

**An action research investigation into the use of  
tailored pedagogic approaches and their  
effectiveness in terms of male GCSE Geography  
performance**

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**A Research & Development Project Submitted for the  
MSc Learning & Teaching 2015**

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*An action-research investigation into the use of tailored pedagogic approaches and their effectiveness in terms of male GCSE Geography performance*

### Abstract

This study examines the use of tailored pedagogic approaches within GCSE Geography in relation to the enjoyment, engagement and attainment of boys. Male performance has been a prominent educational focus for many years with numerous researchers encouraging implementation of interventions specifically focused upon raising success standards. This study begins with a literature review to determine what is already known about pedagogical approaches and gender attainment discrepancies within GCSE Geography. Previous intervention schemes (such as single-sex groupings) created to reduce male underachievement are critically evaluated.

The 'diamond structure' at 'Buxton School' is designed to merge academic and pastoral benefits through single-sex classes yet co-educational extra-curricular. It provides an interesting context for investigation into student perceptions of the effectiveness of single-sex teaching and preferred learning techniques.

This is an interpretative action research project. A triangulation of methods assessed a sequence of trial lessons specifically planned to include techniques identified as preferable by boys. Questionnaires, student work and lesson observations provided perspectives on the effectiveness of these techniques.

Initial findings indicated that students did not necessarily need to perceive the lesson activities positively in order to identify with the knowledge to be obtained. Higher ability students had a greater range of enjoyment opinions. Teacher perception of engagement suggested as positive behaviour increased, so too did negative behaviour. Attainment on average was found to improve most, when boys were allowed some ownership over their learning as opposed to simple incorporation of preferred activities.

This research has highlighted the importance of adapting lessons to suit the learning styles of students yet ultimately has emphasised the importance of allowing students independence. In the future it can be taken further by investigating use of tailored pedagogic techniques within a mixed gender sixth form class.

### **Declaration**

I hereby declare that any of the sources of which I have availed myself have been stated in both the body of this research and the references. The rest of the work is my own. This research thesis does not exceed 20,000 words in length.

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**Abbreviations**

AS	Advanced Subsidiary level (UK educational qualification)
A2	Advanced Level 2 (UK educational qualification)
BERA	British Educational Research Association
CEM	Centre for Evaluation and Monitoring
CUREC	Central University Research Ethics Committee
DfE	Department for Education
EQ	Exam Question
GCSE	General Certificate of Secondary Education (British)
INSET	In-Service Education and Training
ISI	Independent Schools Inspectorate
ISTIP	Independent Schools Teacher Induction Panel
JCQ	Joint Council for Qualifications
MIDYSIS	Middle Years Information System
OFSTED	Office for Standards in Education Description
QCA	Qualifications and Curriculum Authority (UK government)
RQ	Research Question

## Chapter I:

### Introduction

The educational performance of boys has been a prominent national focus over the past century. In alignment to GCSE exam results publication each year, different strategies are proposed to attempt to raise male achievement. Indeed, Younger and Warrington (2014) found that the apparent presence of a continued growth in disparity between the attainment levels of the sexes has been a pervasive theme within recent academic and public debates. Political intervention within the past ten years has seen implementation of major educational policy reforms, particularly notable to the qualifications system.

This study will address one aspect of the gender gap debate, tailored pedagogic approaches, and how effectively these could help GCSE boys raise their performance. I believe that single-sex classes provide an opportunistic environment for developing teaching strategies that are consciously designed to harness the different biological and socio-cultural traits displayed between the sexes. Indeed, Epstein et al. (1998) epitomises that 'successful' performance can only be achieved when an educational system accounts for the variation in learning characteristics displayed by the two genders. Adaption of pedagogic methods can take into account differential preference in teaching and learning style and the overall desired lesson outcome. Butt, Weeden and Wood (2004) also highlight the importance of allowing boys and girls to work, and be assessed, in the way they prefer in order to avoid affecting performance. This emphasises how important it is to consider the overall structure within schools and how individual approaches to adjusting teaching and learning styles utilised may play a vital role in effective lesson planning. The boys in the study are used to single-sex teaching as many of them have experienced this throughout both their prep and senior schooling. I was interested to see whether implementation of their perceived preferential teaching and learning strategies related to performance in the topics covered in the lesson sequence.

The performance area of focus used in this study was the concept of extended writing and more specifically the depth of content and structure required for eight-mark exam case study questions. This is due to two main reasons. Firstly I have personal experience of gender variation in understanding of case study information: lack of initial detail within boys' notes often leads to lack of effective

knowledge retention required to gain the highest exam marks. Secondly, the lessons used to deliver the case studies are already well established within the shared departmental scheme of work. However, the topic content and teaching and learning styles within these lesson plans have not been updated for several years and demonstrates minimal progression. One aim of this study was to create an updated, more relevant and interesting sequence of lessons designed to raise attainment, engagement and enjoyment. It is intended that this can spark discussion of how to make important departmental decisions in regards to intended future GCSE specification changes.

Priestly, et al. (2012) discussed a need for greater teacher agency in order to utilise instinctive and observed knowledge on learning conditions to adapt teaching to suit the needs of the individuals present. As such, I selected the task designs for the case studies, within the lesson sequence, principally through analysis of what male students within the school had themselves identified as 'preferential'. Findings from a prevailing part II research investigation indicated a gender difference in students perceptions to learning attitudes and style particularly in regards to overall range, structure and length of activities (Athey, 2014). Through my experience in teaching Geography, there is no doubt that greater variety is enjoyable, but it was interesting to explore its effectiveness. Butt, Bradley-Smith and Wood (2006) found that at Key Stage three boys had a lower sense of enjoyment about geographical writing than girls, however at GCSE, enjoyment of geographical writing was equal. As this study is specifically looking at GCSE boys I hope to see whether the use of tailored pedagogical techniques can tap into and influence this enjoyment and perhaps how this could influence an overall effective performance.

### The case

This study focussed on 'Buxton' independent senior school located in the South East of England. ISTIP (2013) graded the school as 'Good with outstanding features', and as students are required to pass an entrance exam a focus on high academic standards prevails. Whilst the school student population has a few students registered with mild learning difficulties, there are no severe learning difficulties. The predominant socio-economic makeup is white-British, day students. Foreign boarders represent a

minority of the student population so intake statistics for English as an Additional Language fall below the national average.

