education

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Learning to become an entrepreneur: integrating the threshold concept approach and social learning theory in Higher Education

This paper suggests a conceptual framework to inform entrepreneurship education, integrating the threshold concept approach and social learning theory. It forms part of a doctoral research project consisting of an extended transactional curriculum inquiry interrogating the perspective of entrepreneurs, educators and students regarding aspects critical to thinking as an entrepreneur. After outlining the threshold concept approach, social learning theory, in particular communities of practice, is suggested as a context in which to position threshold concepts. It is proposed that the purpose of entrepreneurship education could be to cultivate the ways of thinking and practicing of an entrepreneur in students. This will encourage the establishment of a pedagogy specific to entrepreneurship built around entrepreneurship threshold concepts, and informed by social learning theory, rendering it distinctive and enabling a greater degree of effectiveness, alignment and consensus.

Keywords: threshold concepts; social learning theory; entrepreneurship education; higher education

Introduction

When I was asked to take on a Programme Leader role for a new undergraduate programme in entrepreneurial business management, I wondered what exactly "entrepreneurial" meant. How was this programme different from any regular business management programme? Enterprise and entrepreneurship education have been identified as enablers of positive social, economic and political change (Matlay & Carey, 2007); but the three major stakeholders acting in this arena, namely policy makers, schools and universities, and entrepreneurs (practitioners) have disparate and sometimes conflicting agenda (Foliard, 2019). However, if entrepreneurship is to be learnt in an educational context, and curricula are to be developed, then it would be useful to identify a knowledge base for entrepreneurship (Neck & Corbett, 2018). This paper suggests a conceptual framework to be used in the development of entrepreneurship education initiatives, integrating the threshold concept approach and social learning theory.

The threshold concept approach

Threshold concepts are concepts that bind a subject together, being fundamental to ways of thinking and practising in that discipline (Meyer & Land, 2005). Threshold concepts have a particularly transformative effect on student learning and represent a transformed way of understanding, without which the learner cannot progress (Meyer & Land, 2005). In transforming the learner, threshold concepts change the learner's perceptions, subjectivities and world-view. There is a repositioning of the self (Meyer & Land, 2005); an ontological as well as a conceptual shift which can often be uncomfortable and is sometimes resisted. Mastery of a threshold concept simultaneously changes an individual's idea of what they know and who they are (Cousin, 2009). A threshold

concept can be a form of disciplinary property (Cousin, 2006) and offers a useful way of identifying and distinguishing a discipline, subject, profession or field of study, defining the boundaries of academic territories (Land, Meyer, & Smith, 2008).
In recognising the threshold concepts in a subject area such as entrepreneurship, individuals can recognise how it is distinct from other subjects areas and disciplines such as Management or Design (Donovan, 2017). Defining the threshold concepts in any subject is likely to inform the development of the curriculum in order that it might be optimised.

Nature of knowledge and theories of learning

Defining the nature of entrepreneurship as an academic subject is less than straightforward. Hannon (2005) suggests ways in which entrepreneurship education initiatives might be categorised according to the philosophical stance of the particular educators designing and delivering them (see Figure 1).

Conceptions of Knowledge and Learning	
Learning about …entrepreneurship	Learning for …entrepreneurship
Knowledge as acquisition	Knowledge as participation
Cognitive constructivism	Social constructivism

Figure 1. Conceptions of Knowledge and Learning

Approaches maybe usefully conceptualised as being "about", "for" or "through" entrepreneurship (Hannon, 2005).

Knowledge can be regarded as something that exists independently of the learner and has to be acquired through a process of cognitive constructivism. Learning in this case is a process of replicating the conceptual framework in the head of the

expert, in the head of the students. The conception of knowledge as information to be acquired is evident in educational initiatives which teach students *about* entrepreneurship. If knowledge is regarded as something external to the learner, then a distinctive knowledge base for entrepreneurship ought to be definable; yet it is contested and unclear (Neck & Corbett, 2018). Trying to differentiate it from a typical business curriculum, even with an emphasis on start-up, somehow misses the essence of the subject. However, many entrepreneurship programmes in higher education do continue to adopt this approach. They are based on the assumption that learning is an individual and bounded process to be conducted apart from other activities, and happens as a result of teaching (Wenger, 1998). Students might learn *to understand* entrepreneurship, but the transferability, applicability and consequently the usefulness of this kind of knowledge is questionable.

However, according to social learning theories, knowledge is something that *cannot* exist independently of the learner, and learning is about becoming and identity creation, through a process of social constructivism (Sfard, 1998). Wenger (2011, p. 1) defines a community of practice as "a group of people who share a concern or passion for something they do and learn how to do it better as they interact regularly". Knowledge is gained through participation in a community of practice, and is more about who the learner becomes, than what they come to possess. In educational initiatives where students learn *for* entrepreneurship, the educational experience can be regarded as a form of legitimate peripheral participation (Lave & Wenger, 1991), a step on the path to becoming a member of a community of practice.

Social learning theories focus on the importance of social interactions, imitation and modelling to learning (Bandura, 1977). It is useful to treat entrepreneurs as a community of practice and to treat entrepreneurship as a profession for the purposes of understanding how anyone learns to become an entrepreneur. Regarding

entrepreneurship as *a practice* would also imply that entrepreneurship education is most relevant when students are engaged in the practice of entrepreneurship.

The relevance of threshold concepts to social learning theory

Threshold concepts in the context of social learning theory can be regarded as "ways of thinking and practicing"(McCune & Hounsell, 2005), integral and embodied in the learner. Ways of thinking and practicing (McCune & Hounsell, 2005) emphasise the sense in which learning is the route to enter into a community (Davies, 2006, p. 71). The act of learning is an act of identity formation. In coming to see the world in a particular way, learners associate themselves with a community of people who share distinctive ways of thinking and practicing and through this, they position themselves in relation to others inside and outside that community.

Others researching entry into professional communities of practice such as healthcare, note that a number of transitions are required as learners proceed from novice to expert (Benner, 1984; Neary, 2000; Turner, Abrahams, & Harris, 1995). There is a link between these transitions, and the notion of liminality in threshold concepts, and identity development. As each concept is understood, each threshold crossed, the learner approaches fuller membership of the community of practice.

According to Davies (2006, p. 74), "A threshold concept necessarily helps to define the boundaries of a subject area because it clarifies the scope of a subject community." A threshold concept might also be a powerful, integrative idea that is characteristic of a particular community of practice. Threshold concepts are by nature discursive; "The acquisition of transformative concepts it is argued, brings with it new and empowering forms of expression that in many instances characterise distinctive ways of disciplinary thinking" (Meyer & Land, 2006, p. 20). Distinctive disciplinary thinking is characteristic of a community of practice (Lave & Wenger, 1991).

Discussion

Combining the threshold concept approach and principles of social learning theories offers a rich framework with which to conceptualise entrepreneurship education.

Figure 2. London Tube map showing different routes, connecting and through stations, and zones (TfL, 2018)

Students of entrepreneurship education are effectively embarking on a transformational learning journey which will result in some of them becoming entrepreneurs. The learning journey to becoming an entrepreneur is a social process, because the knowledge required to get to the final destination is not something that can be acquired, it must be experienced through participation.

Entrepreneurship threshold concepts may be regarded as connecting tunnels or bridges that need to be passed through or over on the way to becoming an entrepreneur

in order to arrive at the terminal "being an entrepreneur" station. They do not need to be understood in any set order, but they do all need to be understood in order to become an entrepreneur. It is unlikely that a student of an entrepreneurship programme will graduate having fully grasped all the entrepreneurship threshold concepts. Higher education in isolation may not be regarded as an experience which necessarily culminates in full membership of a community of professional practice. The context or domain of the learning remains an educational one and therefore distinct from "real-life" learning. Being able to see the world as viewed by a member of a particular subject community only comes with sustained engagement with the domain, the community and the practice. Some students will get stuck at a particular tunnel or bridge (entrepreneurship threshold concept) and make no further progress. As students progress towards the terminal destination (being an entrepreneur) they will become fuller members of the entrepreneurship community of practice. Areas of legitimate peripheral participation (Lave & Wenger, 1991) manifest as travel zones on an underground train system (see Figure 2). The role of the educator is to shepherd the students on their learning journeys and to design intense learning experiences that offer opportunities for students to understand the entrepreneurship threshold concepts. This educational architecture must include provision for a powerful learning community where opportunities and space to learn and understand the threshold concepts of entrepreneurship are optimised.

Conclusion

The relationship between entrepreneurship education and becoming an entrepreneur can be understood by considering the former as a possible station en-route to the latter. A degree in entrepreneurship is not a prerequisite for an individual to become a successful entrepreneur, but it should make that outcome more likely if entrepreneurship threshold concepts (ways of thinking and practicing) have been identified and well-designed

opportunities to learn them created. Higher Education courses in entrepreneurship should be key enablers and predictors of entrepreneurial success. However, the number of business start-ups should not be the only measure of success of university programmes in entrepreneurship. If a student ultimately decides they do not want to start a business, then their educational experiences should have helped them progress towards alternative terminal destinations, enhancing their employability and wellbeing; and increasing their chances of flourishing in the future whatever career direction they choose to take.

When entrepreneurship is treated as a professional practice, it follows that educational initiatives in entrepreneurship are more effective when practice-based. If entrepreneurship knowledge is embodied and not distinct from the individuals who have that knowledge, then learning entrepreneurship will come through participation. Entrepreneurship education that recognises entrepreneurship as a professional practice where social learning theories are relevant will foreground design elements that promote the development of strong learning communities. The identification of entrepreneurship threshold concepts in this context will allow educators to focus on aspects of the curriculum that will facilitate the entry of their students into the community of practice of entrepreneurs and ultimately to become entrepreneurs themselves. Entrepreneurship is more likely learned through participation than taught. Viewing higher education for the professions, including entrepreneurship, as a possible means of entry into the respective communities of practice will affect how associated educational programmes are designed and how effective they are.

By considering entrepreneurship as a professional practice and redefining entrepreneurship education as a social learning process, educators can regard programmes of entrepreneurship education as situated experiences of identity formation, transforming both who a student is and what a student does. The objective

of entrepreneurship education is then, to cultivate the ways of thinking and practicing of an entrepreneur in the students. These ways of thinking and practicing can be seen as the threshold concepts of entrepreneurship. This will encourage the establishment of a pedagogy specific to entrepreneurship built around entrepreneurship threshold concepts, informed by social learning theory, rendering it distinctive and enabling a greater degree of effectiveness, alignment and consensus.

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Enhancing the use of Educational Technology in the Early Years

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Enhancing the use of Educational Technology in the Early Years

Educational technologies can have a positive impact on teaching and learning. Recent research suggests that these technologies are more embedded in early years settings than they were in the past, but practitioners may not be using them to their full potential. This project explores how practitioners can be supported to use them more effectively.

This paper describes a project involving eight settings in the North East of England where early years practitioners conducted their own action research projects. Each project was designed to meet an identified need in the participant's own setting.

The project shows that action research projects have the potential to support the implementation of technology and this approach appears to be more successful than regular training.

Keywords: educational technology; action research; early years education; CPD

Introduction

This project investigates whether establishing an action research network can be an effective way of supporting early years practitioners to use educational technology (EdTech) more effectively. In England, the Early Years Foundation Stage (EYFS) refers to the stage between birth to five years old, this project involved practitioners working with children aged two to five years in EYFS settings.

What are educational technologies?

The literature review described later in this article shows that the term educational technology has traditionally been used to refer to computers, tablets and interactive whiteboards. There are many other devices available including: digital and video cameras, programmable toys, microphones, role play equipment and 'sound buttons' that will record and play audio recordings.

What is effective use?

While there are ongoing debates about the impact of these technologies, there is a growing consensus that they can have a positive impact on teaching and learning, if they are used effectively (Vaughan & Beers, 2017). 'Effective use' means different things to different people, and links to the reasons EdTech is being used.

Hawkridge (1990) identified four common rationales for the use of EdTech:

- Social: technology is everywhere in society, this should be reflected in educational settings
- Pedagogical: technology can have a positive impact on teaching and learning
- Vocational: technology is necessary for future careers
- Catalytic: technology can profoundly change the education system

The EYFS curriculum (Standards and Testing Agency, 2017) states that children should be able to:

- recognise that a range of technology is used in places such as homes and schools
- select and use technology for particular purposes

The exemplification materials expand on this by saying, 'The child chooses … technological opportunities … as a tool to enhance and extend his or her learning' (Standards and Testing Agency, 2012). The curriculum refers to the social and pedagogical rationales.

Effective use of technology does not just refer to supporting 'academic' subjects such as maths or literacy. The EYFS curriculum also highlights characteristics of learning including learning dispositions: cooperation, curiosity, reflection, perseverance, confidence and independence.

It is not enough to put EdTech into a setting and expect it to make a difference (Higgins, Kokotsaki, & Coe, 2012). EYFS practitioners need to link EdTech to specific

needs they have identified within their settings, whether these relate to curriculum areas or characteristics of learning.

The current context

A systematic approach was used for reviewing the literature. The Education Resources Information Centre (ERIC) was searched using the following Boolean string: ("computer" OR "technology" OR "digital" OR "ICT") AND ("early years" OR "pre-school" OR "kindergarten" OR "young children"). Results were limited to peer-reviewed journal articles from two years: 1996 and 2016. 1996 was chosen as this was when the Desirable Outcomes for Children's Learning were published in England (School Curriculum and Assessment Authority & Department for Education and Employment, 1996); this was the first EYFS 'national curriculum' (Anning, 1999). 2016 was the last full year before the literature review was conducted.

All 29 articles from 1996 had computers as the main focus. By 2016 the focus had expanded to computer, tablets and interactive whiteboards, 74 of the 84 articles focused on these. Even when articles listed a range of EdTech, the analysis often focused on this limited range of devices. Only four articles had a broader focus. Articles described how often EdTech was being used and in which curriculum areas, they did not usually say how EdTech was being used.

Plowman and Stephen (2013) suggested that technology use was limited to using computers during free play time, or to a focus on operational skills or turn taking.

To find out whether this is an accurate picture, Jack and Higgins (2018) conducted interviews in 20 settings in the North East of England. Some of their findings are relevant here. The interviewees' interpretation of the term 'educational technology'

was much broader than the literature described earlier suggests. This is important as practitioners' understanding of the definition of EdTech can impact on their practice. A focus on 'just computers' has been linked to a 'mechanistic approach' where children only learn how to operate technology, while a broader view is seen to provide 'scope for more imaginative, creative and collaborative activities' (Plowman, McPake, & Stephen, 2012).

Again, this view was supported by the interviews which showed that a range of technology was being used creatively to support teaching and learning across the curriculum and to support a range of learning dispositions. The interviews showed that EdTech was being used to support the pedagogical and social rationales but revealed a number of barriers including the need to increase their colleagues' confidence and skills and a lack of available training (Jack & Higgins, 2018).

Top-down training has not been linked to sustained impact in the classroom (Wall & Hall, 2017) and collaborating with peers is seen as one of the best ways to provide support (Shields & Behrman, 2000). This research aimed to find out if action research would result in a more sustained positive impact in the classroom than standard training.

Action research aims to find a solution to problems identified by practitioners within the context being studied. It would allow the use of EdTech to be linked to practitioners' practice and beliefs. This has been shown to increase the likelihood of practitioners using technology (Higgins & Moseley, 2001).

Methodology

The term 'action research' is becoming so widely and loosely applied that it is becoming meaningless' (Tripp, 2005)

An evaluation of an action research project needs to provide details of what was done and be clear about how this fits within the action research field. This research can be

described as rigorous self-reflection, similar to the approach described by Baumfield, Hall, and Wall (2013).

The Projects

The action research group was made up of eight EYFS practitioners with an interest in improving their use of EdTech. They included a preschool manager, nursery teachers from stand-alone nurseries and teachers from nursery classes and reception classes in local authority schools. They were each supported to plan a project that would target a specific need in their setting, these included:

- using EdTech to record children's learning and support later reflection
- using EdTech to enhance the children's language and communication skills
- developing the practitioners' own skills and confidence

Their projects fit within the practical, personal and professional approach to action research described by Rearick and Feldman (1999) who describe a cyclical process used to evaluate practice, plan changes, implement the changes and evaluate them before moving on to another cycle.

Data collection

Over the two years of the project, all settings were visited twice to observe practice and interview the participants. These interviews included questions about the participant's project and the action research process. Participants were also invited to termly meetings which facilitated collaboration.

Group meetings provided an opportunity for participants to share their progress. Participants were encouraged to justify their decisions and actions, and to use questioning to challenge each other. The aim was for the research process to be more rigorous than the reflection that naturally occurs within classrooms. Meetings also

included discussions about key themes: defining EdTech, discussing how EdTech could be used and what effective EYFS pedagogy looks like. Audio recordings and field notes were written up after each meeting. Participants completed an end of project evaluation questionnaire which provided extra details about the action research process.

NVivo was used to conduct a thematic analysis of the transcripts (Schreier, 2014).

Ethics

All participants gave informed consent, participation was voluntary, with the right to withdraw at any point, and anonymity was guaranteed. Ethical approval was granted by Durham University.

Was action research an appropriate approach?

Meeting the settings' needs

The end of project evaluations indicated that the participants' main aims had been achieved. The eight settings were at very different stages in terms of using EdTech. For some, the project was a way of exploring what was possible and identifying what resources they needed to purchase. Others already had access to a range of EdTech but wanted to use it more effectively to support their children's learning.

> *I was guilty of 'what do I do with these iPads we've been given? We just got them out for an afternoon… [but now] we are using the iPad because it really enhances what you are trying to achieve (Setting 7)*

At the end of the project, all participants were able to describe their project's impact and provide evidence, including progress data.

> *This year we have had the most number of 'exceeding' children in ICT (Setting 7)*

Impact on participants

The project provided time to reflect and practice in all settings had improved.

> *In terms of the influence it's had for moving us on to thinking more about IT, it has been great (Setting 1)*

Participants wanted to continue to develop their knowledge and skills.

> *It's still quite scary I have to say because it's a whole different way of working, but I am excited by it because I can see the potential (Setting 3)*

One person thought they would have been able to make changes to their own practice without being involved in the group, but the project had enabled them to talk to colleagues within their own setting and support them to make changes to their practice.

> *I might have done this myself anyway, but I'm not sure other staff would have done (Setting 5)*

Empowering

The project increased people's confidence, enabling some of the group to ask for more resources or to justify their use of EdTech to colleagues who did not see the potential benefits.