'Buxton School' has a positive reputation within the local area; the school is only one of nine within England to utilise the unique 'diamond educational structure'. The typical focus of diamond schools is to merge academic and pastoral benefits; a clear intention is to build a continual co-educational structure that reduces potential distractions from academic focus. Consequently mixed gender classes are only implemented prior to age 11 and post age 16. Adoption of single-sex teaching during the pubescent years of 11-15 provides a 'conducive and sympathetic environment to student learning' (Warrington and Younger, 2001). The school is committed to promoting the benefits of this structure in tackling 'ineffective' education; the prime teacher development issue, outlined by the Headmaster, for the 2013-2014 academic school year encouraged pro-active experimentation of strategies to heighten male performance.

The class chosen for this study was a typical representation of all GCSE Geography boys' classes across fifth year. At the start of fifth year the class had 16 students. Intake of a Russian boarder raised the total to 17, however during the lesson sequence research period only 15 students were continually present. The nature of a selective intake process to the school results in all students being predicted A-A\* grades at GCSE. Classes are not set in terms of ability and whilst the range of ability is considered lower than in state schools, the teacher GCSE prediction for this class is A\* to D.

The students have all had case study experience from modular topics covered in fourth year. This was extremely helpful in the planning of my lesson sequence, as it aided consideration of how to match the perceived preferential student learning styles to relevant teaching strategies. I could assume that all the boys had experience or writing answers to previous GCSE standard practice questions, whilst acknowledging this may be slightly biased depending on the level of individual revision conducted for the end of fourth year exams and the nature of examination provided for the late arrival. Most of the boys had also learnt numerous case studies for at least three topics, although at a range of depths and effectiveness.

There are three main strands running throughout this project: male GCSE Geography performance, gender differences in preferred pedagogic approach (in terms of teacher to pupil relationship and the

way of learning) and tailored task design within Geography. The literature review unpicked these ideas before discussion sought to synthesise the research findings to identify conclusions. It is hoped to see whether appropriate alignment of the strands could prove mutually beneficial and maximise future understanding and achievement in Geography. The research questions, intended for exploration within this investigation, are indicated in table 1.1.

**Table 1.1: Research Questions (RQ)**

Question	Exploration
1. In what ways do tailored pedagogic approaches have the potential to influence male academic performance?	Literature review and discussion
2. What do we already know about gender discrepancies in GCSE Geography education?	
3. Before the lesson sequence, what were the boys' views on: a) Preferred learning styles? b) Eight-mark case study exam questions?	Research design, findings and discussion
4. After the lesson sequence, what did the boys understand about: a) Preferred learning styles? b) Eight-mark case study exam questions?	Teaching sequence, findings and discussion
5. How did tailored pedagogic approaches influence male academic performance	Findings and discussion
6. How could tailored pedagogic approaches aid future practice at a range of academic scales?	Discussion and recommendations

## Chapter II:

### Literature Review

RQ1: In what ways do tailored pedagogic approaches have the potential to influence male academic performance?

The gender difference in achievement has been a long-standing focal point for discussion, within both the English, and global, education system. Increasing concerns around the need to address this have studied the implementation of alternative teaching and learning strategies, within schools across the country. Whilst the primary focus of this research section is on understanding the role of pedagogy within education, it can be acknowledged that this issue has a wider depth and scope, significant to debates, beyond this subject. It considers the range of pedagogical definitions available and the various approaches available in lesson planning task design. Important recognition must be given to the nature of the 'pedagogy and performance' debate existing outside of a vacuum. Various other socio-economic factors, including parental interaction, timetabling and class size, are considered important in influencing performance (Arnot and Reay, 2004). Integration of pedagogical findings alongside wider research is thus necessary for a full investigation of the continuing presence of a gender attainment gap. This section looks at: pedagogical discourses, perceptions of a diamond model structure in the English educational system, the prevalence of a gender gap in education; how single-sex teaching has previously been used as a tool to enhance male learning.

#### Pedagogical discourses

The concept of pedagogy underpins educational debates and whether or not academics are in favour of it, they will all have an individual idea of what pedagogy means to them. The etymological meaning of pedagogy, as the art of teaching, implies specific conscious activity defined by an individual to enhance the learning of another (Watkins and Mortimer, 1999). In an introductory lecture at Clark University, Hall (1905) argued that pedagogical definitions increasingly needed to include the processes, didactics and methods used within the transmission of knowledge. Regarded by many as 'the father of developmental psychology in the United States' (Ross, 1972), Hall raised the awareness of the significance of considering the educational value of variation in instruction. This suggests that

students will arrive in the classroom with active perceptions of how to learn, which we as teachers must be aware of. Leach and Moon (1999) also viewed pedagogy in this way, highlighting the requirement of pedagogical discourses to include how students learn something, as well as the art and science behind how it is taught. This is an excellent starting place for looking at the influence of pedagogical discourses within educational systems. We should not see pedagogy as a static term; instead it is important to question how the background context constructs a particular definition for different individuals that may influence their opinion of what is the most effective relationship style between teacher and student. Prior studies have drawn association between higher quality learning from techniques demanding deeper student participation, yet there has been little explicit exploration into specific use of perceived preferred approaches (Trigwell, Prosser and Waterhouse, 1999).

The study of learning theories has further added to the evolution of an accepted definition for pedagogy. Research by, educational professor, Murphy (1996) argued that the lack of a clearly consented pedagogical definition negatively affects a cohesive understanding of how to adopt and implement teaching strategies. Murphy (1996) used her empirical study to critically review historical theories relating to the understanding of pedagogy and education within Europe. By drawing on research, by Simon (1981), Walkerdine (1984) and Best (1988), into differences in application of pedagogy between schools and countries, Murphy was able to really decipher how the concept of pedagogy has the potential to effect educational change (ibid: 9). She found that evolution towards socio-cultural learning perspectives, over fixed, innate, biological accounts, radically altered perceptions of teacher-student relationship; individuals hold certain qualities that require identification of appropriate techniques in order for harnessing to be effective (ibid: 19). She came to the conclusion that personal experience has value in obtaining the best learning results and promoted a need to explore a gender perspective of effective pedagogy to question whether environments needed to gain high attainment differ between the sexes (ibid: 19). Despite this research being written over a decade ago, the authority of Murphy's conclusive perspective is appreciated in the sense she has continued to publish papers that support her original findings (Murphy, Hall and Soler, 2008). This study will take a socio-cultural approach to pedagogic discourses when trying to ascertain the effectiveness of tailored approaches in male performance.

### Perceptions of a diamond model educational structure

Implementation of a diamond model structure is unusual amongst English schools. Younger and Warrington (2002) note few schools have a long tradition of single-sex classes imbued as an integral part of a wider co-educational school structure and ethos. The rise of equity debates, particularly in the 1980s and 1990s, placed pressure on school modes of organisation. Attitudes towards single-sex teaching arguably shifted following high critique, from Her Majesty's Inspectorate that such grouping was out-dated and directly contravened equal opportunities (Myers, 2000). Findings from a major review conducted by The Equal Opportunities Commission in the early 1980s indicated the complexity of a school environment as so vast that the nature of gender structure was not a crucial factor in determining success (Smithers and Robinson, 2006). Consequently determining perceptions specifically on single-sex teaching within a diamond model structure is difficult, firstly to isolate from the wider school environment, and secondly owing to incoherent uptake (Smithers and Robison, 2006). Rowe, Nix and Tepper (1986) reported frustration at a lack of examination over the introduction of single-sex classes within co-educational schools. This dearth of academic research, into the evaluation of a 'diamond-model' educational structure, has been echoed more recently by Jackson (2002), and Younger and Warrington (2014).

This can be seen as somewhat ironic considering the emphasis and importance now placed on formal assessment within a society that has seen the implementation of a market-led approach to education. Schools are judged and ranked in league tables by governmental agencies based on examination success rate and gender dimensions do seem influential (Skelton, Francis and Smulyan, 2006).

Southwood (2015) reviewed three papers on schooling structure and noted that state education authorities might have the potential to learn from improved outcomes in the independent sector where acceptance and adoption of single-sex modes of teaching appears more prevalent.

The ability for Southwood (2015) to draw significant conclusions from only three papers is an important issue to consider. Whilst this comparative approach is extremely helpful in drawing multi-cultural perspectives from Korea, China and the US it can be questioned whether this can be effectively applied within UK debates. Additionally, the complexity of state education authorities has not been adequately accounted for as, it is often single-sex grammar schools or academies that predominate

GCSE league tables (Department For Education, 2014). It is important to consider though that these league tables are problematic to utilise though as many independent schools are considered disadvantaged as success in alternative qualification entries are not accredited.

Summarisation of the present position on perceptions of the diamond model structure is inconclusive. Whilst research into attitudes towards single-sex teaching does have historical prevalence, this is often as part of a whole school single gender environment, or through strategies designed to trial gender specific teaching for particular subjects to encourage improvement. It is interesting that these research studies hint at a multi-faceted problem and the next section aims to explore the impact of national academic league tables on heightening debates around differences in gender attainment.

#### Prevalence of a gender-gap in education

One long-standing discussion within the English education-system has been the difference in performance between boys and girls. Most subjects can trace recordings of gender differences in educational attainment as far back as the seventeenth century. Whilst a consideration of gender issues is therefore not a new phenomenon within the educational scene it is important to consider that the nature of this debate is vast. Historical research into female achievement received greater attention (Daniels, Lauder and Porter, 2009). This is supported by findings from research within the 1970s and 1980s primarily centred on the frequent marginalisation of girls (Younger and Warrington, 2014). Cohen (1998) and Francis (2006) both imply that discrepancies in gender attainment only truly became seen as problematic, following the introduction of the national academic league tables, in the 1990s. The ease of access to diverse examination results data appeared to expose an opposing perception of underachievement actually led by boys rather than girls (Francis and Skelton, 2005). It was following the 1990s then when an apparent shift in gender debates occurred as evidence of strong test scores from females grew (Bloom, 2009). In 2003, Ofsted produced a report on 'Boys' achievement in secondary schools emphasising a growing concern that it was male attainment that required attention. This confirmed a previous declaration by the former Chief Majesty Inspectorate that 'the failure of boys, and in particular white working-class boys, is one of the most disturbing problems we face within the whole education system' (Woodhead, 1998). This politicisation of gender discrepancy

bore the introduction of a number of governmental pledges of initiatives aimed to raise attainment within boys. It is worth considering at this point a question raised by Weiner, Arnot and David (1997), of whether this increased political exposure may merely have been the influence of heavy media bias, essentially generating a moral panic, in regards to male underperformance. Dangerous opportunities to generalise and assume occur as academic concerns transition into such public dimensions (Younger and Warrington, 2005). Simply 'grouping' similar findings together can cause mass over-generalisation that fails to recognise a key factor that not all boys are affected by underachievement and not all girls achieve (Francis, 2006).

As an attainment gap between the genders still exists, despite numerous interventions, concern around the differential rate in improvement is arguably still warranted. National GCSE results over the past decade do identify lower male achievement. Younger and Warrington (2005) attribute the failure to reduce this presence of a gender gap on the limited 'short term reward driven' outlook encompassed within political approaches. Such interventions can be seen to ignore the multifaceted nature of gender value within whole school, class and ethnicity contexts (Hilborne, 2007).

Calibration of the 2013 results by The Joint Council for Qualifications (JCQ) again highlighted this trend with a record difference of 8.6% in attainment of A\* to C grades between girls and boys. At the top end of results this trend was even more profound: 8.3% of females attained A\*s compared to only 5.35% of males (JCQ, 2013). Whilst these large-scale national trends are of general concern, the significance of this disparity is heightened by clear prevalence within Buxton School GCSE records too. An annual Governor report is produced to review GCSE results based on value added measures thus utilising progress, rather than ability, to evaluate effectiveness. The comparison of actual GCSE grades against previously predicted grades, derived from MIDYSIS testing, identifies a positive, negative or neutral value added score. In alignment with the national trends, Buxton School recorded dominant female achievement in 2013 with a positive 0.13 value compared to a negative 0.31 male score. It is important to recognise that both the national and school trends are based on attainment within multiple subjects. As such, the extent to which a gender gap prevails within a geographical context is to be further investigated in RQ2.

### Previous experience of single-sex teaching and male learning

Single-sex groupings as a strategy to enhance the learning of boys have been frequently trialled yet the long-term effectiveness and appropriateness of this intervention approach has by no means been established. Research into experience of single-sex teaching and male learning is limited by a lack of findings from longitudinal studies. As such Arnot et al. (1998) claim it is difficult to contextualise the outcomes of single-sex teaching initiatives beyond the ad-hoc basis of a singular school term or year. Warrington and Younger (2002) conducted a case study into single-sex teaching within a co-educational school, utilising analysis from classroom interactions alongside dialogue from staff and student interviews. Both sexes were found to benefit from having their own learning space (ibid: 353). Significantly though, whilst conclusions stated the potential of single-sex teaching to raise achievement levels, this was stated as contextual. The optimum implementation of single-sex teaching as an intervention strategy was concluded to require systematic planning, monitoring and evaluation of differential teaching approaches (ibid: 353). It was also highlighted that the long-term implications of the intervention could prove problematic, as student re-integration, particularly of boys, appeared to have issues.