> *I'd put my action plan together … we had a meeting with our LA advisor … I said we were doing this … she said, 'I don't see the point' … I was 'I really do' … it has made me re-evaluate [and say] 'no, this is really important for us as a school' (Setting 6)*

Comparison with training

Feedback was collected throughout the project so even participants who left before the end were able to comment on the value of the action research process. Everyone said the project was better than traditional training. Training was not aimed at their specific

needs so was often not put into practice. Action research allowed them to focus on their own priorities.

> *with training, a lot of the things you look at are 'yes that's brilliant' but then you come back into the classroom and you just fall straight back into the old routines and you forget about things … [with this project] I've always had a very clear objective… it's very clearly set out ... [and] because I've always had that in my head I have done it. (Setting 4)*

Practical challenges

> *when I first spoke to my head and she said, 'what is [the project] … is this going to cause more work' and I was 'no cos it's what we're doing anyway, it's part of the action plan (Setting 6)*

Although meetings and visits to other settings were seen as the most valuable aspects of the project, only one participant attended all the meetings. One did not attend any, though she did visit another setting to see how they were implementing EdTech. This was due to the challenge of running the project alongside the practitioners' already busy workloads. Three of the group left after a year due to sickness, maternity leave and changing settings.

Despite these challenges, all of the participants were positive about the approach and the impact it had made on their thinking and practice.

> *Once you make a start you think 'I could have been doing it all the time' (Setting 3)*

Only the person who had not managed to attend any meetings said they would not participate in action research again.

Conclusion

For these practitioners, action research effectively supported their use of EdTech. They

all planned to continue their projects after the research project had finished. Evidence from interviews and the evaluation forms suggested that the change to their practice was sustainable.

This approach is recommended to settings wanting to use EdTech more effectively, but it is not possible to say if it would always be successful. Action research cannot be validated by replication (Wallace, 1987) as new participants would always need to adapt the process to meet their own priorities.

The project is being written up as part of a doctoral thesis and will be publicly available on completion. This may help other practitioners to decide if action research would be a valuable approach for them to use.

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Exploring the experiences of estranged students in higher education: A longitudinal comparative case study of two UK universities

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Exploring the experiences of estranged students in higher education: A longitudinal comparative case study of two UK universities

Higher education (HE) policy in the UK emphasises a widening participation agenda and a shift to focus on a 'student's entire lifecycle' rather than simply on access to HE. Universities are expected to accommodate for 'non-traditional' students, and a well-established field of research explores the experiences of these student groups. 'Estranged students', those who study without family support, are a group whose experiences are slowly becoming acknowledged in policy and research. This paper discusses the existing knowledge of how estranged students experience HE, arguing that it views estranged students as a homogeneous group and fails to identify complexities in experience. The paper discusses the author's attempts to address this issue, identifying the key findings of her small-scale undergraduate dissertation project, and outlining plans to conduct a longitudinal comparative case study of estranged students at two universities. Ultimately, these projects aim to improve estranged students' experiences of HE.

Keywords: higher education; estranged students; non-traditional students; widening participation

Introduction

In UK higher education (HE) policy, there is an emphasis on the widening participation (WP) agenda, which aims to give anyone 'an equal opportunity to participate and succeed' in HE, regardless of their background (Department of Business, Innovation and Skills [BIS], 2014, p. 7). Policy outlines that universities are expected to accommodate for students from 'non-traditional' social class, ethnic, and gender backgrounds (Office for Fair Access [OFFA], 2017). Traditionally, WP policies have focused on widening access to HE, potentially leaving some students unsupported once they have entered HE (Boliver, 2018). To tackle this, policies increasingly reference the 'student experience' as a whole (Universities UK, 2016) and WP encompasses the 'student's entire lifecycle' (BIS, 2014, p. 9). There exists a well-established field of academic research which explores the experiences of 'non-traditional' student groups across their HE journeys (Meuleman et al., 2014; Taylor & Scurry, 2011).

One group of students whose experiences are slowly becoming acknowledged in policy and research are 'estranged students'. These students are defined as having 'no communicative relationship' with their parents (OFFA, 2018) and make up 1.6% of the undergraduate student population (Stand Alone & UNITE, 2015). While their family background is comparable to that of care leavers, estranged students have not typically had any intervention from the care system and do not have access to the corporate parenting support care leavers receive. Research into estranged students' experiences of HE is currently limited. Existing work identifies a range of challenges faced by students without a family support network in finance, accommodation, and mental health, increasing their risk of withdrawing from HE (Stand Alone & UNITE, 2015). This paper will explore the existing knowledge of how estranged students experience HE and argue that much of the literature views estranged students as a homogeneous group and fails to identify the complexities in, and varieties of, students' experiences. The paper will then discuss my attempts to address the gaps in the research and improve estranged students' experiences of HE; I will identify the key findings of my small-scale undergraduate dissertation research and outline my plans for a longitudinal comparative case study lasting one year.

Family estrangement

A range of academic literature examines the types of family estrangement, its impacts, and reasons for its occurrence (Blake, 2017), yet the term lacks a standard conceptualisation. Some view estrangement as an explicit 'choice' initiated by a family member (Agllias, 2017b; Carr et al., 2015), while others view it as a 'communicative process' family members actively maintain (Scharp et al., 2015). Whichever definition is used, estrangement removes one's access to the 'bed-rock' of financial, social, and economic capital (Bourdieu, 1986; Winter, 2000). Belonging to a family is seen as non-voluntary (Hess, 2000), and the family unit has become 'a privilege instituted into a universal norm' (Bourdieu, 1993, p. 22). A cultural emphasis on reconciliation of family breakdown, rather than acceptance, results in a stigma associated with family estrangement (Scharp & Thomas, 2016). Stand Alone, a UK charity, has worked to increase awareness of, and support for, those experiencing estrangement, but find that 68% of their

beneficiaries still feel their family circumstances are stigmatised (Stand Alone & Blake, 2015).

Estranged students in higher education

The UK's HE sector is family-oriented on a national and institutional level in its discourse and expectations of students. The student finance application process asks students under the age of 25 to provide information of their parents' income, expecting families to use their financial capital to 'complement' statutory support (Antonucci, 2016; Brooks, 2016). Estranged students, who cannot provide these details, are expected to provide 'evidence' to prove that they are 'permanently' estranged from their parents, complicating the process to access economic capital (Student Finance England, 2016). Institutions also assume that students have traditional family backgrounds, as accommodation contracts often expect students to return to the family home during vacation periods (Bland, 2018).

Research conducted into the everyday experiences of estranged students is currently limited to that conducted by Stand Alone (2015; & Blake, 2015; & UNITE, 2015; Bland, 2018). Primarily quantitative, their research identifies the challenges that estranged students face and the number of students who experience that barrier. Themes that arise in this research include finance, accommodation, mental health, and outreach. Such barriers can threaten a student's retention and increase their chances of withdrawing from the institution (Tinto, 1993): 41% of estranged students consider dropping out of university and 14% do, which is much higher than the national rate of 5.7% (Bland, 2018). To tackle these challenges, HE providers are encouraged to sign the Stand Alone Pledge, a public commitment to providing support for estranged students in these four areas (Stand Alone, 2018a). In September 2018, 50 institutions across the UK signed the Stand Alone Pledge (Stand Alone, 2018b), increasing the number of estranged students across the country who receive support.

Expanding the research field: my undergraduate dissertation

The quantitative nature of the existing research runs the risk of suggesting that 'estranged students' are a homogeneous group who face the same challenges which fit neatly into a

category of, for example, 'finance'. It fails to explore the ways that issues may interact, intersect, and complicate the experiences of individuals. Research has been conducted in this vein for other 'non-traditional' student groups – Harrison (2017) has researched care leavers, and Archer et al. (2003) have researched working-class students – but estranged students are left comparatively unexamined. To begin to address this gap, I conducted a small-scale qualitative research project for my undergraduate dissertation. The study aimed to explore the challenges that estranged students faced, the support they accessed, and the ways they thought this support could be improved. It compared student experiences whilst amplifying the varieties of experience for individuals. Qualitative semi-structured interviews were conducted with six estranged students at universities in England, allowing students to talk about the aspects they viewed as most significant to them. The participant demographics are available in Table 1.

Table 1. Participant demographics. A tick in the University Pledged column means the student's university has signed the Stand Alone Pledge.

Name	**Age**	**Course**	**Course Year**	**University Location**	**University Pledged**	**Interview Method**
Lauren	26	Counselling	2nd	North	✓	Email
Yoda	20	Law	2nd	Midlands	✓	Email
Jessica	20	Social Work	1st	South		Phone
Erica	23	Politics & Sociology	2nd	Midlands	✓	Skype
Jodie	22	Nursing	2nd	North	✓	Email
Stephen	24	Linguistics	1st	North		Phone

The themes identified by students in this project align with those found in previous research into estranged students' experiences of HE. Financially, all students had accessed the maximum student loan but had faced difficulties when doing so, with some finding the process "very distressing" (Lauren). They also identified their dissimilarity to peers financially as they were unable to access the family's "safety blanket" of economic capital (Yoda). These financial

difficulties made affording accommodation difficult for many of the students; for example, Erica had to take risks and choose between paying for her accommodation deposit or her train ticket to university. The nature of accommodation contracts also created instability for estranged students which was "unsettling" for some (Erica). As they lacked the emotional capital from the family, most of the students experienced isolation and wished "I had someone to call or visit" (Jessica). However, some students such as Yoda chose not to dwell on the negative consequences of their estrangement but found that it had strengthened their independence.

To cope with these difficulties, all participants had accessed support from their university. They had all received either a tailored bursary or hardship fund from their institution to support their finances, but as this support was not guaranteed each year students worried about their future financial situation. Financial support was often needed to afford accommodation. One participant, Lauren, only managed to access support after she had experienced homelessness, suggesting that support may come too late for some students. Students commonly accessed emotional support through counselling or student support teams. They particularly valued being put in contact with "other people experiencing the same thing as you" to help reduce feelings of isolation (Jessica). Peers became an important support network for the students, becoming "the family I have chosen" for some (Lauren).

While my undergraduate dissertation provided a much-needed qualitative lens through which we can view estranged students' experiences of HE, it came with some limitations. Students were asked to reflect in one moment on their entire university experience, failing to consider that their perceptions may change as they progress through the student lifecycle. The remainder of this paper will outline plans for a future research project which will follow students over time to provide a narrative of their experiences across a year.

Expanding the research field: my proposed research

From September 2019, I will conduct a longitudinal comparative case study of 12 estranged students at two universities for a 12-month period. The two universities will consist of one which has signed the Stand Alone Pledge and another which has not. The study will use

narrative methods of inquiry to understand how students' perceptions change throughout the year. A Bourdieusian theoretical framework of capital (Bourdieu, 1986) will be used to analyse how these perceptions change as they progress through their university lifecycle. The research will be supervised by Dr Rille Raaper and Professor Vikki Boliver (Durham University), in collaboration with Stand Alone.

The primary research question is 'How do estranged students experience higher education in different university settings?', divided into the following sub-questions:

(1) How do estranged students perceive themselves as students and their experiences of higher education in the two universities?
(2) How is the Stand Alone Pledge implemented in policy and practice at the institution?
(3) What support mechanisms are available to students in the two universities?
(4) To what extent does student experience differ between an institution that signed the Stand Alone Pledge, and an institution that did not?

I will conduct a review of a wide range of academic literature on student experiences of HE and family estrangement, followed by an analysis of policy documents to examine how estranged students are constructed in national and institutional policy. I will work closely with my supervisors and Stand Alone to select two universities and six students from each institution. Participants will be second-year, non-mature students who self-define as estranged from their parents, recruited with the assistance of the universities and Stand Alone.

Narrative methods of inquiry will be used with the participants, allowing estranged students to express their student experiences as personal stories (Huber et al., 2013; Weiler & Middleton, 1999). Three semi-structured interviews (Brinkmann & Kvale, 2015) will be conducted with each student, and students will be encouraged to write online diary entries (Alaszewski, 2006) at least once a month, which will be used to guide the future interviews. Participants will be provided initial suggestions of what to write about, but they will be encouraged to write about their experiences 'in their own words' (Corti, 1993). Narrative analysis (Reissman, 1993) will be used, drawing on procedures from content analysis and

structural analysis, using codes from the literature review and a Bourdieusian framework of capital.

The nature of family estrangement means that participants may feel vulnerable when discussing their experiences, and may experience grief, shame, or stigma (Agllias, 2017a). My own position as an estranged student means that I have experienced many of the issues myself, placing me at an advantage for developing rapport and not further stigmatising estranged students (Liamputtong, 2007). However, this positionality puts me at risk of stepping outside of my role as a researcher if I identify with issues. The supervisory team for this project, including the charity Stand Alone, will be able to support me in maintaining a professional position throughout the research.

The proposed research will address research gaps in the fields of student experiences and family estrangement, adding a longitudinal perspective of students' voices. It aims to inform policy decision-making for a range of stakeholders, including Stand Alone, HE institutions, the NUS, and UK government. The greatest practical value will come for the participating institutions, allowing them to directly influence their provisions. Ultimately, this research will work to improve estranged students' experiences of HE by recognising the complexities and individualities in experience.

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Internationalisation of Higher Education Strategies in China: Using Institutional Theory and Demand-Driven Analysis

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Internationalisation of Higher Education Strategies in China: Using Institutional Theory and Demand-Driven Analysis

The term “Internationalisation of Higher Education” (IHE) stresses the “process” instead of “outcomes” in education. It integrates an international, intercultural, or global dimension to cope with the academic environment internationally. China opened its markets by joining the World Trade Organisation (WTO), which emphasises the free trade context regarding international academic mobility coming under the domain of the freely traded market. Two main forms of cooperative Transnational Education (TNE) ventures are the collaborative/joint programme and international branch campuses (IBCs). For a more comprehensive understanding of the strategy of IHE in China, the three pillars, including regulative, normative and cultural-cognitive pillars in institutional theory, can be employed as a possible framework to examine the organisations and organisational change. The three pillars offer explanations of different rationales of structures, practices and beliefs by its own mechanisms and processes. In addition, the Demand-Driven/Benefits Analysis will be used to explain the reason why these strategies are implemented. Four demand driven inputs can be evaluated from the perspective of the demands in the process of TNE, these are students’ demands, marketing demands, financial demands and social demands.

Keywords: Internationalisation of Higher Education; Institutional Theory; Demand-Driven Analysis

1. Internationalisation of Higher Education (IHE) Strategies

The term “Internationalisation of Higher Education” (IHE) stresses the “process” instead of “outcomes” in education. It integrates an international, intercultural, or global dimension to cope with the academic environment internationally. China opened its markets by joining WTO, which emphasises the free trade context regarding international academic mobility (Altbach & Knight, 2007) coming under the domain of the freely traded market (Kirp, 2003). The General Agreement on Trade in Services (GATS), is part of an agreement encouraging international and service related trade in education among WTO member countries. It focuses on implementing and facilitating

academic mobility in terms of consumption abroad (student mobility), cross-border supply (distance education and franchising degrees), commercial presence (branch campuses and joint programs), and the presence of natural persons (professors and researchers travelling abroad to provide educational services). In this paper, two main forms of cooperative Transnational Education (TNE) ventures will be introduced: collaborative/joint program and international branch campuses (IBCs). The definition of 'collaborative/joint program' is quite clear and stable: "Collaboration between all partners in the design and delivery of curriculum and program" (Knight, 2006). The change of definition of international branch campuses (IBCs) is worth mentioning in terms of the governance. The definition in the Observatory on Borderless Higher Education (OBHE) 2009 edition excludes "establishments where the programs offered lead only to double or joint degrees" (Becker 2009, p. 3). In 2012, however, the OBHE slightly broadened the definition in the report that an IBC is "a higher education institution that is located in another country from the institution which either originated it or operates it, with some physical presence in the host country; and which awards at least one degree in the host country that is accredited in the country of the originating institution" (Lawton & Katsomitros, 2012, p. 7). Many IBCs have a choice of whether to offer accredited degrees from the original institution and/or from the local institution depending on the acceptance of the local host government (Healey, 2015).

2. Institutional Theory

For a more comprehensive understanding of the strategy of IHE in China, the three pillars, including regulative, normative and cultural-cognitive pillars (Figure 1) in institutional theory can be employed as a possible framework. They can be used to examine the organisations and organisational change, and attempt to explain different rationales of structures, practices and beliefs by its own mechanisms and processes

(Scott, 2008; Wilkins & Huisman, 2012). The regulative pillar involves the capacity to establish rules, monitor other conformity to the rules and deliver sanctions by formal regulations or informal mechanisms. According to the Regulations of the Ministry of Education (MOE) in the People's Republic of China (PRC) with respect to Sino-Foreign Collaboration in Higher Education, the establishment of the formation of international collaborative/joint program in China is defined as Zhongwai-Hezuo-Banxue (中外合作办学 in Chinese). The term refers to "activities of the cooperation between foreign educational institutions and Chinese educational institutions in establishing educational institutions within the territory of China to provide education services mainly to Chinese citizens" (MOE, 2003, p. 1). According to Hu (2014), four crucial characteristics are contained in the concept relatively implicitly: 1) the collaborative programs should be operated between one of the Chinese higher education institutions and an institution from another country in forms of capital, intellectual property rights and etc.; 2) the collaborative programs should be run and located in China and jointly delivered by the partnering institutions in China; 3) the collaborative university in China plays the dominant role in the process of operation and the main representative body of the joint program should be Chinese; 4) the accreditation awarded by the collaborative institutions can be foreign degrees and/or Chinese degrees.

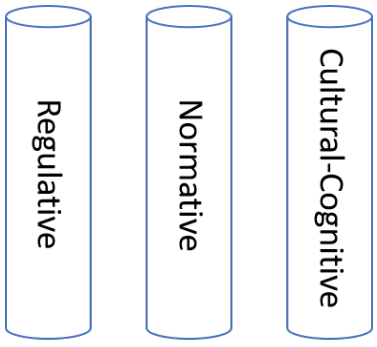

Figure 1. Three Pillars of Institutional Theory in China's IHE Context

The focus of the normative pillar is that practitioners adapt to the rules of higher education institutions rather than being slaves to obeying the social conventions (Searing, 1991). The Confucian model is prevalent in China and in order to promote the practice of Confucianism, MOE in China has nominated the "211 Project Universities" (the 100 leading universities in China) and "Project 985 Universities" (top universities with research excellence) to promote an "innovation society" plan in education. By fostering achievement in its educational innovation goals, China offers the opportunity for importing quality educational resources by establishing joint programs and joint universities under the dominance of Chinese government. According to Cuiming, Feng and Henderson (2012), most joint programs offer undergraduate level courses with the models of 1+3, 2+2, 3+1 and 4+0 (the first number is the study year/years in China and the second number is the study year/years in foreign countries). As long as the students meet the following conditions: 1) having successfully accomplished the required years of academic study in the Chinese university of the collaborative program, 2) achieving the certain language proficiency tests, such as IELTS, TOFEL, or PET, to the required level by the foreign partner, and 3) successfully fulfilling all the requirements during the study in the foreign partner university, then they can eventually be awarded the bachelor's degree by the Chinese institution or the foreign higher institution in collaboration. As for postgraduate joint programs (master level and doctoral level or equivalent), it can take half of their academic years' time studying abroad or even be fully undertaken overseas. Therefore, the boundaries of innovation and convention rules overlap and reinforce each other.