### Teaching and learning preferences

Techniques to enhance learning in the classroom have long been the focus of academics. Personality has been suggested to influence the way an individual learns: the attitude and behaviour taken towards work reflect the way in which the brain has received information (Andrew-Evans, 2006). Consequently for effective learning to occur it is seen as the role of the teacher to consider how to adapt the classroom environment to account for as many of these internal learning styles as possible. Visual, auditory and kinaesthetic are the three principle learning styles quoted in academic research. Despite some discrepancies in definition those quoted by VARK Learn Ltd (2015) are widely agreed as:

- Visual learners: Learn through seeing and create vivid mental images to retain information
- Auditory learners: Learn through listening and think in words so respond well to discussions
- Kinaesthetic learners: Learn through movement, touch and action and remember interactions

There has been much research highlighting the advantages of teaching towards a particular learning style. Lengel and Kuczala (2010) worked within education for numerous years and consulted a range of sources before proposing 85% of students' prefer kinaesthetic learning styles. Whilst these researchers are clearly qualified in this field, such a high figure raises a strong question as to why kinaesthetic mechanisms are not utilised more if regarded to be so useful. Furthermore, it is not determined whether Lengel and Kuczala (2010) intended this figure to relate to US students or globally. As such the transferable nature into English education is contended. Important consideration must also be raised in regards into whether the remaining 15% of learners may actually be negatively affected from kinaesthetic activities.

Nash (2009) undertook investigation into a number of previous studies however and quotes research findings arguing for entirely positive implications of using kinaesthetic learning within classroom environments. Movement was identified as an effective tool for improving memory and motivation thus strengthening learning (Jensen, 2005). Movement was also noted to involve strong neural links to the part of the brain involved with cognitive activities (Hannaford, 2005). As such both these studies suggest kinaesthetic learning is entirely beneficial and appear to support Lengel and Kuczala (2010). Cspao and Hayden (2006) aimed to gain greater understanding of the influential role learning styles hold within the teaching process. Perhaps surprisingly there was no significant difference between the mean strength of learning style based on gender. Conclusions instead inferred that learning style might not be static, as preferences shifted between age categories. Importantly, what emerges from this research is that on an individual basis students do appear to have differences in learning style that should be accounted for by the teacher. Whilst this research is again derived from America, the large-scale inclusive nature, of 2000 students from a variety of backgrounds and age categories, heightens the potential to translate these implications into English circumstances.

### *Conclusion*

Whilst research suggests simply labelling a student preferential in a particular learning style may not aid progressive improvement, and more so can actually be counterproductive to learning, the processes and concepts underlying each learning type do seem to be useful to reflect upon whilst

selecting teaching techniques and activities (Franklin, 2006). The literature evidences an importance of teaching professionals to be flexible in relation to individual needs within a class and change teaching in recognition of various evolving learning styles. Choice of teaching activity and the reasons provided for this, focused specifically in relation to improved male learning, are to be further explored within RQ2.

#### RQ2: What do we already know about gender discrepancies in GCSE Geography education?

Butt, Bradley-Smith and Wood (2006) identify numerous socio-economic, cultural and political aspects that influence geographic performance, thus research findings relating to gender achievements need to be contextualised in-alignment with wider perceptions. This section looks at: apparent male underachievement in Geography; perception of preferential teaching and learning strategies; how utilisation of tailored pedagogical techniques could be used as a tool to enhance male learning.

#### Male underachievement in Geography

The 2013 Geographical Association report identified a rise in the total number of students studying Geography at GCSE. Interestingly, despite a higher number of boys selecting Geography as an option, girls were the consistent outperformers in obtaining the higher grades. Furthermore, research conducted by Wedeen (2013) also identified this same pattern with the 2013 AS and A2 qualification results. These figures only represent one year, though and, whilst generating high media attention, do not provide sufficient depth to infer any overall gender discrepancy trend.

Both the 2008 and 2011 Ofsted reports support this perspectives of male underachievement though. These reports raised concerns that boys may indirectly inhibit their ability to achieve the highest grades owing to over dedication of time towards mapping and describing responses instead of interpreting and analysing (Biddulph, Labert and Balderstone, 2015). One particularly helpful study adding sustenance for a longer-term trend of discrepancy between gender attainments in Geography, took account of a breadth of assessment results. Butt, Bradley-Smith and Wood (2004) sourced 2001 to 2003 data, from QCA non-departmental public body, in order to compare geographic results by sex.

Interestingly, findings noted the 'pattern of boys' underachievement in geography is clearly apparent at each of the formal assessment points in secondary education' (ibid: 330).

Table 2.1 (ibid: 330-331) shows this consistent female dominance and re-iterates that the case of male underachievement in Geography, within English and Welsh schools, is certainly not unique.

It is important to note though that as all these results are averages, cases of individual boys, who may have achieved better results than the girls' grades, can become hidden.

**Table 2.1: Geography assessment results by sex. (Butt, Weeden and Wood, 2004)**

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Butt, G., Weeden, P. and Wood, P. (2004) Boys' underachievement in geography: An issue of Ability, Attitude or Assessment? *International Research in Geographical and Environmental Education*, 13 (4), 329-347

Whilst these large-scale national trends are relevant, the significance of this discrepancy can be considered to have implications for the individual geography department this study is based on.

Numbers for Geography GCSE and A level at the school in this study indicate male intake to consistently exceed female intake over the past five years. Whilst this infers potential male preference towards Geography as a subject, this has not prevented attainment reflecting the national trend of a positive skew towards females (table 2.2).

**Table 2.2: 2013-2014 GCSE Geography results**

Grade	2013		2014	
	Male	Female	Male	Female
A*	11	12	3	3
A	31	13	12	11
B	14	8	13	9
C	4	1	5	1
D	2	1	1	0
Other	1	1	0	0
Total	63	36	34	24

	2013		2014	
	% of males	% of females	% of males	% of females
A*	17	33	9	13
A*-B	89	92	82	96

Table 2.2 indicates the proportional achievement by girls to outweigh boys in both the 2013 and 2014 GCSE Geography cohorts. It appears that both the literature findings and academic results from the individual school involved in this research do imply an existence of male underachievement in Geography.

#### Perception of preferential teaching and learning strategies

Heightened political and media interest in educational debates has generated awareness around the importance of delivery style and environmental context in teaching, as much as the nature of content taught (Macinnes et al., 2013). Arguably, educational institutions place a greater emphasis on understanding influential factors within the learning process rather than identifying what should be taught. Furthermore with acceleration in technological ability fuelling a 'knowledge economy' many students have seen a rise in opportunities to improve their learning.