Whereas the first two pillars are concerned with the regulations, rules and norms, the culture-cognitive pillar is more associated with the social reality, social frames and cultures (Scott, 2008, p. 57; Peng et al., 2009, p. 64). The power of political control of the government is in the Chinese Communist Party's (CCP) hand. According to

Onsman and Cameron (2014), one particular phenomenon worth mentioning is that in the joint university program (a form of IBC) between the University of Nottingham and Zhejiang Wanli University (ZWU) – University of Nottingham Ningbo, China (UNNC), the Student Affairs Office is dedicated to ensuring political control of the students at the University in compliance with the Archives Law in China. The Student Affairs Office will play an important role in gathering detailed information on the political Party affiliation status (Zhengzhi-Mianmao) of the students' families and social groups. Besides the Student Affairs Office, the leading team, has the responsibility and accountability for all sorts of major issues of emergency and security. Another fact that is worth noticing is that after the first month of the academic year in September, students in the university are always positively encouraged to join CCP by being an active member in the pool (Jiji-Fenzi). Loyalty to the Party is rewarded with exclusive opportunities and positive notes on their records. On that account, the joint programs and universities in China are under observation by the subordinate body of the CCP in the context of socialism with Chinese characteristics (Zhongguo-Tese-Shehui-Zhuyi).

3. Demand-Driven/Benefits Analysis

If the institutional theory has identified the implicit strategies of IHE in China, then the Demand-Driven/Benefits Analysis is the reason why these strategies are implemented. The international education service providers are inclined to enter China's massive higher education market, and the establishment of the partnership of Collaborative/joint programs and IBCs have several benefits for students who are planning to study abroad. Four driving demands, or inputs, can be evaluated from the perspective of the demands in the process of TNE, these are: students' demands, marketing demands, financial demands and social demands (Gide, Wu & Wang, 2010). Figure 2 illustrates the Demand-Driven Input-Output Benefit Model of IHE in China.

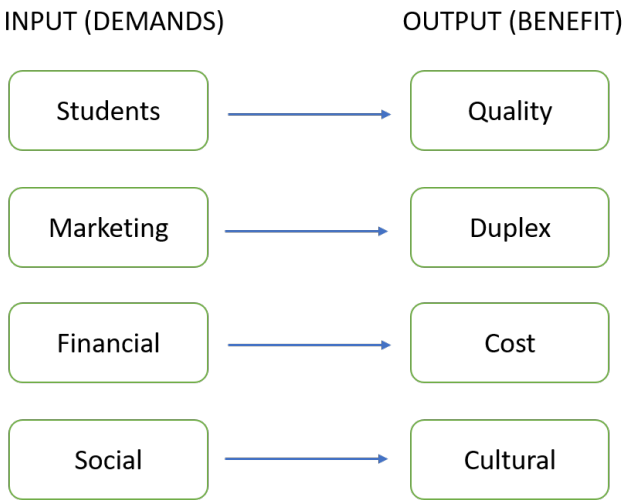

Figure 2. The Demand-Driven Input-Output Benefit Model of IHE in China

1) Students' Demands. Students desire to obtain an international qualification and the most advanced skills and training, in order to enhance their competitive capacity in their career development. This would lead to better opportunities and a better future life. However, this has the adverse effect of putting pressure on IHE in China to promote and keep up-to-date with the latest and optimized "westernised" curriculum, teaching and learning materials and teaching methodologies. This is achieved by incorporating collaborative/joint programs into China's Higher Education system (Liang, 2004).

2) Marketing Demands. China's higher education provision is undertaking a transformation from a one-way outflow in 2000, to a globalised two-way education market in the present. There has been more than a decade of history of Chinese students and scholars studying abroad and the number of people studying abroad is growing rapidly; for example, in 2003, the total number of students and scholars studying abroad was about 117 thousand (MOE, 2009), whereas in 2015, the number had reached to 397.6 thousand in total (CCG, 2016). The main reasons for the massive marketing demand can be contributed to TNE of IHE in China; the cooperation of the Sino-foreign education venture has offered opportunities for Chinese students to receive overseas

higher education inside the home country and in the meantime, it may also attract students from overseas to study in China.

3) Financial Demands. Expensive tuition fees and living fees may hinder prospective students from traveling to the main exporting countries for education (Verbik and Lasanowski 2007); nevertheless, with the emergence of joint programs and IBCs, the cost barrier may be removed. It provides an opportunity for those students who are planning to enter and experience the student life of higher educational institutions in foreign countries but cannot afford to do so. Not only can students reduce the costs of transportation and living in a foreign country, but it also lowers the costs of obtaining an international qualification with a reduction of the tuition fees of up to 75% (Liang, 2004). Also, students will have a greater opportunity to engage in part-time jobs while studying in their home country.

4) Social Demands. TNE study is often more flexible and convenient, it reduces disruption and avoids tearing the family, work and study life apart by prolonged absence abroad. Also, from an academic point of view, teaching staff can experience additional international teacher training and teaching opportunities by participating in the TNE programs which provide opportunities for collaboration with local academics. Likewise, students can also benefit from the status of being internationally competitive and having an international profile while carrying out studies as part of the prestigious TNE programs.

4. Conclusion

In summary, the article has introduced the development of the TNE program in the process of IHE. China opened its market in the world by joining WTO, which promotes the development of collaborative partnerships and programs with foreign higher

education institutions. Then the article has interpreted IHE Strategies by employing three pillars in institutional theory (regulative, normative and cultural-cognitive pillars) and the four demand/driven benefits model (students' demands, marketing demands, financial demands and social demands). Future research could focus on the opportunities and challenges of the IHE Strategies in China.

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The Effects of Cultural Difference on the Rating of ADHD* Symptoms: A Comparison between Chinese and British Teachers' Ratings

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The Effects of Cultural Difference on the Rating of ADHD* Symptoms: A Comparison between British and Chinese Teachers' Ratings

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The observation of children's behaviour by teachers is a valuable source of information used to reveal behavioural issues in children. This study investigates the effect of culture difference on teachers' ratings of ADHD symptoms. Six animated cartoons representing six ADHD symptoms in a classroom setting were developed. In each cartoon, there are five characters portrayed as 6 to 7 year-old children without cultural or gender references. Chinese and British primary school teachers teaching 6 to 7-year-old children were asked to watch the cartoons and subsequently rate the behaviours of each character. In addition, every teacher was asked to rate 10 randomly selected children from their own class. Data analysis is in progress. It is hoped that a statistical comparison of ratings provided by teachers from different cultures will shed light on whether there are differences in teacher's ratings and whether these are due to perceived or actual behavioural difficulties.

Keywords: cultural; difference; ADHD; teacher rating; effects

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is the most common childhood-onset psychological disorder with high prevalence across the world (Woo & Keatinge, 2008). A meta-analysis of 97 studies found that the prevalence of ADHD is between 5.9% and 7.1% in children and adolescents (Willcutt, 2012). There is apparently significant variability in prevalence across the world, but this is possibly due to differences in the methodological characteristics of the studies and cultural differences. After reviewing extensive international records and publications since 1978, Polanczyk and colleagues (2007b) concluded that 5.29% of children are affected by this disorder across the world. This means that there are, on average, one or two children suffering from ADHD symptoms in every class, and every school is dealing with the issue of how to teach these

children and help them to attain the expected standard of achievement at school.

ADHD is associated with considerable impairment across a range of domains, such as academic underachievement, poor social relationships, school dropout, low self-esteem, depression, anxiety, delinquent behaviours, substance abuse and unemployment (Kuriyan et al., 2013; Nigg, 2013; Spencer, Biederman & Mick, 2007). Compared to the general population, a lower quality of life has been observed in individuals with ADHD (Agarwal, Goldenberg, Perry & Ishak, 2012; Danckaerts et al., 2010). Since ADHD symptoms can be diagnosed at an early age, in order to help affected children, a considerable amount of money has been invested in medical treatments, behavioural intervention, special educational needs support for ADHD children, and scientific research into ADHD. However, getting access to effective treatments for children with ADHD is dependent on an accurate diagnosis. In order to diagnose ADHD, two global diagnostic criteria: DSM-5[1] and ICD-10[2] are widely used. According to these criteria, ADHD is characterized by a cluster of behavioural symptoms. The diagnosis of ADHD must be carried out in two or more settings, such as school, home and clinic, to warrant a conclusion. Therefore, the diagnosis of a child with ADHD involves the child's home carers, school teachers and psychiatrists.

Despite the use of standardized criteria and procedures in diagnosing ADHD, the prevalence of ADHD was reported to range from 1% to 20% among school-age children across the world (Polanczyk, Salum, Sugaya, Caye & Rohde, 2015). Controversy has surrounded variation in prevalence estimates between different cultural settings. Some researchers posit that ADHD is a cultural construct disorder, and that cultural differences

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[1] The Diagnostic and Statistical Manual of Mental Disorder (5th ed)

[2] Classification of Mental and Behavioural Disorder: Clinical Descriptions and Diagnostic Guidelines (10th ed)

explain the variability of the prevalence worldwide (Brewis, Schmidt & Meyer, 2000). Other researchers argue that the cultural differences play a limited role in the variability, and that differences in the methodological characteristics of the studies explain most of the variability in the prevalence of ADHD (Polanczyk, De Lima, Horta, Biederman & Rohde, 2007b). However, Polanczyk et al. (2007b) also emphasised that their research cannot rule out the influence of cultural differences on ADHD diagnosis. Moreover, diagnosis relies heavily on subjective judgements from children's parents, teachers and psychologists. Although their subjective judgement is based on the standardized behavioural rating, the behaviours are more like categories of child misbehaviours. To what extent a behaviour is appropriate or inappropriate for parents, teachers and psychiatrists, depends on the context of the behaviour and observers' personal perceptions of the behaviour. Therefore, it is very important to understand the influence of personal perception and cultural differences on ADHD diagnosis.

Teacher Rating and Problems

As noted, teachers' judgements of children's symptoms are very important in the diagnosis process. First; compared to parents and psychiatrists, teachers see children in a more structured and more demanding setting than the domestic setting and interact with children for a long period of time. This gives teachers the opportunity to compare children's behaviours in a large cohort and in a wide range of settings. Second; teachers have professional training, and knowledge of childhood development, which helps them to be aware of dysfunctional behaviour in children. Therefore, teachers are well placed to differentiate children impaired by ADHD symptoms from normally functioning children.

However, teachers' ratings of ADHD symptoms may not be the most accurate way of judging a child's classroom behaviour. Jacobson (2002) claimed that the rating of a child's ADHD behaviours in a classroom context varies between teachers. The

inconsistency may be due to one or more of three reasons. First; the symptoms are only general descriptions without contextual details. This leaves room for teachers to interpret what behaviours fall into the ADHD categories, and the frequency of these behaviours. Teachers' standards of what behaviours are appropriate or inappropriate, and their level of tolerance for inappropriate behaviour varies significantly. Second; teachers may not treat all the children in the same way – they may inadvertently be influenced by gender, language, ethnicity or other variables. Some teachers are not able to apply behavioural standards equally to all children which can lower inter-rater agreement (Jacobson, 2002). Third; given different classroom settings and management styles, a behaviour can be problematic in one setting but not in another (Ho & Leung, 2002). Therefore, teachers' rating of ADHD symptoms based on children's behaviour in the classroom context is subject to several sources of potential bias.

Research Question

Cultural differences between British teachers and Chinese teachers might influence their judgement of ADHD symptoms. Evertson and Weinstein (2006) have found that teachers form, convey, and act on expectations through their own cultural educational experiences. Previous research has found that British teachers and Chinese teachers tend to rate ADHD symptoms differently. Alban-Metcalfe and colleagues (2002) asked teachers from mainland China and the UK to watch a video of a 9 year-old white Caucasian boy with ADHD and rate the child's behaviour according to the standard diagnostic criteria. They found that teachers in mainland China tended to rate the ADHD behaviours of the target child higher than teachers from the United Kingdom. Another similar study found that Chinese teachers rated subjects higher than the UK teachers on the symptoms of ''fidgety, 'excessive running and climbing', and 'having difficulty sustaining attention', whilst the UK teachers tended to rate subjects higher than the Chinese teachers on the symptoms of

‘excessive talking’, ’can’t wait and ‘interrupting others’ (Du, Yin, Ma & Li, 2003).

However, the rating targets of these research projects introduce a potential cultural bias. These studies used videos of white Caucasian children with ADHD in Western school settings as rating targets to determine rating differences. The behavioural contexts and language were not familiar to Chinese teachers. Moreover, in asking Chinese teachers to rate British children’s classroom behaviours according to their expectations and tolerance of what behaviour is appropriate and inappropriate, the perception of a Chinese teacher of a Wester child is a factor that will bias their judgements. Although these studies claim that they have found evidence of cultural differences in ADHD diagnosis, they have not controlled for the cultural bias of the rating targets. Therefore, a rating target without cultural bias is important to investigate the teachers’ rating differences between the two countries. This research project asks; “To what extent does culture affect the diagnosis of ADHD, and if it does, what are its effects in a setting that controls for the cultural bias of rating targets.”

Research Design

This study aims to find out whether there is a difference between British teachers and Chinese teachers in expectations and tolerance of ADHD symptoms by limiting the cultural bias of the rating objects. To investigate the difference, six cartoons have been developed representing animated classroom behaviours from six ADHD symptoms of DSM-5 (APA, 2013).

- Can’t wait (Often has difficulty waiting their turn)
- Fidgety (Often fidgets with or taps hands and feet, or squirms in the seat)
- Inattentive (Often has difficulty sustaining attention in tasks or activities)
- Disorganised (Often has difficulty organising tasks and activities)
- Distracted (Is easily distracted by extraneous stimuli)

- Disruptive (Often interrupts or intrudes on others)

Each cartoon depicts five animated children (Child A, Child B, Child C, Child D and Child E) exhibiting five different classroom behaviours. The behaviours and cartoon contexts were designed from literature reviews of ADHD diagnostic criteria, classroom observations, and teacher interviews conducted in the UK and China. The cartoons were developed by a commercial cartoonist, following standard commercial cartoon development processes, including the design of characters and scenes, story scripts, storyboard, cartoon animation and iterative revision. In order to control for the cultural preference of the rating objects, the cartoon characters, contexts and scenes were designed without cultural references to either Eastern culture or Western culture. The cartoon characters are portrayed as 6 to 7 year-old children without gender references. In addition, the cartoons were designed without any dialogue, only background music. The cartoons can be used therefore without concerns regarding language barriers.

Teachers of 6 to 7 year-old children in both countries were asked to watch the six cartoons and rate the children's behaviours in the cartoons on a symmetrical scale indicating the teachers' tolerance of these behaviours. Meanwhile, every teacher was asked to rate 10 children selected at random from the teacher's own class. The rating scale required participants to rate children's classroom behaviour according to severity on a 0 to 4 point scale related to the frequency of the specific behaviour (Never=9, Occasionally=1, Often=2, Very Often=3 and Almost Always=4) on the six ADHD symptoms.

The data will be analysed using the Rasch model (Rasch, 1960) to investigate the reliability and validity of the measurements, and to determine whether there are differences in this sample between UK and Chinese teacher's ratings of animated ADHD symptoms. SPSS, Winsteps and Facets software will be used to analyse the data and identify any differences in ratings between the two groups of teachers.

Conclusion

This study aims to identify and quantify the effects of cultural differences on ADHD diagnosis. By controlling for the cultural bias of rating targets, this study will be less subject to culture specific confounding factors than previous research. By using the Rasch model (Rasch, 1960), this study will not only identify the differences between the two groups of ratings statistically, but, in addition, quantify individual differences on an interval scale. Using this method, a profile of teachers' expectations and tolerance of ADHD symptoms can be built appropriate to any cultural context, by developing different cartoons representing different ADHD symptoms in a wide range of contexts. These profiles will also enable the quantification of cultural differences in the rating of ADHD symptoms. Furthermore, the differences will in turn, help in understanding the root causes of differing ADHD prevalence worldwide.

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Professional Vision and Reflections of Qualified and Non-qualified Biology Teachers

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Professional Vision and Reflections of Qualified and Non-qualified Biology Teachers

This paper shows the differences in the aiming of the professional vision of qualified and non-qualified biology teachers (n = 6). Teachers wrote two reflections; the first was made 24 hours after teaching, the second was made within 14 days with the support of the video. Both reflections were analysed using the qualitative approach. They were divided into units and were coded according to Sherin and van Es (2009). Qualified teachers described less, evaluated more, and theorized more when they observed their lessons. They also noticed the specific phenomena more. For unqualified teachers we cannot see this shift so there is room for mentors. Both groups increased the amount of alterations in post reflections. Alterations could be divided into four areas; time management, communication of teacher, use of teaching aids, and activation of pupils. Both groups paid less attention to biology and didactics of biology in reflections supported by video.

Keywords: alterations of phenomena, biology lessons, professional vision, reflections

Introduction

Currently, the pedagogical community tends to direct teachers to professionalism (Janík, 2009). In recent years there has been a growing interest in this issue, which is due to the need to improve the quality of education and educational institutions (Píšová, 2010).

If we want to deal with professionalism of teachers, we have to focus on the characteristics of this profession, alongside the ability of professional vision (Minaříková & Janík, 2012).

According to Sherin and van Es (2009), professional vision means the ability of noticing and interpreting significant features of classroom interactions. Videos of lessons provide a look at the entire classroom environment and do not require immediate response from the observer (future teacher). Furthermore, the video of the lesson is considered as a key source of successful support for the development of noticing skills (Sherin & Russ, 2014).

Video studies can provide an impetus for empirical research as they better document and analyse complex pedagogical and didactic phenomena and processes (Janík & Najvar,

2008). They also allow analysis of the process of refreshing content by a student in a social situation influenced by a teacher and studying phenomena in educational reality (Najvar, 2011). The evidence of the benefits of video was found in an enumeration of positive changes in reflections. Those reflections were more meaningful (Calandra, 2014).

One of the first definitions of reflection in the process of learning defines reflection as an active, persistent, and thorough consideration of belief, or the supposed possibility of a shift in knowledge, which supports and leads to the conclusion that closes the reflection (Tripp & Rich, 2012). Each teacher should go through the reflection process. However, this must first be learned (Janík, 2005). From research (Píšová, 2005) it is obvious that changes in the thinking about the videos of their own lessons occurred in students after a year-long teaching practice.

The aim of this paper is to show differences in the aiming of the professional vision at reflections of qualified and non-qualified biology teachers. The focus on these groups of respondents is because of the fact that the researchers´ attention which examine this topic has not been written about enough and there is still much to discover in this field. In addition, there is a possibility that teachers who are not sufficiently qualified yet can teach the biology subject at schools (if they study to be qualified at the same time). Because of this fact, which is very often also the reality, we have started to find out how these groups are different in achieving the development of professional vision.

Three main research questions were determined:

(1) What are the changes in focus of professional vision in qualified biology teachers after watching their video compared to non-qualified teachers?

(2) Does watching of the video increase the number of suggested alterations?

(3) What are the alterations they focused on?

Materials and methods

Six respondents were examined - three respondents were un-qualified and three were qualified. All of them taught biology (in Czech) at lower secondary schools. Non-qualified teachers do not yet have the required education and were studying for a Masters degree (Teaching Training for Secondary School – Biology) at Charles University, Faculty of Education. They were able to teach due to the exception given by the law in the Czech Republic.

Examiners were asked to video-record their lesson. After the lesson they had to write a pre reflection within 24 hours after teaching. They were then asked to watch the footage of their lesson and were asked to write a new reflection (post reflection), which would be submitted within 14 days after teaching the lesson.

The reflections were split into units and were coded according to the categorical system published by Sherin and van Es (2009). Every unit of meaning was assigned to one category in the four dimensions of the analysis, see Table 1. At the same time, suggested Alterations ("What to do differently in teaching") in statements were identified.

Results and discussion

In Table 1 we can see a comparison of absolute and relative frequencies of codes in pre and post reflections in both groups of respondents.

	Non-qualified teachers, n=3		Qualified teachers, n=3	
Categories	Pre reflection Abs. | rel. freq.	Post reflection Abs. | rel. freq.	Pre reflection Abs. | rel. freq.	Post reflection Abs. | rel. freq.
Actor				
Teacher	2 | 3.28 %	0 | 0.00 %	0 | 0.00 %	2 | 5.41 %
Student	13 | 21.31 %	8 | 21.62 %	13 | 26.53 %	6 | 16.22 %
Self	28 | 45.90 %	18 | 48.65 %	21 | 42.86 %	20 | 54.05 %
Curriculum	4 | 6.56 %	3 | 8.11 %	9 | 18.37 %	3 | 8.11 %

Other	14 | 22.95 %	8 | 21.62 %	6 | 12.24 %	6 | 16.22 %
Topic				
Subject	7 | 11.48 %	2 | 5.41 %	3 | 6.12 %	1 | 2.70 %
Pedagogy	22 | 36.07 %	17 | 45.95 %	25 | 51.02 %	18 | 48.65 %
Climate	11 | 18.03 %	3 | 8.11 %	7 | 14.29 %	3 | 8.11 %
Management	9 | 14.75 %	4 | 10.81 %	8 | 16.33 %	8 | 21.62 %
Other	12 | 19.67 %	11 | 29.73 %	6 | 12.24 %	7 | 18.92 %
Stance				
Describe	8 | 13.11 %	12 | 32.44 %	16 | 32.65 %	5 | 13.51 %
Evaluate	25 | 40.98 %	10 | 27.03 %	20 | 40.82 %	20 | 54.05 %
Interpret	28 | 45.90 %	15 | 40.54 %	13 | 26.53 %	12 | 32.43 %
Specificity				
Specific	5 | 8.20 %	2 | 5.41 %	2 | 4.08 %	12 | 32.43
General	56 | 91.80 %	35 | 94.59 %	47 | 95.92 %	25 | 67.57 %

Table 1. Comparison of frequencies of codes in both groups (source: own calculation)

There are some categories in which the changes are very positive in post-reflections. It seems that video helps, especially for qualified teachers. There is a bigger shift, especially in the ‘Stance’ and ‘Specificity’ dimensions.

In post-reflections, qualified teachers focused more on the ‘Self’ category compared to pre-reflections. On the contrary there were more references to the ‘Student’ and ‘Curriculum’ categories in pre-reflections.

The category ‘Subject’ is rarely mentioned in the statements of both groups, in both pre and post-reflections.

The category ‘Pedagogy’ has increased in the total amount of statements in post-reflections in non-qualified teachers. The reason could be that these phenomena, which we

coded as pedagogical, could be very easily identified by un-qualified teachers after watching the video. Suddenly they discovered it with the video´s help. The qualified teachers, it seems that they already saw it even without the video. Categories 'Subject', 'Climate' and 'Management' were less commented on in post-reflections by non-qualified teachers. Qualified teachers focused more on 'Management' statements in post-reflections. 'Subject', 'Pedagogy' and 'Climate' statements declined in post-reflections.

Qualified teachers used more statements for 'Evaluate' and 'Interpret' in post-reflections. They used 'Describe' statements more in pre-reflections. For non-qualified teachers it seems that video did not help them too much. It is important to note that qualified teachers changed their attitudes after watching their own videos. They 'Describe' less and 'Evaluate' and 'Interpret' more than in pre-reflections. They also pay more attention to 'Specific' phenomena in teaching. Therefore, it makes sense to use the videos even with a longer-tenured teacher. For those not yet qualified teachers, we do not see this shift. They rather describe it in post-reflections. There is room for mentor practice at the college or mentor at school.

As previously said, qualified teachers were more specific when using statements in post-reflections. Non-qualified teachers were more specific when they wrote their pre-reflections.

The ability to suggest alternative approaches to teaching is very important for teachers. This phenomenon is also highlighted in written reflections (Table 2).

	Non-qualified (group 1), n=3		Qualified teachers (group 2), n=3	
Category	Pre reflection Abs. | rel. freq.	Post reflection Abs. | rel. freq.	Pre reflection Abs. | rel. freq.	Post reflection Abs. | rel. freq.
Alteration	2 | 3.28 %	5 | 13.51 %	0 | 0.00 %	7 | 18.92 %

Table 2. Comparison of pre and post-reflections of non-qualified teachers and qualified teachers – alterations (source: own calculations)

Both groups of respondents increased the number of comments which identified some alterations in post-reflections, seen in Table 2. The differences are quite big, which is considered as a very important index. That is the reason some examples of those comments from post-reflections are quoted. See Figure 1.

In the post-reflections of both groups of teachers, we can see these categories of alterations: teacher communication (unscripted words, talking to pupils as though they were little children), time management, working with aids (film, motivational video), activation of pupils

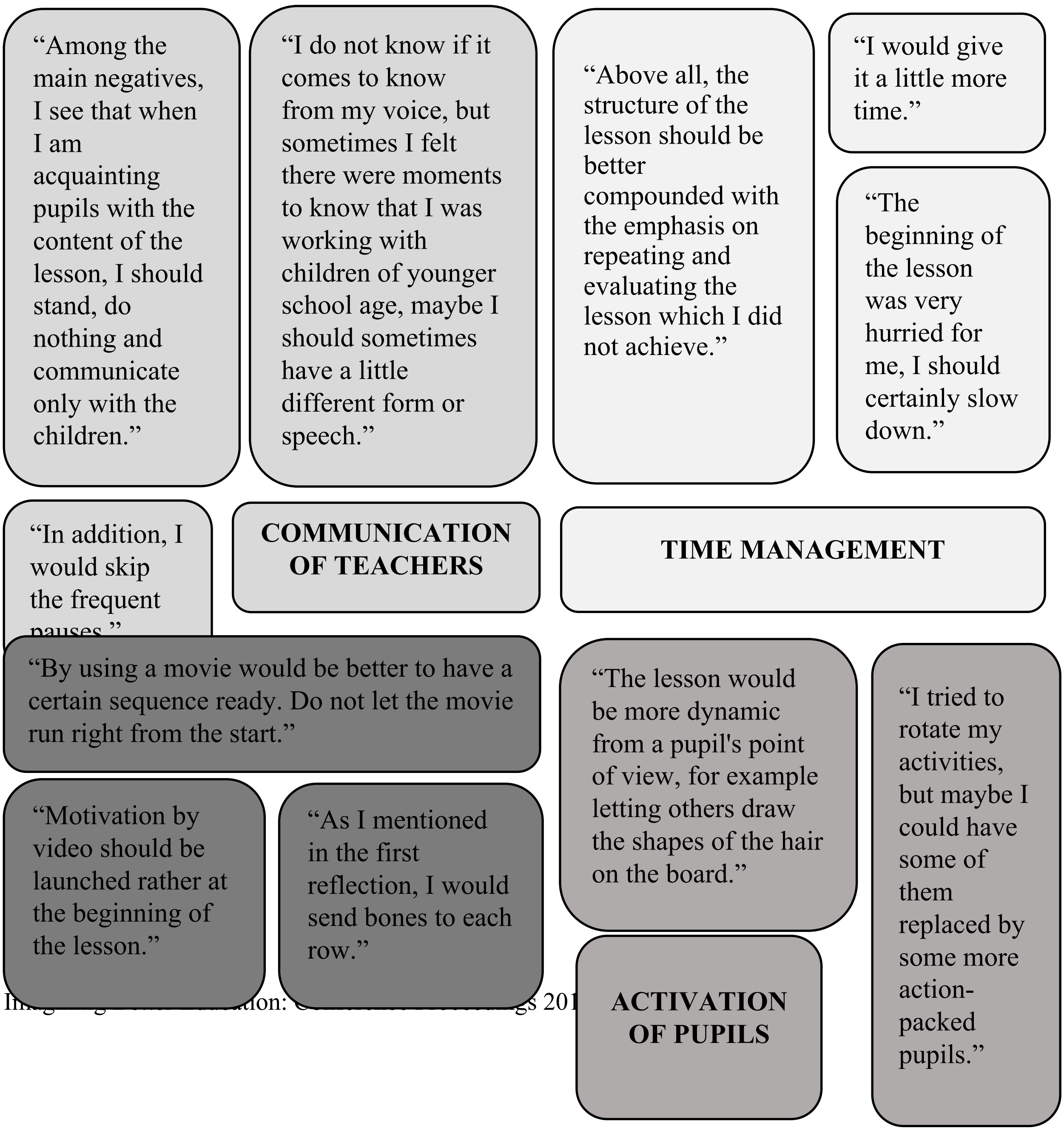

Figure 1. Categories in post-reflections with examples (source: own data gathering)

Conclusion

The study shows the effect of watching one's video on making changes in professional vision, which can be useful for professional development of student teachers and teachers. We can take these identified aspects into account when developing the content of didactics of biology in Faculties of Education in the Czech Republic. The research constraint is that a low number of respondents were asked. The reason for such a low number of respondents is that just three of all the student teachers who were examined have been teaching for two or more years. On the other hand, we also found just three qualified teachers who were willing to be part of this research. We expected that this number is not enough, but it still gives us some information which we can examine more with a larger amount of respondents in the future.

As a positive effect of video, we can see an increase of comments by qualified teachers in the categories of 'Self', 'Management', 'Evaluate', 'Interpret' and 'Specific'.

On the other hand, there is no effect of video on non-qualified teachers. It means that watching the videos is not enough, and the mentor intervention is needed.

Both groups had a low rate of the 'Subject' category, which means that they are not focused on the subject and subject didactic in pre and even post-reflections. The recommendations for the further research could be to focus specifically on quality of some other category e.g. evaluate comments of participants and some examples of these comments.

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Exploring and developing reasoning in primary English

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Exploring and developing reasoning in primary English

The socio-cultural framework describes reasoning as a cultural phenomenon, expanding thinking to something which is played out in public. Drawing upon the academic field of cognitive history, this project argues that academic domains have developed their own 'styles of reasoning', which can be found as ways of arguing in debates and written texts, and which should be promoted in the school curriculum. This project identifies styles of reasoning drawn upon in English literature and of importance within primary English. Activities are developed which can be adapted to promote particular reasoning styles in the primary classroom. Transcripts are coded and analysed using the Cambridge Dialogue Analysis Scheme (CDAS) (Vrikki et al., 2018) which has been modified to capture style-specific reasoning in English. This paper gives an overview of the theoretical underpinnings of the project as well as a brief description and justification of methodologies used.

Keywords: reasoning styles, thinking, primary English, socio-cultural.

Introduction

Teaching thinking and reasoning, particularly within primary education, has presented schools and teachers with difficulties (Mercer & Howe, 2012; Nickerson, Perkins & Smith, 2013; Wegerif, 2010), despite recognition of the importance of teaching reasoning within schools (e.g. McPeck, 1981; Trilling & Fadel, 2009). This partially stems from the lack of cohesive and uncontested theory around reasoning and how it should be embedded within education. The obstacles teachers face in understanding the principles behind research on thinking and reasoning and in modifying their practice have been documented (Billings & Fitzgerald, 2002; Lefstein, 2008; Mercer & Howe, 2012; Sedova, Salamounova & Savricek, 2014). Adding to these problems is the lack of attention given to reasoning, particularly across academic subjects, within the national curriculum (DfE, 2014). The project reported here aims to stimulate improved teaching of reasoning in primary English lessons. To achieve this aim, a theoretical framework of reasoning 'styles' important within English has been constructed. Activities drawing

upon the ideas of dialogic teaching have been developed to target reasoning styles and have been subject to formal trialling.

Reasoning

Reasoning has been defined in numerous ways for varying purposes. For the purpose of this research, a broad definition of reasoning as "the process of drawing conclusions" (Leighton, 2004) is adopted. This encompasses many of the main ideas proposed in the multiple definitions and also fits with a 'common-sense' understanding of reasoning held in wider society, including schools. Being able to communicate the main ideas of this research to practitioners in schools is a fundamental requirement of the project.

Reasoning in socio-cultural theory

Reasoning is often considered from a psychological perspective focusing on innate reasoning as an individual cognitive process. Yet this perspective is criticised for failing to deal with higher-order reasoning extending beyond innate processes (Fodor, 1983). Philosophers largely focus on ideas like critical thinking, norms and values, logic and frameworks of argumentation (e.g. see Brandom, 2009; Kuhn, 1991; Toulmin, 1958). In contrast to psychological and philosophical approaches to reasoning, socio-cultural theory argues that knowledge and reasoning develop within cultures before becoming internalised by individuals. Typically associated with Vygotsky (e.g. 1978), socio-cultural theory maintains that language, among other tools, is used to mediate knowledge (Mercer, 2000; van Drie & van Boxtel, 2008; Vygotsky, 1962, 1978; Wertsch, 1991). The importance of communication and interactions with others is highlighted (Fernández, Wegerif, Mercer, & Rojas-Drummond, 2001; Howe, 2010). This definition expands reasoning from something existing within the mind of the individual to something which is played out in public, as "talking, arguing and

showing" (Hacking, 1992).

Reasoning is therefore considered to be a cultural phenomenon invented by, and part of, particular cultures. Academic domains represent different cultures; it is argued that disciplines have developed particular 'styles' of reasoning to draw conclusions and decide which ones count as valid arguments. Cultural reasoning draws upon the epistemic and social norms established in academic disciplines as well as their conceptual and procedural knowledge bases. This domain-specific approach to reasoning styles has been developed and explored in some fields (most notably in science) yet has been largely ignored in others (particularly arts-based domains). The reasoning practices within English literature have received limited attention yet there is a need to explore and make explicit the typical reasoning processes drawn upon here. This is especially important for teaching and learning: if students are to develop their capacities to reason appropriately within particular academic cultures and therefore participate fully, it is important that these practices are made explicit, taught and practised.

The 'styles' concept

The notion of reasoning 'styles' draws upon the academic field of cognitive history (Nersessian, 1995, Netz, 1999, Tweney, 2001) which studies written material to explain the interaction between *external* (cultural) and *internal* (cognitive) reasoning. It is argued that reasoning, in line with socio-cultural theory, can be found as ways of arguing in discussion and written texts. Reasoning styles are defined as "a pattern of inferential relations that are used to select, interpret, and support evidence for certain claims" (Bueno, 2012, p. 657). These ideas have been explored mainly in relation to science: Crombie's framework of six styles of scientific reasoning arose following extensive study of European scientific texts spanning two thousand years (1995). His

research provides a framework for identifying styles in other disciplines, through analysis of written material and immersion in a particular culture.

Research questions

This paper draws upon a larger empirical study used towards fulfilment of a PhD in Education. The study has three main research questions:

- What styles of reasoning predominate in the academic domain of English literature and have most relevance for the primary English curriculum?
- How can relevant reasoning in English literature be realised in scaffolding tasks for use in primary English teaching?
- How efficiently are the scaffolding tasks stimulating intended styles of reasoning in students' discourse?

This paper will focus primarily on the first two questions with findings reported at a later date.

Reasoning styles framework for English

To create a framework of reasoning styles applicable to English, it was necessary to look towards the English literature culture and its materials to identify styles of importance. This follows the cognitive history tradition and the model provided by Crombie (1995). The first phase of the project involved analysis of a wide range of texts, debates and lectures from English literature to identify the styles of reasoning drawn upon by academics in the field. Since reasoning styles which are also applicable to primary English were required, analysis also focused on two additional sources: the programme of study for English within the primary national curriculum (DfE, 2014) and associated assessment materials (e.g. Standards and Testing Agency, 2015). This was a pragmatic move given that the framework had to be applicable to the primary stage of

education and had to be understood by teachers of this phase. It was also hoped that the framework would complement current national curriculum requirements, so that teaching and promoting reasoning styles were not viewed as competing or additional demands within schools. These three main sources were considered in terms of the types of reasoning exhibited or required and each contributed to the final framework. The criteria for including particular styles in the framework focused first on their identifiability in the academic culture of English literature; they should represent key ways of forming and justifying conclusions within products of the culture. This should be supported in literary theory. Secondly, they should bear some resonance to the reasoning styles important within English in schools. Although school-based examples will illustrate differences in progression, the key hallmarks of individual styles should be applicable and appropriate from primary school onwards. Thirdly, the styles should be distinguishable from one another. While overlaps between reasoning styles may occur in practice, the descriptions of each should be distinct to make the key modes of thinking explicit so that they can be targeted in English lessons and analysed individually. There is no hierarchical structure within the styles identified and the importance of each varies according to the particular focus, literary text and purpose of analysis.