Whilst globalisation has brought positive consequences of quick and easy access to a vast array of information, marginalisation is for many, though, higher than ever. Consequently educational ability, as well as attainment, is argued to be of critical significance in relation to determining employment prospects. A small-scale study by Meadows' (2001) found even those more traditionally vocational jobs to require academic pre-requisites. Findings from wider research add credibility to this limited claim. Nayak (2003) focused on international employment conditions and identified the ability to be skilled and resilient as essential within the dynamic and ruthless global employment market. Additionally, the increased concern around 'how to learn' in both academic and public debate is seen to reflect a rejuvenated awareness into the importance of pedagogy. Previously attributed to be too often ignored and misunderstood in the UK (Simon, 1981), strategies encouraging the evaluation of learning methods in relation to raising attainment are now obtaining high research emphasis (Black and Wiliam, 1998). The ability to determine perceptions on the use of single- sex teaching within a co-educational environment has been rendered difficult and inconclusive. Smithers and Robinson (2006) note the complexity of alternative influences within a whole school environment alongside the incoherent nature in uptake of a 'diamond model structure' as key reasons for the dearth of academic research available.

Small-scale action research was conducted within Buxton School during 2013-2014. Findings signified a difference between male and female attitudes towards lesson style. Overall student responses indicated preference for a single-sex environment: the diamond teaching structure was positively perceived and over half of total responses agreed there to be more benefits than drawbacks of gender specific classes (Athey, 2014). Compared to their female counterparts, males indicated learning preferences for collaborative working conditions, reduction in note-taking activities, greater variability within lesson format and greater opportunities to create presentations and debate (ibid: 30). In addition findings supported earlier research by Epstein et al. (1998) that highlighted the purpose of lessons to differ between the sexes. Whilst girls often view lessons as a platform to aid exam success and feel strongly towards being aware of how to link lesson understanding to the exam specification, boys were less concerned to include assessment within the lesson and viewed learning as a more conceptual sharing of knowledge between peers (Athey, 2014). This holds significant influence in considering how to teach boys if their tendency is to isolate lessons and thus reduce opportunities to acquire awareness of the wider picture. Attainment could be negatively affected if class notes and homework lack adequacy from an incoherent perception of overall clarification and thus impact on quality of revision. (Gipps and Murphy, 1994).

Differences in preferences between the sexes were also recorded in relation to the individual characteristics and personality of the teacher. Conclusions drawn from the fourth year students surveyed within the school involved in this study (table 2.3), tentatively discerned boys to prefer dynamic and exciting teachers and placed less emphasis on connectivity and individual awareness (Athey, 2014).

**Table 2.3: Top three characteristics making a good teacher (Athey, 2014: 24)**

Characteristic:	Male responses		Female responses	
	Frequency	Ranking	Frequency	Ranking
Fun	9.3%	1	5.6%	3
Fair	8.3%	2	5.6%	3
Variable	7.4%	3	3.4%	4
Enthusiastic	3.7%	6	9.3%	1
Helpful	3.7%	6	7.4%	2
Approachable	0.9%	9	5.6%	3
Organised	0.9%	9	5.6%	3
Caring	0.9%	9	5.6%	3

These findings align with commentary that teacher personality can influence teaching style and thus perhaps single-sex classes could offer greater opportunities to harness these gender differences between preferred characteristics (Sammons, 2010). Whilst teacher personality may have influence, wider review of literature draws greater significance to teacher fairness in ability to listen, discipline and provide recognition (Browne and Fletcher, 1995 and Edwards, 2013).

A need for greater teacher agency can be inferred from this review of research and literature. Utility of instinct and observations of learning conditions appear critical to fostering desired adaptability in learning to the needs of those present to enable effective progress and attainment. Consequently this review now intends to identify the state of awareness and level of investigation that has occurred into the selective use of teaching and learning styles perceived as preferential by boys.

#### Tailoring pedagogical techniques to enhance male learning

Despite general consensus existing over the positive increase in grades from well-matched teaching and learning styles, literature review also highlights the importance of flexibility: teachers should adapt to both individual needs and the evolutionary nature of these learning styles themselves (Csapo and Hayen, 2006).

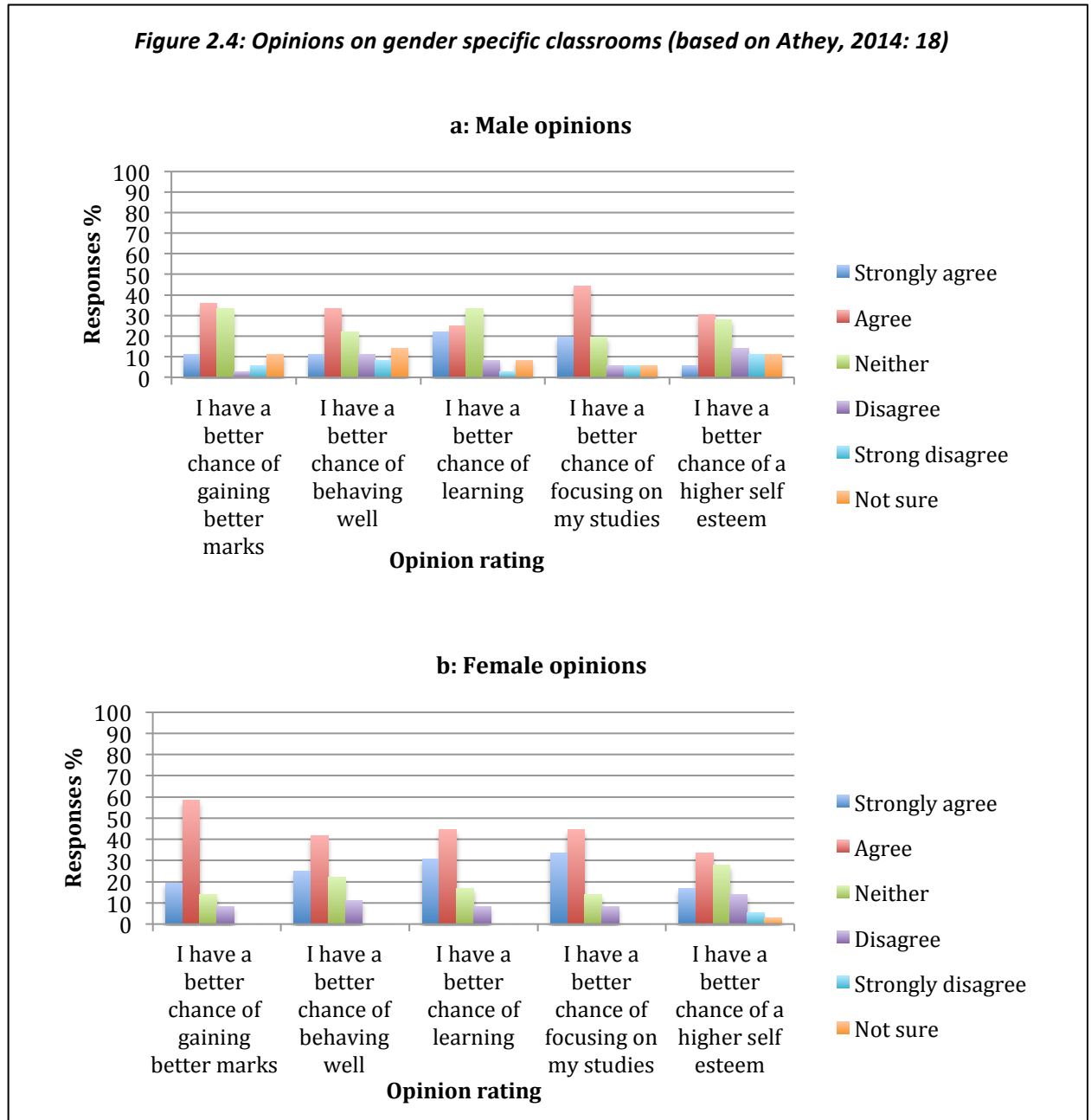
A small-scale case study by Younger and Warrington (2002) found both sexes to benefit from having their own learning space and thus argued that in some contexts single-sex teaching has the potential to raise achievement levels. Warrington and Younger (2014) extended this conclusion via publication of a longer-term four-year research project on 'underachievement' in a variety of English schools.

Geography lessons that encouraged a clear sense of pace from use of short, tightly focused activities were identified as 'boy friendly'. Furthermore, boys appeared to respond better to short-term targets and well-defined, achievable aims in order to concentrate and progress. This suggests potential for use of tailored pedagogic approaches as an intervention for improving male performance.

Interestingly, data from Buxton School indicated gender divisions in opinion over the potential impacts of single-sex classroom environments on both behavioral and learning aspects.

Figure 2.4 shows an apparent strength of female perception toward agreement of better chances of attainment and focus within gender-specific lessons (Athey, 2014).

These findings raise important implications for the potential utilisation of tailored pedagogical techniques as a tool to enhance male learning: presumed ability to improve male learning, from a lack of female presence, can be heavily questioned if boys themselves perceive lower concentration in an all male learning environment (ibid: 19).



*Conclusion*

Male underachievement is increasingly being publicised within Great Britain, through academic research, media and somewhat alarmingly, within school environments themselves. Whilst it is impossible to assume complete female superiority in academic attainment, conceptions about male underperformance in relation to Geographical study can be considered increasingly commonplace. It is

important to consider that this portrayal, whilst useful in drawing overall attention to the issue, has somewhat reduced acknowledgement of the multifaceted characteristics perhaps influencing this. I will aim to challenge some of the ideas that have come out of initial research into identifying male preferences in pedagogical techniques and their limited application as a potential tool to raise attainment.

### Chapter III:

#### Research Design

##### *Introduction*

As action research is situationally responsive; it is crucial that sufficient details of the physical settings are outlined to contextualise the research process and enhance understanding of the findings. The case of this project is a co-educational independent school in Essex, where classes are mixed gender for the prep, single-sex for secondary study and then mixed again for sixth form. The school prides itself on instilling a culture that reflects the school motto 'virtue, learning and manners'. Consequently, particularly difficult behavioural issues are not prevalent within the school environment and most students recognise the value of endeavour. Whilst the majority of intake within the secondary school is day students, national and international boarders do represent a smaller fraction of the student population. The school consists of separate male and female boarding houses and thus homework supervision maintains the single-sex learning culture.

##### *Participants*

Diagnostic research carried out by Athey (2014) showed difference in gender preferences for teaching strategies across the fourth year student population. In order to maintain consistency, GCSE fifth year boys were the natural subjects for this investigation therefore. Subsequently as I only taught one, male, fifth year geography class these were selected to be the subjects of this study.

This class consisted of 17 mixed ability students with predicted grades ranging from A\* to D. As indicated in table 3.1 three specific students were identified to analyse, for the teacher review of the lesson observation video, based on their MIDYSIS performance categorisation.

**Table 3.1: MIDYSIS data to select students for lesson observation analysis**

Pseudo name	MIDYSIS score	MIDYSIS score band	GCSE predicted grade
Denis	126	A	A*
Adam	102	B	A
Eric	98	C	B

Whilst the investigation aims to utilise all 17 students, within the class, throughout the intervention, this is unfortunately not directly controllable. As such, recognition that absences and incidences external to the classroom environment may result in each cycle compromising of a slightly different group of students is crucial. Although this may mean some missed data collection opportunities, which must be accounted for during analysis, I do not feel that the evidence collected will be greatly affected or altered by student absence as the majority will remain the same.

### Research Design

A research design can be approached from numerous viewpoints. Crotty (1998) advocates the importance of questioning which methods to utilise, as well as, determining the perspectives justifying these choices. Identification of a pathway to raise awareness and question the interconnected nature of the process holds significance as all research has the potential to be impacted by initial beliefs and thoughts (p. 3). The inter-relating flow between the four elements of social research (epistemology, theoretical perspective, methodology and methods) highlights how a step-by-step examination process facilitates how each individual element can affect the overall research project (p. 4).

### Epistemology

Epistemology is concerned with looking at both what we know, yet more importantly how we know it (Guba and Lincoln, 1998). As identified earlier, if the component steps in research are interdependent an awareness of the epistemological perspective behind the research is required prior to data collection. Three epistemology types dominate:

- objectivism; knowledge is absolute and exists with or without conscious awareness. Research approach strives to find and explain causes and effects
- constructivism; knowledge is created from individuals and groups engagement with the perceived realities within the world. Research approach rejects the claim of an overall objective truth and instead strives to understand how experiences differ through individual contexts. Reality is therefore constantly evolving as social interactions continually occur.

- subjectivism: knowledge is borne solely from understanding the meaning of the original self engaged in performing the behaviour. Research approach strives to comprehend behaviour through understanding the individual's own sense of purpose for their action. It is the role of the researcher to construct an impression of the situation as they see it. (Robson, 2007)

The inherent nature of interpretation within social scientific research can lead to misunderstandings. Inconsistencies and a lack of clarification are particularly evident in educational research, which is often perceived to lack conceptual cohesiveness. Consequently, as male academic performance is not an objective truth, and is instead borne from individual contextualisation, the selection of a constructivist epistemology is appropriate. Understanding of this underlying theory of knowledge is thus intended to inform the theoretical perspective behind effective methodological choices for this research (Robson, 2007).