The framework

The five key styles are thus termed:

- **The genre-based style**: consideration of the genre(s) drawn upon within a text, including its associated conventions, how this is employed, and to what effect;
- **The structural style:** use of and reflection upon the organisational devices and structural features utilised within a text to achieve a sense of unity;

- **The analogy-based style:** use of analogy to create, explore and contrast images, characters and themes within and between literary works;
- **The contextual style:** consideration of background contextual aspects which supports creation and/or interpretation of a text;
- **The language-based style:** consideration of language and linguistic devices used to direct and flavour text.

It must be noted that this project does not claim to identify an exhaustive list of styles. It is accepted that others conducting similar analysis may produce a different version of the framework. The five styles described here are presented as what has emerged from the analysis undertaken here. They are being trialled in schools which may clarify, modify or change the styles. Despite the tentative claims regarding the existence of these styles, analysis was conducted thoroughly and rigorously; styles were identified after analysis.

Using the framework in the primary classroom

Whilst research can identify the predominant styles of reasoning for each academic domain and associated school subject, simply knowing about which styles dominate in English will not alone develop students' capacities to reason. There is therefore a need to develop activities which provide students with opportunities to practise subject-specific reasoning. Since language, communication and talk are central within sociocultural theory and to the development and practise of reasoning, a dialogic approach was sought. Dialogic teaching is widely advocated in research (Alexander, 2008; Littleton & Mercer, 2013; Michaels & O'Connor, 2013) although authors use a range of terms to refer to practices involved (Hennessy et al., 2016). This research will broadly follow principles identified by Alexander which suggest that dialogic teaching is collective, reciprocal, supportive, cumulative and purposeful (2008, p. 38). Research

has highlighted the lack of talk within classrooms alongside a preference towards low-level tasks and questioning, which place limited cognitive demand on students (Howe & Abedin, 2013; Smith, Hardman, Wall & Mroz, 2004). Changing this is not straightforward, yet embedding the reasoning styles into scaffolding activities, which make students practise and reflect on the reasoning involved may help to enhance student reasoning.

Methodology

The next phase of the project requires development, piloting and formal trialling of teaching materials designed to stimulate particular reasoning styles in primary English. While space does not permit detailed description of data collection and methods of analysis, briefly, lessons are audio recorded, transcribed and coded using a framework designed to focus on reasoning and dialogic teaching and learning. Trialled activities address three of the five styles from the framework (genre-based, language-based and analogy-based); selected given their appropriateness and importance within Key Stage 2. Four main activities are being trialled across these styles: odd one out, fortune lines, diamond ranking and role on the wall (see Higgins & Baumfield, 2011, for discussion of the first three activities). The activities should be flexible enough to be adapted to probe different styles of reasoning. Using different activities to promote the same reasoning style should permit analysis of the range of types of response generated within a particular style, regardless of the specific task. Conversely, by using the same task across different reasoning styles, the task-specific reasoning features or affordances may be observable.

Analysis

There are three main layers to data analysis. Firstly, transcripts are coded using a version of the Cambridge Dialogue Analysis Scheme (CDAS) (Vrikki et al., 2018)

developed from an earlier version: The Scheme for Educational Dialogue Analysis (SEDA) (Hennessy et al., 2016). The CDAS framework has been revised and developed in this project with additional coding categories added aiming to identify style-specific reasoning in English. The second layer of analysis focuses on task-specific affordances in terms of thinking and reasoning promoted by particular task structures. The third layer considers the impact of the teacher and/or researcher acting as a scaffold to reasoning and dialogue. This will also represent one of a number of ways in which the framework is evaluated: if teachers and/or students are able to make the reasoning styles explicit or demonstrate their understanding of them, this will help to verify their identifiability and communicability. It is hoped that trialling activities and evaluating their educational value will lead to recommendations for improving teaching of reasoning in primary English.

Next steps

Although this paper does not report empirical findings, it aims to provide both an overview of the theoretical assumptions underpinning the project, and description and justification of the methodology employed. The trial is now well under way. While formal evaluation of the success of these lessons in terms of promoting particular reasoning styles is not yet available, initial consideration based on analysis of early data is promising. Moreover, the particular coding categories developed to capture the style-specific elements of reasoning appear to offer reliably identifiable categories.

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Giving Teachers Back to Education: Virtuoso Teacher

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Giving Teachers Back to Education: Virtuoso Teacher

The imperative role teachers play in providing quality education that enables individuals to function effectively cannot be stressed enough. In this regard, the teacher's individual characteristics—his personal philosophies, subject matter knowledge (SMK), educationally appropriate judgement, practical wisdom, notions of pedagogical performance, ethics, morals and aesthetics—inexorably come into play in the transmitting of knowledge, as well as in the teacher's acting as a virtuoso. This study, therefore, seeks to articulate the concept of "virtuosity" in teaching, examining in particular the ways in which a virtuosic teacher comes into being. The most qualified teachers are those capable of amalgamating knowledge and expertise with practical wisdom, educationally appropriate judgement, performance, ethics, morals and dialogue, all of which, I argue, contribute to the making of virtuoso teachers.

Keywords: Virtuosity, Virtuoso teacher, Beliefs, Dialogue

Introduction

The notion of *virtuosity* can be traced back to ancient China and Greece where it was conceived and primarily practiced in educational contexts. Rooted in a variety of philosophical discourses, most notably by Aristotle and Confucius, the idea of *virtuosity* is crucial in offering a new conceptual framework for researchers preoccupied with the question of virtuoso teaching and its practicalities in an attempt to go beyond the implementation of systemic interventions that effect change at school level (Barber & Mourshed, 2007; Mourshed, Chijioke & Barber 2010).

The Severe Shortage of Qualified Teachers

A plethora of studies have been undertaken to identify the components of great teaching (Coe et al., 2014) and the criteria—skills, abilities or knowledge, to name a few—perceived as constitutive of a good teacher (Wilson, Shulman & Richert, 1987). Noteworthy, however, is the fact that little attempt has been made to examine systematically what lies at the heart of a virtuoso teacher who combines personal

elements with action elements in order to provide students with the most beneficial, desirable and effective teaching. Despite that, the profound significance of education in general, and science teaching in particular, have been increasingly foregrounded by governments and policy makers in recent years (Biesta, 2013). There exists a stark shortage of specialist teachers, (Weale, 2015; Morse, 2016) especially those highly qualified for science subjects, (Stets *et al*, 2016) which is a serious issue that needs to be confronted and addressed.

The Meaning of "Virtuosity" in Educational Contexts

Originated from the Greek word "arête", the word virtuosity means "virtue" when translated into English, generally referring to the moral or character excellence of an individual (Jorgensen & Nafstad, 2005). Remarkably, according to Aristotle, the ultimate goal of human being is to attain "human excellence" or "an excellence of soul", denoting the technical expertise and practical wisdom related to the excellence of character (Aristotle, 1999, p.26). The Greek moralists come to the conclusion that an individual's virtuous traits are twofold: on the one hand, a behavioural aspect in terms of his action; on the other hand, a psychological aspect which involves his motives, aims, concerns and perspective (Homiak, 2003).

In Book I of the Nicomachean Ethics, Aristotle calls into sharp focus the notion of human action (ibid., p.1). According to him, individual pursuit is, in essence, the pursuit of certain ends or goals (action), or "Telos." in Greek. Importantly, wisdom, judgement and knowledge, along with practices, play key roles in reaching excellence. In this regard, virtuosity not only refers to artistic performance carried out by actors, dancers, pianists, football players and so forth, but also, specifically in educational contexts, indicates practical wisdom, moral and ethical values, dialogue and aesthetics combined with educationally appropriate judgement (Biesta, 2015).

A Good Teacher Makes Real Difference

"…teachers are engineers of the human soul, gardeners of young minds and the developer of intellectual resources" (Paine, 1990, p.50).

An exceptionally gifted and capable teacher, that is, a *virtuoso*, is able to make an enormous difference to students' learning outcomes. According to Haycock's statistics (1998), such teachers enhanced low achieving students' learning gains by 53%, compared to 14% for the less effective teachers. In the similar vein, UK's Royal Society of Chemistry, known as RSC, urged that every subject should be taught by a teacher who is not only exceedingly enthusiastic about teaching and goes the extra mile but also in possession of good subject knowledge (Kind, 2009). The cultivation of a virtuoso teacher, therefore, should be placed at the heart of teacher education in order to effectively equalize the achievement outcomes of pupils (Kang & Hong, 2008).

The Philosophical Perspectives of Teaching and Learning

It is worth pointing out that *Eudaimonia*, or "human flourishing", embodies two intimately interlaced concepts known as *praxis* and *poiesis. Poiesis* refers to the act of making and *praxis* refers to the act of doing, both of which call for judgement (Wall,2003). The process of making *something* involves certain technical skills known as *techne*, whereas in the case of doing *something*, what matters the most practical wisdom (Markus, 1986; Biesta, 2013,). Remarkably, the notions of *praxis* and *poiesis* are particularly pertinent in the field of education, shedding new light on the means by which one can obtain a desirable education in order to be an individual marked by excellence.

Generally known as Master Kong, Confucius, almost a century ahead of Aristotle, called attention to the way in which the virtue of doing good through self-learning and self-cultivation serves as the main purpose of human being. His teaching,

more importantly, placed special emphasis on how to become a good person with good characteristics rather than on simply and singly acquiring knowledge (Shim, 2008).

In line with Aristotle and Confucius, a great number of contemporary educational philosophers—Paulo Freire, for instance—have made noteworthy contributions to the study of critical pedagogy (Zhao, 2013). Teacher-student interactions, consisting of a democratic approach to attain a democratic society, play a particularly important role in this regard (Díaz, 2018). Freire (2000) suggests that critical thinking is essential to acquire wisdom and virtues for learners. According to him, it is through analysing the materials critically that learners are enabled to attain knowledge.

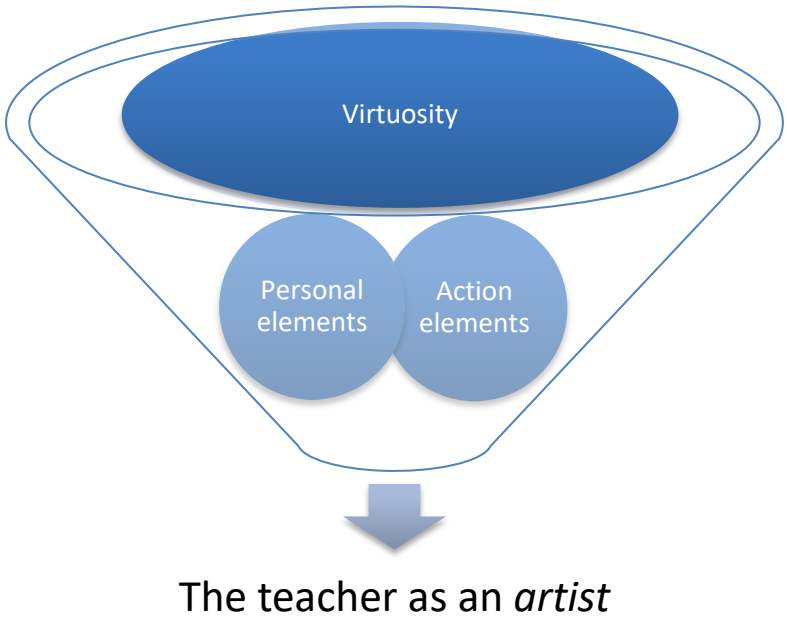
In order for the educational system to play a truly transforming role in students' lives, teachers are not only expected to make use of a wide range of pedagogy, curriculum, assessment, strategies in transmitting knowledge and skills, but also be responsible for the future of the society (Apple, 2012).

Different Dimensions of Virtuosity

Highly effective teaching involves the knowledge of subject matter, pedagogy and virtuosity, the amalgam of aesthetics, dialogue, practical wisdom, educationally appropriate judgement, performance, classroom crafts, personal beliefs, ethical issues and moral instructions, as well as cultural understanding (Paine, 1990; Pratt, Kelly & Wong, 1999; Shulman & Wilson, 2004; Carr 2010). In order to be considered as a virtuoso, the teacher needs to incorporate action elements into personal elements, that is to say, he not only possesses a wide range of pedagogical knowledge and strategies which he applies in delivering active learning, but also exhibits additional performance-related qualities. Notably, the action elements centre on dialogue, aesthetics, classroom talk, craft knowledge, whereas the personal elements revolve around the notion of

personal beliefs, ethics and moral values, judgement, practical wisdom and culture which work together in the portrayal of the teacher as an artist (Figure 1).

Figure 1: Elements of virtuosity



Personal Beliefs

An increasing number of researchers have investigated the impact of teachers' beliefs on students' learning outcomes (Pajares, 1992). This is particularly due to the existent mis-conceptualisations and misunderstandings of teachers' beliefs in relation to students, specific subjects and curriculums, which differentiate one teacher from the other, positively or negatively (Nespor, 1987).

Regardless of whether the teaching materials lie within or outside one's specialism, self-confidence and anxiety, for instance, are two of the most prominent feelings that have a lasting impact on trainee teachers' performance. Kind (2009) looked into the extent to which 'Subject Matter Knowledge' (SMK) exerts influence on the self-confidence of science trainee teachers. According to seventy-one questionnaires and twelve interviews targeting science trainee teachers in England who have

specialised in chemistry, physics or biology in pursuing their degrees, good teaching is closely linked to the teacher's self-confidence rather than his SMK.

Furthermore, Kind (2015) associated teachers' beliefs in science with science-teaching orientations (STOs), which refer to a teacher's *general way of viewing or conceptualising science teaching* (Magnusson *et al.,* 1999, p.97) and *general patterns of thought and behaviour* respectively (Anderson & Smith, 1987, p.99) in PCK. Based on statistics involving 237 preservice science teachers (PSTs) who took an initial teacher training course at a university in Northern England, Kind arrived at the conclusion that *PSTs' STOs more strongly emphasize notions about teaching and learning than their beliefs about science* (Kind, 2015, p.147).

A teacher's erroneous beliefs, thoughts and presumptions in classroom contexts inevitably lead to incorrect judgements of his students. Hence, an appropriate judgement as one of the most important dimensions of virtuosity is imperative for teachers to teach effectively.

Ethical Issues and Moral Instructions

Lumpkin (2008) called attention to the idea of teachers being 'models' by asking "What are they modelling?" In response to the question, Lickona (1991) may provide an answer by claiming that schools and teachers should be responsible for character education.

Rather than identifying an ultimate end or supreme principle that serve as a criterion for ethical evaluation, the goal of Dewey's ethics lies in identifying a method for improving our value judgements (Anderson, 2005). Noticeably, this resonates with one of the most distinctive features of Chinese ethics, namely, the respect for practical problems that require a practical and moral response along with an ethical consideration. Confucius, for instance, argued that character should be cultivated through virtue ethics (Rothstein, 1966; Radcliffe, 1989).

In this light, virtuoso teachers might get students to think about what happens *to any heavy metal ions, such as those of lead, that are poured down school laboratory sinks* (Reiss, 1999, p.123). Therefore, the primary aims of teaching ethics in science include cultivating students' *ethical sensitivity*, increasing their ethical knowledge, as well as improving their ethical judgement, and producing well-rounded students for a democratic society.

Dialogue

To a certain extent, dialogue lies at the heart of being human as it provides an essential way of communication. Or to put it another way, dialogue enables us to transform reality, and in doing so, creates a better, more virtuous society. It is unquestionable that dialogue plays a key role in both the teaching and the learning process. The dialogical classroom in which dialogical pedagogy is applied is important for improving interaction between teachers and students. (Shor & Freire, 1987).

Mercer (2008) stressed the significance of classroom talk in the fostering of teacher-student relationships. Based on interventional research in British primary schools, Mercer's analysis shows that dialogue contributes substantially to improving understanding of science and mathematics. Moreover, according to a study carried out on sixty 9-10 years old children in three state middle schools in London, the "exploratory talk" is particularly beneficial to students in terms of constructing better reasoning through peer interaction in the presence of teachers as facilitators. In addition, children who have been encouraged by teachers to perform "exploratory talk" arguably tend to gain better results on tests.

Gracious virtuoso teachers who are able to apply the dialogical way of teaching that requires aesthetic action can scaffold students' learning outcomes. Paulo Freire (2000), claimed that dialogue-based education offers teachers a means by which to create an effective environment or atmosphere. Therefore, his approach foregrounds the

ways in which teachers, in transferring what they know, reshape their existing knowledge with the help of students. Revolving around collaboration and communication, this approach is crucial in enabling teachers to gain practical judgement ability and cultivate a better relationship with the students.

Conclusion

Based on the literature review, the notion of virtuosity embodies two distinctive elements: personal elements such as personal beliefs, morals, practical wisdom, judgement and ethics, and action elements such as dialogue, aesthetics and craft knowledge. A virtuoso teacher is undeniably a role model for students, for he not only demonstrates remarkable enthusiasm about teaching, but also treats the act of teaching as an occupational commitment instead of simply a display of competencies.

Education is essentially a process of formation between teachers and students, parents and children, and human beings in society. The virtuoso teacher is an educational "artist" exerting a shaping force on society as a whole. It is crucial for students to be taught by *virtuoso* teachers who serve as role models for them and inspire them to become a knowledgeable person with respectable and admirable characteristics.

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Participation to Emancipation to Inclusion? Developing an active participatory research model with children with a visual impairment to promote educational inclusion, through improving teacher training provision on SEND.

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Participation to Emancipation to Inclusion? Developing an active participatory research model with children with a visual impairment to promote educational inclusion, via improving teacher training provision on SEND.

This article outlines a proposed empirical study exploring the development of an innovative, participatory research methodology, related to the 'Children-as-Researchers' model (Kellett, 2005; Fielding, 2004). Its key aim is to conduct research *with* a cohort of pupils with a visual impairment (hereafter VI), who will develop research skills and subsequently plan, create, deliver and evaluate a resource to promote inclusive practice amongst Initial Teacher Training (ITT) students. This could develop participants' self-monitoring skills (Koenig and Holbrook, 2009), which would result in self-empowerment (Davis and Watson, 2000). The project concurrently aims to enhance ITT SEND training provision, meeting Ofsted's (2008) recommendation that ITT providers offer opportunities for students to develop *specific* knowledge about particular diagnostic categories of SEND (later defined by the DfE's 2015 updated SEN Code of Practice as 4 broad areas of need).

Keywords: visual impairment; participatory action research; teacher training; inclusion, emancipation.

Background and Rationale

The 2014 Children's and Families Act represented the most wholescale change of SEND policy in 30 years, legislating a commitment to explicitly person-centred support processes and enshrining in policy children's right to "have a real say in what help they get" (DfE, 2014, p. 26). Yet in 2017, Ofsted still found pupils with SEND to be having a poorer educational experience than their peers. This project hypothesises that a key reason for this is that the right to participation and voice for pupils with SEND is not translating at grass-roots educational level. As Webster and Blatchford (2017, pp. 19-

20) state - “following the overhaul of the SEND system, we still do not know what the provision set out in a Statement looks like to the…pupils on the receiving end”.