#### Theoretical perspective

A theoretical perspective aims to provide meaning about what we see and experience, so no single perspective is best for every circumstance. Instead each theory seeks to allow the integration of a variety of information to make an assumption about society (Long, 2014). A constructivist epistemology denotes that different experiences influence the construction of meaning. This aligns better with an interpretivist theoretical perspective over an objectivist approach, despite being regarded as less scientific. Interpretivist approaches integrate human elements into the study and account for the need of contextually bounded understanding. Furthermore as positivist paradigms reject the notion that reactions will be affected by the nature of interactions, Weber's interpretivist perspectives often prevail in social scientific research (Crotty, 1998). As this research will take place within a classroom, it is without a doubt acceptable to assume the observer will make a difference to the students being observed, altering the construction of reality. Whilst remaining aware of this underlying researcher impact, the selection of methodology is of paramount importance in order to aid minimisation of the overall effect on the classroom atmosphere.

As a result of the utilisation of an interpretive approach to this research, data collected will be qualitative. Research will be a situated activity located within a natural setting. Implications of this

methodological approach thus appear advantageous as the researcher, can seek to find interactions with tailored pedagogical techniques within the familiar, daily learning, classroom environment. Analysis of these interactions can be used to look for themes to focus on in order to question the success of strategies adopted.

### Methodology

Following the strategic decision to utilise a constructivist, interpretive approach, the decision over which methodology to adopt centred upon a tactical consideration of practical research boundaries (Cohen, Manion and Morrison, 2000). The style of strategy lying behind the decision of which research instruments to use in data collection, enables the research process to move from a general expression of interest to an appropriate, concrete operational investigation (ibid: 76).

Owing to the small-scale nature of this research study, only two methodologies were viewed as amenable options: a case study or action research. The complexities found within a classroom are suitable to a case study approach. This investigation, rejected use of a case study approach though based on their weakness in generalizability, lack of ability to cross-check findings and a potential imminent nature of observer bias. As such research focused instead on application of an action research methodology.

Lewin (1948) critiqued educational research pieces that solely focused upon producing informative books as inadequate; simply understanding and interpreting information fails to instigate any real, and critical, opportunity for change. The extended nature of this research, from a previous study, aimed to analyse the impact of an intervention strategy. As such this approach aligns with the practical conception of action research as 'a tool for change and improvement at the local level' (Cohen, Manion and Morrison, 2000: 226). Action research is argued to be a useful reflective methodology (Elliott, 1991; Edwards and Talbot, 1999). It is important to recognise therefore that any investigation based on an action research approach should hold intention to not only contribute to the individual researcher's practice, yet also inform teaching theory to aid the practice of others too. Identification of an action research methodology is thus an exciting opportunity to obtain ideas that can have direct application on the aspects involved in teaching and learning for staff and students within Buxton School as well as

my own personal practice. In the case of this project I hope to find out about one small class of males and whether tailored pedagogical techniques influence effectiveness of their performance. Overall an action research methodology is primarily designed to improve an aspect of one's personal practice through a process of reflection and revision of practice at several stages (Thomas, 2009). In essence, as a teacher's role is to plan and teach lessons then reflect and adapt on these, this aligns well with the aforementioned cycle based structure embedded within the nature of action research. The true cyclical nature of action research is not possible within a short time frame and thus to counter this potential weakness, this study builds upon the findings of an earlier introductory piece of research. Diagnostic research was conducted during the 2013-2014 academic year to analyse the problem of gender discrepancy in attainment. Data obtained, supported views that male attitudes towards preferential lesson style differed to their female counterparts and these findings guided a subsequent therapeutic stage: formulation and testing of a specific hypothesis through a consciously directed intervention. Consequently, figure 3.2 indicates that the findings from this initial research, alongside a critical review of relevant literature, can then be used to inform the planning of the first lesson sequence cycle in this research investigation: these in-turn foster reflective evaluation to guide imposition of a second cycle of lessons. Finally, further reflection acts to consolidate and conclude on the outcomes from the intervention.

**Figure 3.2: Action research cycles (Coghlan and Brannick, 2001: 19)**

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Coghlan, D. and Brannick, T. (2001) *Doing Action Research in your own organization*, SAGE Publications: London

Acknowledgement of the disadvantages of using action research is considered fundamental in order to attempt to minimise their negative impacts. O'Hanlon (2003) proposed action research as 'risky' and morally challenging: the integral reconstructive nature can impel for personal concerns to be shared. Despite a small-scale nature the process has political implications as the decisions made by the researcher affect others. Critique against action research raises concern that involvement of teachers within the research process itself can lead to inaccurate reflection. Teachers can fear the repercussive actions of admissions in relation to negative behaviour, poor planning or low attainment. By acting as the researcher, as well as the students' teacher, I need to ensure I am continuously aware of this potential conflict and maintain open-minded about honest personal reactions.

### *Contextualisation*

The small-scale focus of educational action research provides a positive reflection of a naturalistic approach, yet, collection of a range of evidence is important for verification of findings. One advantage of a naturalistic approach within educational settings is the clear expectation for research to be conducted in 'uncontrived, real world settings with as little intrusiveness as possible by the researcher' (Cohen, Manion and Morrison, 2000, 138). Whilst useful for presenting reality, naturalistic approaches must recognise a weakness in clarity: a high number of potentially influential variables opens up a variety of interpretations, sometimes even contradictory in nature (ibid: 138). Inclusion of a process of triangulation is thus fundamental to account for reliability and validity within the research. This study will use a variety of methods to clarify meaning and ensure multiple perceptions are considered to overcome the potential weakness of a subjective researcher-biased interpretation.

Maintaining an awareness of appropriate expectations of the outcomes is critical throughout the whole research process. The qualitative nature of this investigation does not lend itself towards high emphasis on generalisation. The prime aim of this study is to provide insight into the individualistic, unique nature of a particular class to foster wider discursive action for interested individuals in similar contexts. Findings from the study are intended to provoke collaborative discussion within both the Geography department and among the wider staff body at an INSET session. The intrinsic nature of this investigation highlights the expectation of readers to comprehend and modify the interpretations to

instigate their own future research, rather than foster a direct application of the study to other educational contexts.

An outline of the selection of the principle methods most relevant for data collection within the specific context of the action cycles for this investigation will now be provided alongside the intended analysis for all data collected.