The proposed research provides an original, timely contribution to the field of educational inclusion research. It stems from a supposition that while educators and policy-makers are committed to advocating *for* pupils with SEND, their actions may unwittingly disempower them. It is therefore crucial to develop pupil voice as a means of underpinning pupils with SEND’s rights to inclusion, as “listening to students can counter discriminatory and exclusionary tendencies in education” (Cook-Sather, 2006, p. 368). This research adopts a Vygotskian (1978) socio-cultural perspective in viewing learning as a social process, positing that people learn directly from interaction with each other (Bandura, 1977). It seeks to facilitate participatory research, and to consider meanings and good practice pertinent to those pupils involved. The term ‘participation’ is multi-layered in its definition (Hart, 1992; Shier, 2001, Sinclair, 2004). In its simplest construct it can simply mean taking part, being present, being involved or consulted (Franklin and Sloper, 2006). This project, however, aims to invoke the opposite end of the spectrum, bringing about a transfer of power to participants (Boyden and Ennew, 1997), so that their views drive decision-making and direction.

Additionally, it is “still relatively rare for children to initiate and drive a research project of their own choosing” (Kellett, 2006, p.3), and even more so for children with disabilities to be involved (Franklin and Sloper, 2006). Yet “the ability to collaborate on both a small-and large-scale is becoming one of the core requisites of postmodern society” (Fullan, 1993, p.5). While the Children-as-Researchers model has been used successfully with children with SEND (VIPER Project, 2012) and pupils with Profound and Multiple Learning Difficulties (Open University, 2016), there is a paucity of existing research which specifically involves pupils with VI as knowledge producers rather than subjects (Whitburn, 2014). This intimates that their experience and

knowledge remains largely unknown and "perhaps subjugated" (Genat, 2009, p. 105), therefore emphasising the potential of the proposed project to enhance knowledge in this area of disability studies.

Objectives

Its objectives bridge two clearly identified areas for development in inclusive education:

(1) ***Fostering active participation and empowerment of pupils with VI.*** As participatory research, it will generate (rather than 'extract') knowledge from participants (Veale, 2005). This will enable pupils (through 'deep' levels of participation) to circumvent their traditionally passive research positions and gain ownership of the direction of the project (O'Kane, 2000), achieving a collegiate state of mutual learning (Cornwall and Jewkes, 1995). With an underpinning adherence to an emancipatory research ethos (Oliver, 1992), this project aims to support pupil-participants in becoming change agents (Bragg and Fielding, 2005), effecting a tangible impact on inclusive educational practice and laying the foundations for intrapersonal empowerment (Barnes, 1992; Veale, 2005; Barnes and Sheldon, 2007). Therefore, it meets the ESRC's Delivery Plan 2016-2020 objective of contributing to the 'mental health and wellbeing' of participants, in terms of its personally transformative potential (Freire, 1990).

(2) ***Creating workable strategies to improve SEND training in ITT provision***. The SEND reforms stemming from the 2014 Children and Families Act led to the government commissioning the Carter Review into ITT (2015). This report highlighted the disparate quality of provision of SEND training for student teachers, finding that it is often treated as an "optional extra…[rather than] a priority" in course content (Carter, 2015, p. 34). This conclusion was supported by the 2017 SENSE report on ITT, which stated that "a concerted, system-wide effort to improve the confidence and competence of teachers to teach pupils with SEND seems both necessary and overdue" (Webster and Blatchford, 2017, p. 7). Therefore, it seems critical to furnish this field with active, practical research. Mintz et al (2015) suggest that ITT providers should improve student teachers' preparedness for their careers by helping them develop practical strategies to support theoretical knowledge of SEND (pp.79-80), including holding workshops examining disability (p.79) and providing opportunities to work closely with groups of children with SEND (p. 71). This project's unique positioning of pupil-participants as "pedagogical consultants" (Cook-Sather, 2011, p. 41) to the ITT students meets all of the above recommendations, highlighting its potential to positively impact upon ITT SEND training provision.

The Research

Ethos:

At the heart of its approach, this research supports McLinden and McCall's (2002) recommendation that children with VI should be encouraged to become active constructors of their own understanding, rather than passive recipients. This is underpinned by an adherence to an emancipatory research ethos (Oliver, 1992), which

puts disabled people in control of the research process, in order to facilitate their empowerment or emancipation (Barnes, 1992). In this study's exploration of 'emancipation' it adheres to the belief that disability is a social construct and that commitment to an egalitarian methodology, avoiding didacticism, will remove any sense of oppression for participants (Barnes and Sheldon, 2007).

Collaboration:

When adopting an emancipatory research ethos it is critical to attempt to invoke change as an outcome (Oliver, 1992); thus it is important to disseminate findings within the community involved (Davis, 2009). To this end, this research benefits from a collaborative partnership with the Royal National Institute for the Blind, which entails the development of a reciprocal knowledge transfer partnership. Additionally, the project is funded by the Economic and Social Research Council.

Methodology:

The research will have 3 phases in which both objectives are met concurrently:

Phase 1: Establishing theoretical and practical underpinnings

A thematic literature review will identify definitions of pupil participation, potential barriers and good practice (e.g. Hart, 1992; Shier, 2001; Sinclair, 2004; Bragg and Fielding, 2005), underpinned by a consideration of impact of Visual Impairment on participation (e.g. Kekelis and Zellsacks, 2001; McLinden and McCall, 2002; Roe, 2008). A typology of effective participation will be produced, which will inform the creation of a diamond ranking resource (Woolner, Clark, Hall, Tiplady, Thomas and Wall, 2010; Towler, Woolner and Wall, 2011) and a Q Sort (Stephenson, 1935) to be used as formative and summative evaluation tools in the introductory and follow-up focus group sessions (outlined in Phases 2 and 3 below).

A systematic review of the development of SEND ITT training provision in England post-1978 Warnock Report will provide a contextual discourse. Preliminary search criteria are taken from the 2010 European Agency for Development in Special Needs Education's International Literature Review. These were selected as a guiding (but not fixed) framework due to the breadth and robustness of that study, and the fact that, like this research, it is grounded in a focus on teacher training strategies that facilitate inclusion. Policy (e.g. specific DfEE/DfE publications dated 1998-2016) and guidance literature (e.g. Carter, 2015; Webster and Blatchford, 2017) will be studied to consider good ITT practice and areas for improvement.

Phase 2: Children as Researchers

Following the identification of a cohort of pupil-participants, an initial focus group will be conducted to build trust and common understanding (Krishnaswamy, 2004), and to introduce social-based learning in a structured way - a recommended approach for working with children with a VI (Roe, 2008). A group diamond ranking task will establish baseline understanding of meanings of participation and effective participatory practice. The diamond ranking headings will subsequently form the basis of an individual Q Sort task, which will also provide a semi-structured discussion forum. This activity will be held to overcome group dynamic power issues (Marshall and Rossman, 2006). Q Methodology has been selected as it allows subjectivity to be 'measured', allowing "an individual to represent his or her vantage point for purposes of…[considering] data in terms of the individual's whole pattern of responses, a self-reference" (Coogan and Herrington, 2011). Both tasks will be revisited in Phase 3 to determine whether subjective perspectives have changed through participation in the project.

Upon completion of this process, an adjusted Children-as-Researchers model will be used to train pupil-participants in research methods, using Kellett's (2005b) model as a guiding framework but refining to suit the access requirements of pupils and to overcome gatekeeper issues (Homan, 2002), notably time constraints. This design will be informed by an examination of existing good practice (including Fielding, 2001b, 2004; Kellett, 2005, 2006; Davis, 2009; Cook-Sather 2002, 2006, 2011; The VIPER project, 2012; The Open University, 2016). The group will subsequently design and create an educational tool/resource collaboratively, to train student teachers in promoting inclusive practice, evaluating its perceived efficacy via self-determined criteria. This emphasises the innovative nature of this project, as "outcome measures defined by young people are still rare" (Franklin and Sloper, 2006, p. 16).

Phase 3: Evaluating Outcomes

An exploration of the self-reported outcomes of pupil-participation in the project will be undertaken, through repetition of audio-recorded and data transcribed focus groups and individual Q sort tasks. Key interactional moments or epiphanies (Denzin, 1989, p. 15) in the final focus groups may lead to identification of shared experiences, which could be considered as representative of communal outcomes of participation in the project. Consequently, there would be, there is potential to create categories of analysis (Genat, 2009) as a means of drawing conclusions. Any emergent coding will be referred back to participants for feedback before and after their application to the data in a member-checking process (McMillan & Wergin, 2002, p. 122), triangulating data and ensuring respondent validity (Reason and Rowan, 1981). Indeed, participatory research *must* be supported by continuous data collection from individual interviews and focus groups to retain its viability (Niewenhuys, 1996) and ensure the emic voice is heard (Genat, 2009).

Finally, reflection on the potential of the participatory research model developed herein as a means for improving ITT SEND training provision will occur. As a pilot scheme trialling a model of pupil-led training for trainee practitioners, this project aims to invoke bifurcating yet complimentary outcomes: First, addressing the clear deficiency of pupil voice input into ITT. Second, simultaneously affording student teachers the opportunity to build evidence towards meeting Teachers' Standard 5: possessing a clear understanding of the needs of all pupils (DfE, 2011). Dependent on the nature of the resource produced by pupil-participants, there are opportunities to involve all students, or a smaller cohort who can act as 'SEND Champions' (Lamb, 2009; Mintz et al, 2015), and cascade knowledge to peers. Reflection will be achieved via student teachers completing pre- and post-participation questionnaires, of which the content is based on the sub-standards of Teachers' Standard 5. For example, to baseline and then assess whether the project has facilitated participants becoming more secure in identifying factors that inhibit learning and developing strategies for overcoming them. This method will be designed to include both closed Likert-type questions and open-ended questions, garnering supplementary rich data and gauge the perceived impact of the pupil-led training on their practice/confidence.

Outcomes

This research may have multi-faceted outcomes. It aims to cultivate in its participants transferable research skills that can be used in different curricular (as well as real-life) contexts, and it may also promote development of intra-personal skills that support social inclusion. It is acknowledged that these outcomes are dependent variables - as Aviles et al (2006) attest, improving social emotional development will have a positive impact on self-esteem, academic progress and attainment. In addition to improving teacher preparedness for teaching pupils with SEND, participation may also have wider-

reaching practical implications for their practice - as the Carter Review (2015, p. 34) notes, “good teaching for SEND is good teaching for all children”.

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Sick of Study: Student mental 'illness' and neoliberal higher education policy

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Sick of Study: Student mental 'illness' and neoliberal higher education policy

'The anxiety currently manifest in higher education is not an unintended consequence or malfunction, but is inherent in the design of a system driven by improving productivity and the potential for the accumulation of capital' (Hall and Bowles, 2016, p.33).

This paper applies postmodern theory to reposition the increase in certain student mental 'illnesses' (namely anxiety and depressive conditions) as socio-political, rather than natural and individual. It posits, in particular, that conditions of depression and anxiety are reproduced through neoliberal higher education policy discourses and structures, as an instrument of neoliberal power; that these mental 'illnesses' are, in part, defined by, produced by, and reproduce neoliberalism.

This paper propounds a three-tier Foucaultian framework for conceptualising student mental 'illness' in the context of the discourse-truth-power-subject relations of neoliberal higher education policy. Tier 1 proposes that mental 'illness' is discursively constructed, and defined in opposition to neoliberal ethico-economic normality. Tier 2 proposes that the mentally 'ill' student subject is reproduced, both externally and internally, through neoliberal higher education policy. Tier 3 proposes that these mental 'illnesses' reproduce four core tenets of neoliberal functionality: 1.) Neoliberal Governmentality; 2.) Neoliberal Subjectivity; 3.) Neoliberal Regulation & 4.) Neoliberal Consumption.

Keywords: mental illness; neoliberalism; Foucault; higher education

Introduction

Student mental health is a growing public and political concern. UK students consistently score lower on wellbeing outcomes than both their international peers (Broadbent et al., 2017; Layard, 2005) and the equivalent UK non-student population (Evans et al., 2018; Thorley, 2017). Whilst a complex and contested field, Byrom (2018) identifies three emergent themes of consensus at the synergy between student mental health research, policy and practice. First, the number of students reporting mental distress is significantly increasing (Auerbach et al., 2018; 2016; NUS, 2015; Beiter et al., 2015; Hunt & Eisenberg, 2010); five times more students now disclose mental health conditions at university than a decade ago (Thorley, 2017), with depression and anxiety accounting for 75% of self-reported student mental health conditions (YouGov, 2015). Second, the demand for university wellbeing services is increasing unsustainably (Thorley, 2017; Williams et al., 2015; Mattheys, 2015). This has resulted in 61% of university counselling services reporting an increase in demand of over 25% in the last 5 years (Thorley, 2017) and substantial unmet need (Xiao et al., 2017; Auerbach et al., 2016). Third, there is a growing recognition that an exclusively medical framework is insufficient to account for the social, academic & financial pressures that students face - reflected, for example, in UK government policy (DEC, 2018), and Universities UK policy and practitioner guidance (UUK, 2018; 2015). This paper responds to these themes by situating the increase in student experiences of depression and anxiety within the context of neoliberal higher education policy, and therefore as the object of preventative policy change, to potentially reduce pressure on university wellbeing services.

Social and Political Perspectives of Mental Health

To contextualise this position, Bentall (2009) identifies four core epistemological approaches within the field of student mental health. First, the biomedical paradigm which conceptualises mentally ill health as an internal pathology, mediated by certain genetic risk factors, and requiring accurate diagnosis and effective drug therapy (Bentall, 2009). Second, the psychological approach,

which emphasises psychological intervention to identify and challenge certain self-destructive thought and behavioural patterns. This aims to equips the individual with the skills to make mentally healthy choices (Fredrickson, 2011; Lopez & Snyder, 2009; Reivich & Shatte, 2003). Third, the medical sociological framework which aims to identify the political, economic and social determinants of mental health (Bambra & Schrecker, 2015). Fourth, the 'anti-psychiatric' (Bentall, 2009, p.71) political epidemiological position, associated with writers Thomas Szasz (1974; 1963), Ronald Laing (1961; 1960) and Michel Foucault (1965; 1954), that positions the existence, definition, explanation and treatment of mental 'illness' as an economic and moral construct that is both produced by, and reproduces, capitalism (Cloud, 2014). This paper aims to contribute a medical sociological and political epidemiological perspective, by synthesising Foucaultian (1979; 1974) relations of discourse-truth-power and the subject, to (re)conceptualise the social and individual dimensions of the relationship between neoliberal higher education policy and student experiences of depression and anxiety.

It can be argued, in short, that neoliberal higher education, not the individual, is 'sick'. I use the word 'sick' here in a treble sense. I mean 'sick' as ailing and failing; neoliberal policies are not working for wider educational objectives beyond the exchange of capital. In addition, I mean 'sick' as just 'sick and tired'; if the individual is increasingly sick, this is, in part, an experience of being sick and tired of the conditions of neoliberal higher education. Furthermore, I mean 'sick' as sadistic sickness; the neoliberal establishment (re)produces this cycle of sickness for its own politico-economic gratification. That is to say that conditions of depression and anxiety are themselves inherent to the ideal neoliberal conditions of higher education.

To be clear, it is not suggested that there is a universal causal relationship between neoliberal higher education policy and mentally ill health. However, given the levels of mental distress presenting in the neoliberal academy, there is a certain intellectual and indeed ethical responsibility to critically examine the impact of policy on student wellbeing - not to political point score – but to enable more informed and mentally healthy policy choices (Bambra & Schrecker, 2015). Equally,

this paper does not suggest that mental 'illness' is not real. The experience of mental 'illness' is, of course, very real. It's the reality of this experience as an 'illness' that is disputed. That is to say that the conditions of depression and anxiety, given their socio-political dimensions, differ aetiologically, prognostically and experientially to the epistemological and epidemiological conditions of 'illness' (Bentall, 2009).

A Foucaultian Model of Student Mental 'Illness'

In what follows, I briefly outline the core tenets of a Foucaultian model of student mental 'illness'. Discussion will be structured around three tiers: 1.) The Discursive Nature of Mental 'Illness'; 2.) Neoliberal Higher Education Policy and Student Mental 'Illness' and 3.) Student Mental 'Illness' and Neoliberal Functionality. I propose, in essence, that increasing student experience of depression and anxiety is both a symptom and a tactic of neoliberal governance (Loveday, 2018; Berg et al., 2016; Hall & Bowles, 2016); that these conditions are both produced by, and (re)produce, the discourses and structures of neoliberal higher education policy (ibid).

(1) Tier One: The Discursive Structure of Mental 'Illness' (What).

For Foucault (1965; 1954), temporal changes to classifications of mental 'illness' preclude the presence of a natural and universal pathology within the individual, and reflect rather the dominant discourses and concepts that govern society at a given social moment. Mental 'illness', Foucault (ibid) argues then, is seen and experienced through the dominant (neo)-liberal discourses of rationality and irrationality, and the associated discourses of morality and labour, as an 'indissociably economic and moral' condition (Foucault, 1965, p.57) that is both subject and object of individual choice (Loveday, 2018; Gill & Donaghue, 2016).

(2) Tier Two: Neoliberal Higher Education Policy and Student Mental 'Illness' (How)

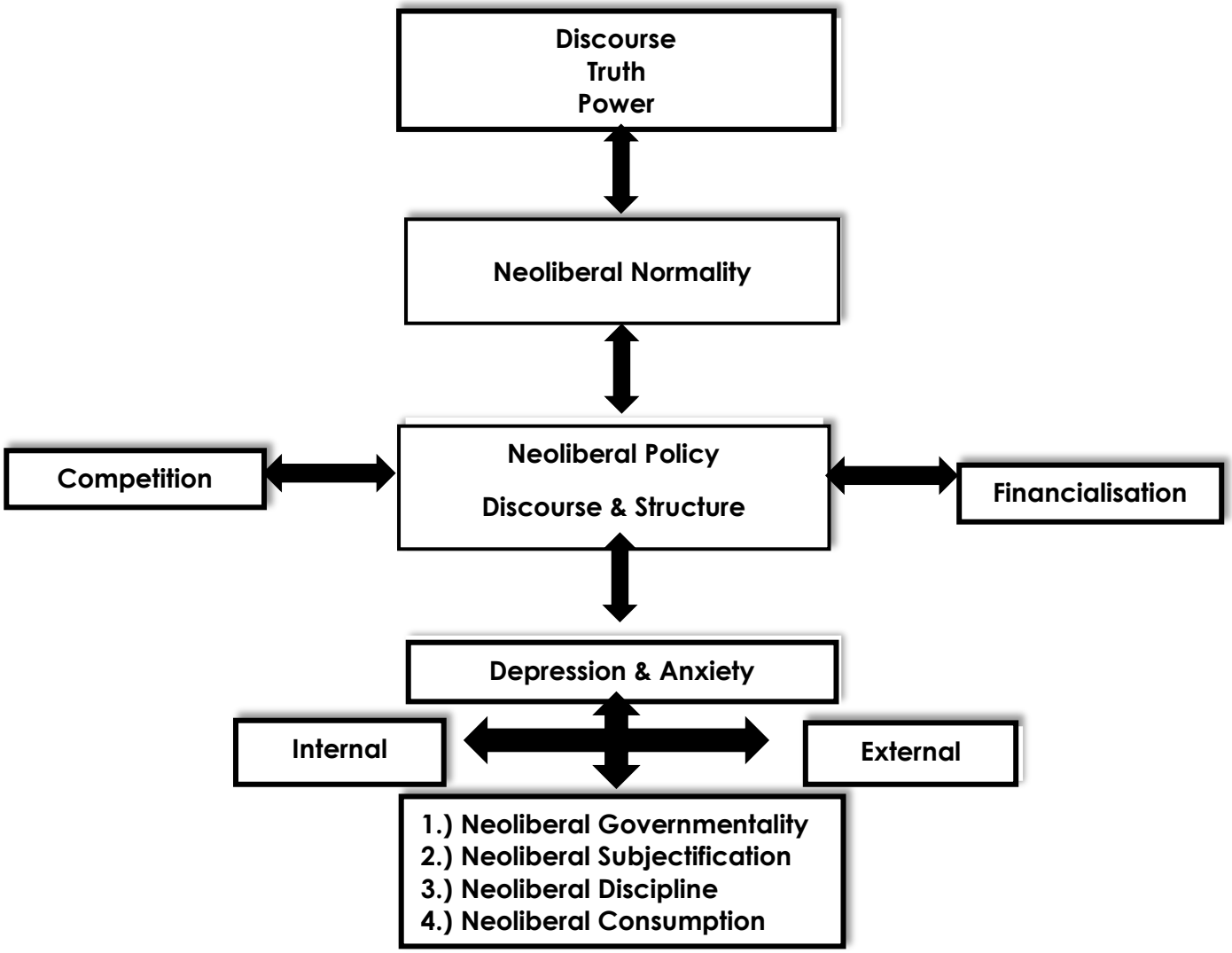
(2a) Foucaultian Subjectivity and Neoliberal Higher Education Policy

Accepting this premise, student experiences of depression and anxiety exist within a framework of discourse-truth-power-subject relations (Foucault, 1965). For simplicity, let us consider these Foucaultian relations in turn, before summarising the proposed implications for student mental health.

Firstly, Power = Subject. For Foucault (1982) that is, the subject is (re)produced, a.) Externally 'by control or dependence' (ibid, p.212) and b.) Internally 'by a conscience or self-knowledge' (ibid), within relations of discourse-truth-power. Secondly, Discourse-Truth = Power. For Foucault (1979) that is, a.) Neoliberal power produces the discourses that count as truth in higher education policy and b.) The discourses that count as truth in higher education policy (re)produce neoliberal power relations (ibid). By extension, Foucault argues (2010; 1980; 1979) that disciplinary knowledge of subject normality legitimates neoliberal policy discourses and structures within the state apparatus that ethico-economically discipline the subject (ibid).

In sum, I propose that neoliberal higher education policies, in part, (re)create and (re)produce the discursive and structural conditions that, both externally and internally, make students sick (see Figure 1). Students are sick both of the stress and distress imposed by external neoliberal policy conditions, and the internalisation of neoliberal policy subjectivities. This external and internal relationship between neoliberal higher education policy and student mental 'illness' is, I argue here, centralised around two themes: competition and financialisation (Ball, 2015b; 2012b). These are manifest within the 2010 university tuition fee reforms (BIS, 2010a; 2010b). I go on to frame the impact of tuition fee reforms on student mental health through this Foucaultian framework.

Figure 1 A Foucaultian Model of Student Mental Health



(2b) Austerity & Free-Market Competition in Higher Education

The policy choice to cut government spending and implement a three-fold increase in university tuition fees imposes *external* socio-material conditions that, 'by control or dependence' (Foucault, 1982, p.212), subject students to debt, financial insecurity, and low standards of living that are strongly associated with depression and anxiety (Bambra & Schrecker, 2015).

Additionally, at an internal level, this policy subjects students 'by a conscience or self-knowledge' (Foucault, 1982, p.212) to an *internal* neoliberal psychosocial economy of capital exchange. Once education is socially reconceived as a commodity, and simply the individual accumulation and exchange of capital within a free-market knowledge economy (BIS, 2016),

students are alienated from their productions so that self-value and education capital value become intrinsically related (Ball, 2015a; 2015b; 2015c; 2013; 2012a; Ball & Olmedo, 2013). Students subsequently revalue themselves and their productions according to their capital exchange value within neoliberal competition (Hall & Bowles, 2016; Smith, 2012), whereby student self-worth, 'purposes, decisions and social relations' (Ball & Olmedo, 2013, p.88) are attached, 'by a conscience or self-knowledge' (Foucault, 1982, p.212), to the value judgements of neoliberal policy (Foucault, 1979). This ontological shift in policy discourse can, I suggest, perpetuate certain mentally unhealthy beliefs and behaviours, such as an anxiety and perfectionism around certain assessment measures (Bowles & Hall, 2016; Berg et al., 2016; Ball, 2015a; Smith, 2012). Moreover, it can produce intensification and lack of self-care (Gill & Donaghue, 2016; Bowles & Hall, 2016; Cloud, 2014), and the internalisation of neoliberal competition and ranking structures (Berg et al., 2016; Bowles & Hall, 2016; Ball, 2015a; 2015c; 2012a; 2012b; Ball & Olmedo, 2013).

Accepting this internal policy dimension of student mental health experiences, as framed within the above Foucaultian relations of discourse-truth-power-subject, I propose that certain experiences of depression and anxiety are 'created to operate on minds and bodies as a discipline and disciplinary practice' (Berg et al., 2016, p.173) in the reproduction of the ideal responsibilised, self-disciplining and entrepreneurial neoliberal subject (Loveday, 2018; Berg et al., 2016; Hall & Bowles, 2016; Cloud, 2014; Ball, 2012; 2013; 2015; Rose 1992; 1989; Foucault, 1979).

(3) Tier Three: Mental 'Illness' and Neoliberal Functionalism (Why)

Certain conditions of depression and anxiety are inherent, I propose, to four core tenets of optimal neoliberal functionality. First, neoliberal governmentality: discourses of mental 'illness' are (re)cited to naturalise and individualise the social ills of neoliberal capitalism (Cloud, 2014), and thus dissipate collective political resistance (Gill & Donaghue, 2016). There exists, as Fisher (2011) puts it, a cyclical relationship between the seeming inevitability of neoliberal capitalist realism, and the seeming `realism' of the depressive with their internal attribution of failure and incapacity to

envision positive change (Bentall, 2009). Second, neoliberal subjectification: certain conditions of anxiety and depression are necessary to sustain and (re)produce the conditions of neoliberal competition, and the ideal 'docile and capable' (Foucault, 1979, p.294) neoliberal subject. 'Anxiety', Loveday (2018, p.156) writes, 'has an active role to play in the creation of the type of entrepreneurial academic subject who aids competition by taking risks' and is self-disciplined and self-responsibilized to accumulate knowledge capital within free-market competition (Ball, 2015a; 2012; Rose, 1992; 1989). Third, neoliberal discipline: discourses of mental 'illness' are self-cited to (re)position neoliberal qualities and choices as normal and desirable (Ahmed, 2010; Moncrieff, 2006). The logic of self-help or academic resilience is a neoliberal logic; the individual is problematized, responsibilized and disciplined to work on the self and thrive despite the increasing demands of the neoliberal academy (Gill & Donaghue, 2016; Rose, 1992). Fourth, neoliberal consumption: it has been argued that certain specialist treatments for mental 'illness', in the absence of substantive evidence of their effectiveness (Bentall, 2009), function primarily to (re)produce the logic of consumption (Moncrieff, 2006) and the flow of capital (Whitaker, 2005).

Conclusion

Ultimately I have argued here that student 'depression' and 'anxiety' are conditions that are, in part, (re)defined by, produced by, and (re)produce neoliberalism. I have argued that neoliberal policy factors are related to student experiences of depression and anxiety; that disciplinary knowledge of depression and anxiety is recuperated to reproduce the neoliberal logic of individualism, resilience and self-help; and that certain conditions of depression and anxiety (re)produce the ideal 'docile and capable' (Foucault, 1979, p.294) neoliberal subject. Situated within the disciplinary context and in response to the key concerns in the literature, this framework can have relevance for student mental health research, policy and practice.

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Family, School and Job – The Impact of Socio-economic Background and School Segregation on Labour Market Outcomes: Evidence from the Longitudinal Study *Next Steps* in England

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Family, School and Job – The Impact of Socio-economic Background and School Segregation on Labour Market Outcomes: Evidence from the Longitudinal Study *Next Steps* in England

Early access to the labour market in the UK and other developed countries for young people is still clearly stratified according to socio-economic origins and prior educational attainment. However, these factors are difficult to change, are not the only factors creating stratified outcomes, and may in any case be mediated by other factors such as school segregation and peer influence. In recent years, there have been increasing policy concerns about social mobility in the UK. This study uses the longitudinal study *Next Steps* to analyse the trajectories of a generation currently in their late 20s. It focuses on how two different factors – socio-economic background and school segregation – are related to occupational status in early adulthood from the perspective of social justice and the equity and equality of education. The paper provides a review of the literature on the topic and describes the methods used in this study.

Keywords: social mobility, socio-economic background, school segregation, labour market outcomes

Introduction

Occupational gaps – differences in labour market outcomes between socio-economic groups – remain one of the most important issues in the area of social mobility. There has been increasing concern about social justice in recent years, especially in political debates on the roles of social origins and education in social mobility. Social scientists have long been and are still conducting analyses of the potential elements influencing life chances. It has often been argued that an advantageous family background and education have the potential to lead to upward social mobility. However, there is still no clear picture about the relation between the family, educational factors and occupational mobility. In addition, there is a lack of research on the impact of secondary education, especially in terms of school segregation characteristics, on labour market outcomes. This study probes into how socio-economic background and school segregation are related to young people's labour market outcomes in early adulthood. It aims to provide policy-makers with suggestions to increase social mobility and improve fair access to the labour market.

Social mobility: definition

Social mobility is a concept based on the idea that society can be considered an open system of social stratification which is typically determined by social class (Glass, 1967; Sorokin, 1927). The theory is that people can be 'stratified' into different socio-economic levels on the basis of their incomes, occupations, education or derived social and political power. A variety of stratification schemata, including Erik Olin Wright's Class Structure, the Cambridge Social Interaction and Stratification Scale, the Swiss Socio-Professional Categories, John H. Goldthrope's Class Schema and Donald J. Treiman's Prestige Scale, have been developed and are widely used in the social and political sciences.

The dataset *Next Steps* used in this study adopts the *National Statistics Socio-economic Classification* (NS-SEC) of employment relations and occupational status developed from the Goldthrope schema (Goldthorpe, 1980/1987, 1997). This schema is influenced by the ideas of Max Weber (see Marshall et al., 1988 for further explanation) and centres on employment relations. The basic idea is that an industrial society produces "a diversification of occupations, which can be classified according to the relations they form with each other" (Bergman and Joye, 2005, p. 9). The notion of social mobility accepts the idea of social stratification and refers to "the movement or opportunities for movement between different social classes or occupational groups" (Aldridge, 2003, p. 189).

Mobility is generally measured in terms of economic changes, such as in levels of income or earnings, social class, socio-economic status (SES) or occupational status (Goldthorpe and Mills, 2008). One popular measure of social mobility in mainstream studies considers changes of occupation – either upwards or downwards – in the labour market, either in individuals' lifetimes (intra-generational) or within families over generations (inter-generational).

What matters? Factors influencing social mobility

In recent years there has been increasing concern about inequality of opportunities in the labour market in the UK (Keep & Mayhew, 2014). In order to narrow the occupational gaps between students from lower socio-economic backgrounds and those with privileged family origins, and to improve the equality of occupational opportunities, it is important to probe into the potential factors which may either be barriers preventing disadvantaged children from accessing high-value jobs or play positive roles in improving individuals' occupational status compared to their parents'

occupations. Suggesting policy solutions to overcome disadvantages in social mobility necessitates an understanding of the related casual influences. Research evidence shows that labour market outcomes and opportunities are, to different extents, influenced by social origins, early education, educational attainment and higher educational status.

School segregation

Schooling is widely considered to facilitate individuals' achievement of economic and social objectives, especially "occupational attainment and earnings" (Hinchliffe, 1987, p. 141). Among the wide range of studies focusing on the role of education as an engine of social mobility, some examine this broad issue with a specific focus on the relation between school types and occupational status (Boliver & Swift, 2011; Clark & Del Bono, 2014; Clifford & Heath, 1984; Dearden, Ferri, & Meghir, 2002; Green, Machin, Murphy, & Zhu, 2011). In the UK context, a recent study shows that a selective education system leads to greater inequality in adult earnings (Burgess, Dickson, & Macmillan, 2014). This is in line with the finding of Green, Machin, Murphy and Zhu (2011) that private schooling in Britain leads to higher wages in the labour market.

Regarding schooling, school segregation proves to be an important concept. School segregation, "a measure of the unevenness in the distribution of individual characteristics" between schools, can increase the "inequality (unevenness of distribution) between schools in terms of disadvantaged students" (Gorard, Taylor & Fitz, 2003, p. 34). Gorard, in his paper *The complex determinants of school intake characteristics and segregation, England 1989 to 2014* (2015), provides a detailed analysis of the possible determinants of school segregation, such as geographical factors, ethnic origin and social class. School segregation is widely studied in terms of disadvantages in educational attainment (Gorard, 2000, 2014; Gorard & See, 2013).

One piece of research involving the issue of school segregation and educational equity is by Gorard, Taylor, and Fitz (2003), who, in the book *Schools, Markets and Choice Policies*, give a detailed analysis of school segregation in England and Wales and investigate the relation between education markets and equity.

Research questions

This study examines occupational chances in the UK labour market by the age of 25 using the nationally representative longitudinal dataset *Next Steps*. The following three main research questions are addressed:

(1) To what extent and in what ways do family characteristics, including economic status and educational and cultural resources, influence young people's occupational status in the labour market in early adulthood (i.e. by the age of 25)?

(2) In terms of school segregation, to what extent is secondary schooling, including the type of secondary school attended, school characteristics and peer effects, linked to students' occupational attainment by the age of 25?

(3) To what extent is the effect of advantage in access to the labour market, especially to an elite occupation, mediated by differences in school characteristics?

Data

At the core of this study is a combination of large-scale survey data from *Next Steps* on an initial sample of 15,770 young people in England and the National Pupil Database (NPD) from the robust nationwide administrative school level dataset *School Level Annual Schools Census* (SLASC).

Next Steps

Next Steps is a large-scale nationally-representative survey following the lives of 15,770 students selected to be representative of young people in England. The survey followed a cohort of young people born between September 1989 and August 1990 from the age of 13/14 in Year 9 attending maintained schools, independent schools and pupil referral units (PRUs) in England in 2004 until they reached the age of 25/26 in 2016. The respondents were initially interviewed in spring 2004. This was followed by subsequent annual household interviews until 2010, and a further survey in 2015 when the cohort reached 25 resulting in a total of eight waves. The survey collected rich information on its subjects' family backgrounds, incomes and environments, their parents' socio-economic status, employment, aspirations and attitudes, and local levels of deprivation, together with specific information on the young people's secondary education and training, including the type of secondary school attended, the academic or vocational qualifications that they obtained, their higher education, their attitudes to higher education and jobs, and their economic activities at each stage, including occupational status, sources of income and state benefits or tax credits claimed (Department for Education, 2011). An understanding of the family and educational characteristics of this cohort is vital to understanding their later occupational trajectories.

School Level Annual Schools Census (SLASC)

In order to examine whether and how different levels of school segregation are related to young people's later occupational status, the study links *Next Steps* data with *SLASC*. *SLASC* is a national administrative dataset officially collected by the Department for Education (DfE) and has long served as one of the nation's richest sources of administrative data from all state-maintained schools in England. It provides rich school-level data including the specific schools that pupils attend, their educational

attainment and "a range of possible indicators of pupil disadvantage such as eligibility for free school meals and special educational needs" (Gorard, 2013, p. 113), which facilitate an analysis of the main characteristics of school segregation. All school-age educational establishments participate in the *SLASC* to some extent and all state-funded schools participate completely (Gorard, 2013, p. 113).

Sampling achievement and data attrition

Next Steps attempted to follow all of the 15,770 households who initially took part in wave one. However, as with almost all other longitudinal surveys, it suffers from data attrition across the waves. Wave two had a sample of 13,539 households, and there was a reduction of 36% in wave three, with 12,439 cases. In wave four 11,801 young people were interviewed, with the sample containing an additional "ethnic minority boost of 600 Black African and Black Caribbean young people" (Department for Education, 2011, p. 11). The aim of this sample boost was to ensure "an adequate representation of the relevant sub-population in England" (Department for Education, 2011, p. 9). In wave five, 10,430 households were interviewed, and 9,799 took part in wave six and 8,682 in wave seven. The final wave (Wave Eight) covered a sample of 7,481 cases. Of the total of 16122 respondents (including the boost sample), the number of valid cases taking part in all the waves with relatively full information on family origins, school segregation and labour market outcomes is n=5426. These form the analytical sample used in the present study.

Overview of research methods

The study exploits the longitudinal nature of the data by building models of the relation between the indicators of socio-economic background and school segregation among the secondary schools concerned and those of labour market outcomes in early adulthood for the cohort studied. Specifically, it explores the impact of socio-economic background and school segregation on young people's occupational status by the age of 25, as indicated by their NS-SEC class category. It uses multinomial logistic regression to evaluate the relationship between the factors used as predictors of employment status.

The modelling strategy unfolds across five models (see Table 1) which capture the key stages in individuals' early life courses.

Table 1 Models

Model 1	Socio-economic background and characteristics: • Family background information • Economic resources • Cultural and educational resources
Model 2	Model 1 + Age 13/14 secondary school
Model 3	Model 2 + Apprenticeship and/or training at age 15/16
Model 4	Model 3 + Higher education status and economic activity by age 18/19
Model 5	Model 4 + Occupational statuses at 25

The five models capture the important life stages cumulatively. Model 1 begins with an account of the basic characteristics of the cohort members at birth and the indicators of their economic and cultural backgrounds. Model 2 adds the secondary school type at age 13/14 and model 3 also includes apprenticeships and training at age 15/16. Model 4 includes higher education status and economic activity, as indicated by being employed, having an apprenticeship or training, conducting unpaid or voluntary work or being not in education, employment or training (NEET) by age 18/19. This model captures the important educational transition stage for the cohort. Amongst other things, the last model, Model 5, adds the occupational status at age 25 as indicated by the NS-SEC class.

Next stage

This paper has mainly focused on an overview of the research literature, a description of the datasets used and a justification of the methods employed. Analysis of the models is being conducted at the moment and the findings will be reported at a later date.

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Bar Modelling and Autism – Sufficient or Necessary in Problem solving?

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Bar Modelling and Autism – Sufficient or Necessary in Problem solving?

A significant driver for curriculum reform in England is based on performance in international comparative assessments. One consequence of this, is the rise in the use of the bar model, which is embedded within the Singapore mathematics curriculum, in mathematical problem solving. Coupled with this, is the rise in the number of pupils with autism in mainstream primary schools. This paper attempts to explore the usefulness of the bar model as a tool to support autistic pupils with mathematical problem solving. Qualitative comparative analysis is utilised in order to provide an analysis of conditions, under which the bar model may be sufficient, or necessary, to support such pupils within this domain. Findings from the study hope to support educational practitioners to maximise the teaching and learning opportunities for autistic pupils within mathematics.

Keywords: autism; bar modelling; problem solving; qualitative comparative analysis

Introduction

Significant influence on the school curriculum in the U.K. is driven by the results of international comparative assessments of academic performance such as the Programme for International Student Assessment (PISA) (DfE, 2016). Influences from those countries who demonstrate higher levels of performance than the U.K., particularly in mathematics, of which Singapore is one, frequently impact upon the classroom practice and curriculum development of schools in England. Consequently, the emphasis on mathematical reasoning and problem solving in the current National Curriculum guidance (DfE, 2013) has given rise to an increased number of schools adopting the bar model as an approach to support mathematical understanding and problem solving. Given this widespread adoption of such an approach, coupled with the fact that most

autistic individuals with average or above IQ are educated in mainstream settings alongside their non-autistic peers (Bae, Chiang, & Hickson, 2015), this study seeks to address some of the gaps in current research and understanding, whilst analysing the current trends in classroom practice, in an attempt to bridge the gap between research and practice for autistic pupils. The study aims to answer the following research questions:

- Under what conditions does the bar model support mathematical problem solving, of two-step, real-life, word problems, for autistic pupils?
- Is the bar model approach sufficient to support mathematical problem solving for autistic pupils?
- Does the bar model approach form a necessary factor within a combination of other conditions to support mathematical problem solving for autistic pupils?

Mathematical problem solving and autism

Autism as a spectrum disorder

Autism spectrum disorder (ASD) acknowledges a vast heterogeneity of individuals, ranging from those with significant cognitive impairment to those with heightened cognitive abilities, compared to their neurotypical peers (Asperger's Syndrome or high functioning autism (HFA)), as well as an often uneven profile of abilities across different domains (Aagten-Murphy et al., 2013; Agrawal, 2013; Chiang & Lin, 2007; Whitby & Mancil, 2009).

Whilst acknowledging the heterogeneity of autism, various key theories have been proposed in an attempt to explain and understand the social and non-social difficulties faced by many individuals within this population. Three key theories underpinning cognition and autism are: theory of mind deficit (ToM); theory of

executive dysfunction (EF); and weak central coherence theory (WCC), all of which may provide some explanation to a number of the commonly presented factors associated with autism.

An alternative to the cognitive theories discussed above, is proposed by Siegel (2009), who suggests the use of cluster deficits as a model for explaining the difficulties faced by some autistic pupils. The four clusters she considers are verbal communication, non-verbal communication, social cluster deficits and play/exploration. The use of such clusters may provide more useful to educational practitioners, as they propose a simpler mechanism by which to identify specific difficulties faced by autistic pupils.

Complexities of mathematical problem solving

The skills required to solve mathematical word problems are varied and potentially causally complex in nature. A number of processes and frameworks are required within this cognitively complex activity, including skills in linguistic interpretation, representation and computation (Bae, 2013). Through drawing on research literature, predominantly focusing on the development of mathematical problem-solving skills for autistic pupils (Aagten-Murphy et al., 2015; Bae et al., 2015; Keen, Webster, & Ridley, 2015; Wei, Christiano, Yu, Wagner, & Spiker, 2015), a complex causal diagram is presented in figure 1, below.

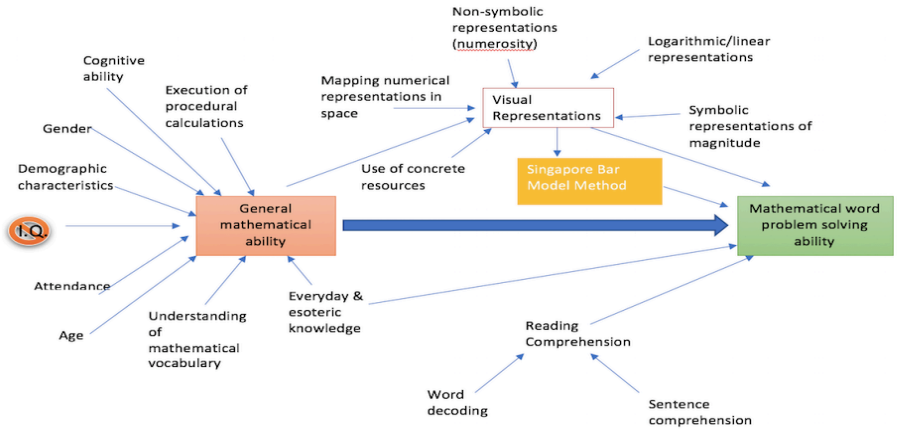

Figure 1: The complexities of mathematical problem solving

Mathematical cognition and autism

According to the research, between 6% and 22% of autistic children and adolescents are reported to struggle with number and calculation, to an extent where their maths difficulties are incommensurate with their intellectual functioning (Aagten-Murphy et al. 2015) and when it comes to mathematical problem solving, there is the requirement for the integration of several cognitive processes. However, with appropriate instruction, students with autism may have the potential to perform as well academically as their neurotypical peers.

Whilst there are widely held preconceived ideas associating exceptional mathematical abilities to the autistic population – 'savants' – frequently because of media portrayal of such individuals, for example, in the film 'Rainman', recognition of the heterogeneity of autism must be maintained (Aagten-Murphy et al., 2015). However, on the contrary, this study concluded that, on average, autistic children were 'significantly worse' than their non-autistic peers, when it came to overall mathematical achievement (p.10). Mathematical problem solving is an area where autistic individuals particularly appear to achieve disproportionately to their peers (Keen et al., 2015; Troyb et al., 2014).

Could the bar model be the solution?

The bar model approach, or a 'heuristic involving diagram or model drawing' as a tool for solving both arithmetic and algebraic word problems, is based on the theoretical framework of the processing model for solving arithmetic word problems (Kintsch & Greeno, 1985) and was officially introduced into the maths curriculum by the Singapore Ministry of Education in 1983 (Ciobanu, 2015; Ng & Lee, 2009). The aim of the bar model is to provide a consistent representational basis for the creation of a diagram that emphasises the relationships within the word problem, in order to denote a true understanding of these relationships (Maglicco & Prescott, 2016).

Application of the bar model relies on three phases: understanding the problem; the structural phase; and the procedural-symbolic phase. When considering the difficulties faced by autistic individual within mathematical problem solving, we can begin to see how these phases may support the problem-solving process for these students (figure 2), in relation to the cognitive and social theories discussed.

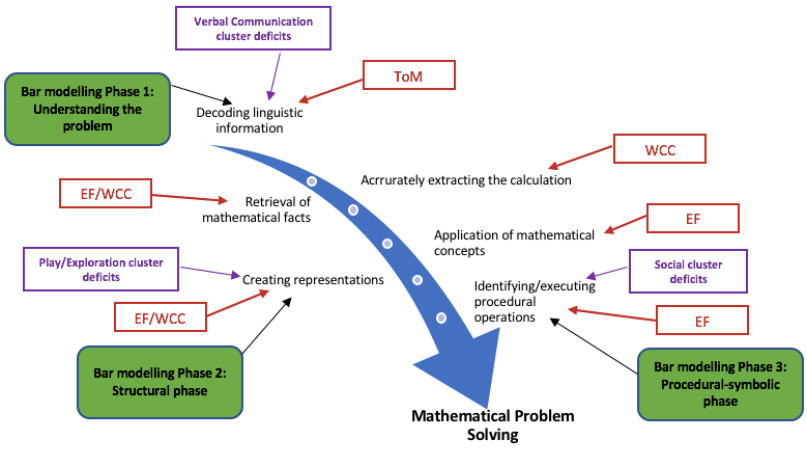

Figure 2: How deficits associated with autism may interact with the problem solving process and how the bar model may support these (adapted from Morin, Watson, Hester, & Raver, 2017).

Figure 2 begins to consider the interaction of the specific influences from cognitive and social theories of autism with the application of the bar model within mathematical problem solving. Consequently, in terms of mathematical learning and teaching, the potential for the application of the bar model approach can be tailored by practitioners to support the specific difficulties faced by individual pupils.

Theoretical basis of the bar model

Building on from the framework adopted by Kintsch and Greeno (1985), Mahoney (2012) proposed a theoretical framework which is operationalised through the bar model approach as illustrated in figure x and is based upon Mayer's two-phase model of problem solving. Central to this lies two theories – schema theory and problem solving theory (Mayer, 1989).

Schema theory, which is drawn from cognitive psychology, proposes that 'interconnected pathways within the brain are used to process and categorise new information' based on existing schemas (Maglicco & Prescott, 2016, p. 16). This theory aligns very closely with the first step in Polya's problem solving steps (Polya, 1945). It is suggested that the use of visual or schematic representations, which are central within the bar model approach, can assist with the development of new schemas and comprehension of word problems (Kintsch & Greeno, 1985; Maglicco & Prescott, 2016).

Problem solving theory is based wholly upon Polya's (1945) four-stage process to solving word problems.

Through combining these two theories, Mahoney (2012) developed a two-stage model of problem solving – problem representation stage and problem solution stage. Within this model, it is proposed that students will use their existing schemas used to solve previous word problems, in order to solve a novel problem. However, for those

individuals who lack such schema, the likelihood of correctly representing the novel problem accurately, is reduced.

Within the problem representation stage, the text from the word problem is converted to an internal representation, through drawing on students' existing schemas, before being translated into an external representation by drawing on reading comprehension skills and schematic knowledge.

Students then act upon this representation during the problem-solving stage through application of appropriate algorithms, interpreted within the context of the problem. This algorithm requires the student to correctly choose the operation, calculation strategy and computation skills required to solve the problem and correctly represent the solution within the appropriate context of the problem (Maglicco & Prescott, 2016).

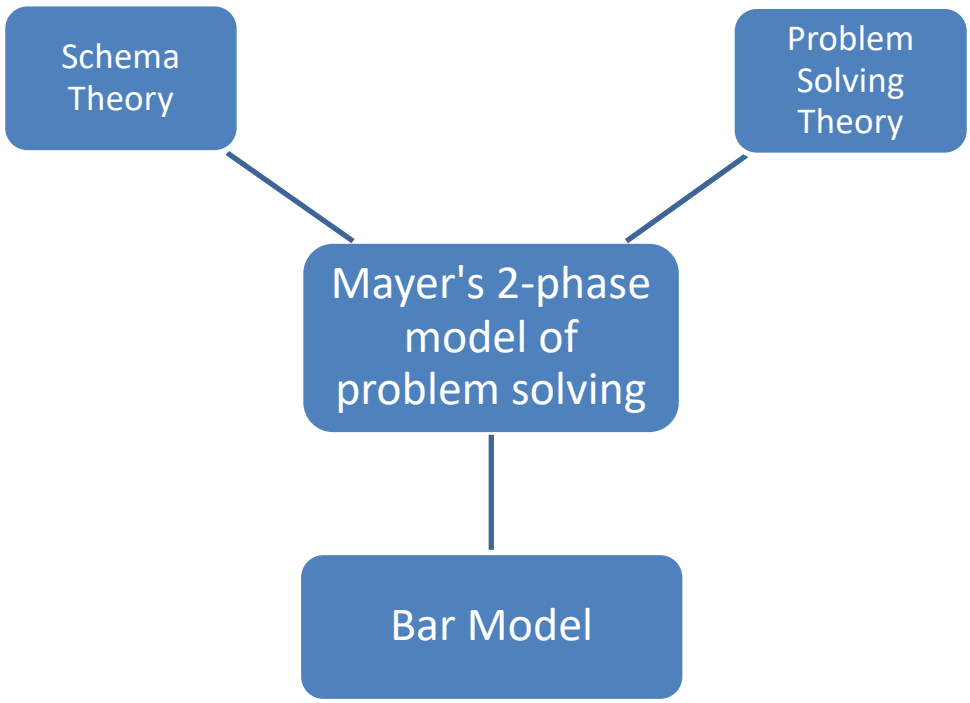

Figure 3: Mahoney's theoretical framework underpinning the bar model approach, based on Mayer's 2-phase model of problem solving (Maglicco & Prescott, 2016; Mahoney, 2012; Mayer, 1989)

According to Morin et al. (2017), this approach combines both schematic-based instruction (SBI) and cognitive strategy instruction (CSI). SBI is based on schema theory, where there is a need for students to conceptualise the underlying problem schema, and CSI involves building awareness of task demand and direct instruction of problem solving strategies, which it is suggested may address any underlying cognitive and metacognitive deficits (Morin et al., 2017).

SBI connects the two stages of Mayer's (1989) problem solving process (Maglicco & Prescott, 2016), and is based upon supporting pupils to draw upon their existing schemas in order to categorise unfamiliar word problems. As this pedagogical approach relies upon drawing on existing schemas in order to create a schematic diagram, which emphasises the underlying structure of the word problem, the consistency and fundamental simplicity of the bar model foundational structures may be key to its success. Studies have shown the success of the model approach as a tool for supporting individuals with learning difficulties (Maglicco & Prescott, 2016) and may be a direct consequence of the reduced demands of cognition and working memory required due to the consistent bar representation.

Qualitative comparative analysis (QCA) as a measure of sufficiency and necessity

Through the use of QCA, within-group differences in the autistic population can be explored, in order to ascertain potentially sufficient and necessary conditions required for problem solving within this group, an area that little research focusing on academic achievement has yet to consider (Wei, Christiano, Yu, Wagner, & Spiker, 2015). Whilst

research into the problem-solving abilities of autistic pupils has been the subject of previous research, little is still known about the 'factors affecting the solution path' and more importantly, research 'within the context of any specific models or theoretical frameworks' still remains an area for exploration within this population (Bae, 2013, p. 7). In support of Bae (2013), and to strengthen the rationale behind the QCA approach to this study, Wei et al (2015) go on to state that 'factors contributing to achievement levels in autistic pupils is not well understood' and thus 'further investigation into these factors is needed' (p.201) in order to explore the 'specific kinds and combinations of interventions' required, to develop the 'applied skills and academic achievement of this population' (p.209).

Through the use of QCA, the findings from this study aim to identify the key conditions necessary for the bar model to provide a successful tool for supporting mathematical problem solving for autistic pupils, along with the conditions, under which the bar model may be a sufficient approach for mathematical problem solving.

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Epilogue

The papers published in this volume represent the most up-to-date research being conducted by postgraduates in Durham University's School of Education. The papers, which adopt different research methods – some qualitative, some quantitative – consistently reflect the theme of the conference itself: Imagining Better Education.

The papers cover a wide range of topics in the field of education:

(1) *Curriculum Development and Reform,* including an exploration of the usefulness of bar modelling as a tool to support autistic pupils in mathematical problem solving, an investigation into the importance of order in sequential recall and its relationship with mathematics performance, informing entrepreneurship education by integrating the threshold concept approach and social learning theory, enhancing the use of educational technology in the early years, developing reasoning in primary English and exploring poetry through creativity and criticality in English secondary education;

(2) *Teacher Characteristics and the Professionalism of Teachers,* including an examination of the concept of 'virtuosity' in teaching and an investigation into the professional vision and reflections of qualified and non-qualified biology teachers;

(3) *Improving Students' Wellbeing,* including conceptualising student mental 'illness' from the perspective of neoliberal education policy discourses and structures, promoting academic buoyancy as a proactive approach to improving student mental health and wellbeing, and examining peer-led sex and relationship education;

(4) *Fair Access and Widening Participation to Higher Education,* including exploring and improving estranged students' experiences in higher education and improving young people's social mobility;

(5) *Supporting Children with Special Educational Needs,* including developing an active participatory research model with visually impaired children to promote educational inclusion and helping autistic and neurotypical children develop an understanding of each others' thoughts and behaviours;

and (6) *International and Intercultural Education,* including the internationalisation of higher education strategies in China, the effects of cultural difference on the rating of Attention Deficit Hyperactivity Disorder (ADHD) symptoms and developing cosmopolitan citizenship through student engagement in course design.

All these projects at the forefront of current education research have shown our researchers' passion for one common goal: to imagine and create better education for *everyone*.

Two strands of thought have emerged from these conference proceedings. One is that creating better education through cooperation between different countries remains a strong trend in education development. Our researchers from different countries and with various cultural backgrounds are working together to investigate different aspects of education in different parts of the world, to explore the particularities of education in unique cultural contexts and to see how we can learn from each other for our mutual improvement. With such efforts and cooperation, together we can build a better world with better education.

The other strand of thought is that education can be and will be better as a result of continual development through research and education policy reforms. The papers in these proceedings have identified various issues in education that need to be solved, such as inequalities in access to education, children with special educational needs, poor quality teaching and student mental health problems. However, we have also seen *hope*. Our authors employ a range of research methods to seek solutions to such problems and to improve the quality of education – a sign that gradually over the generations we are continually solving problems and are creating better education.

From Socrates to Plato, from Confucius to Charlotte Mason, there have been many great people in our history who have imagined and dreamt of better education. Although our 2018 conference is now over, our passion about education and our dreams of better education continue. Where there is education, there is *hope*.

Xin Shao