#### Data collection methods

As aforementioned, action research is predominantly a qualitative research approach yet it can often incorporate quantitative data too, if appropriate (Punch, 2014). Consequently table 3.3 indicates an overview of the methods used to obtain both qualitative and quantitative data.

**Table 3.3: Data collection methods**

	<b>Method</b>	<b>Participants</b>
<p><b>Initial Research</b></p> <ul style="list-style-type: none"> <li>Teaching/learning preferences</li> <li>School/geographic enjoyment</li> </ul>	<ul style="list-style-type: none"> <li>Informal focus group discussion: Dictaphone recording</li> <li>Individual closed-questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Whole class</li> </ul>
<p><b>Action research</b></p> <p><b>Cycle-one</b></p> <ul style="list-style-type: none"> <li>'Effectiveness' of three interventions (see chapter IV)</li> </ul> <p><b>Cycle-two</b></p> <ul style="list-style-type: none"> <li>Fourth intervention (see chapter IV)</li> </ul>	<ul style="list-style-type: none"> <li>Questionnaire – Student enjoyment</li> <li>Teacher IRIS observation – engagement (communication and collaboration)</li> <li>EQ - attainment mark (understanding and knowledge-retention)</li> <li>Repeat cycle one methods</li> </ul>	<ul style="list-style-type: none"> <li>Whole class</li> <li>Three students (high/middle/low)</li> <li>Whole class</li> <li>Whole class</li> </ul>
<p><b>Additional data</b></p> <ul style="list-style-type: none"> <li>Mock exams</li> </ul>	<ul style="list-style-type: none"> <li>Case study marks</li> </ul>	<ul style="list-style-type: none"> <li>Whole class</li> </ul>

#### *Qualitative data:*

##### Focus group discussion

In order to ascertain links to previous investigation findings on student perception of preferential teaching and learning techniques, it was felt that all 17 fifth year boys within the selected GCSE geography class should be questioned concerning their attitudes towards the subject and learning styles more widely. A focus group is a sub-type of interview with the intention of limited reliance on

the interviewer. Instead provision of an initial topic is designed to spark interactive conversation amongst participants, rather than direct back-forth question and response (Morgan, 1988). Open discussion was initiated by prompt questions that included:

- What do you like about geography lessons?
- What would you like to change?
- What techniques do you like most?

Use of question and discussion through a focus group was considered to be less intimidating than individual interviews as confidence can be gained from peer support as a pose to responding to a singular adult interviewer; children need to feel at ease in order to disclose feelings and a group situation can aid the establishment of a non-threatening, more interactive, environment (Arksey and Knight, 1999). The advantageous nature of discussion within a focus group to attain student attitudes, with limited interviewer influence, was considered to outweigh the disadvantageous nature of time-consuming analysis, which will be discussed further later in this section. Furthermore, use of a Dictaphone to record the discussion aimed to assist in alleviating the difficult nature of immediate transcription. Whilst it is important to appreciate, participants may have been slightly hesitant from the more unnatural intrusion of a recording instrument, the ability to re-listen to conversations multiple times is intended to improve accuracy of exploration (Cohen, Manion and Morrison, 2000). One limitation of a focus group environment is the concern that participants may withhold honest answers, particularly if they contrast the main group opinion. Consequently, in order to seek to attain as realistic an impression of preferences as possible, the additional implementation of closed questionnaires allowed the opportunity for individuals to self-rate attitudes towards their learning (appendix A). The intentions of this initial research were two fold. Firstly, to build upon previous findings centred upon male perceptions' of different teaching techniques. Secondly, to foster a departmental discussion to guide myself in the planning of the intervention lessons for selected case studies from the GCSE tourism topic. The 'effectiveness' of these targeted strategies is difficult to measure so this study selected to base evaluation on three criteria: enjoyment, engagement and attainment (as outlined in table 3.3) and this will be further evaluated in later discussion on data analysis.

## Questionnaire

Chambliss and Schutt (2012) suggest questionnaires are a useful instrument for collecting a variety of information quickly. Subsequently this method is suitable for the small-scale nature of this study as it fosters a rich range of data to be obtained within limited time conditions. It is important to recognise though that this desire for breadth can reduce the depth and detail of responses obtained (Munn and Drever, 1990). Whilst a triangulation of methods seeks to provoke consideration of multiple perspectives, the decision to include a mixture of open and closed questions was also important for compensating this. The appropriateness of questionnaires as a data instrument relates to this incorporation of a mixed question style: closed questions were simple and accessible for all respondents, whilst open questions allowed the option for expression of deeper personal opinions. The initial questionnaire and those intended to ascertain enjoyment levels (appendix B) evidence a design structure predominated by Likert-type questions. These are widely used within research owing to their opportunistic advantage to obtain flexibility in responses yet also determine frequencies and correlations (Cohen, Manion and Morrison, 2000). Ratings scales can be limited in precision though, as participants can fear being judged to have 'extremist' opinions and therefore tend to avoid the two pole options (Wilkinson and Birmingham, 2003). Use of a five point rating system sought to ensure a clear division between positive, neutral and negative could still be examined (Bell, 2005). Use of an open question as a follow up to some of the Likert-type questions provided an opportunity for explanation and reasoning. It is hoped this will provide a greater freedom of expression and therefore aid identification of particular aspects that were or were not enjoyed.

Once the style of questions had been decided attention was paid to the content of the questions themselves, particularly in regards to those required for student review of intervention lessons. As the projected purpose of this questionnaire is to outline enjoyment levels Martin's (2007) motivation and engagement wheel was consulted (figure 3.4).

**Figure 3.4: Motivation and engagement wheel (Martin, 2007: 414).**

The figure originally presented here cannot be made freely available via ORA because of copyright. The figure was sourced at Martin, A.J. (2007) Examining a multidimensional model of student motivation and engagement using a construct validation approach, *British Journal of Educational Psychology*, 77 (2), 413-440

Factors included in this wheel were used to create a simplified reflection of the aspects of enjoyment felt most valued within the context of this investigation only.

#### Video observation

In-line with a naturalistic research approach, observational data is an obvious instrumental method to enable in-situ investigation that reflects the unpredictable nature of a classroom environment. Every lesson in the intervention sequence was recorded using an IRIS camera within the classroom. This allowed for teacher self-observation following the lesson to reflect on the engagement levels within the class. Use of recording software ensures thorough review of the situation and identification of details that may have been missed if only an immediate written reflection occurred after the lesson.

Recorded observations are often disregarded as a practical method for data collection owing to ethical issues in gaining access (Chambliss and Schutt, 2012). On entry into Buxton School parents are requested to give informed consent in regards to use of IRIS software in lessons. As such, records for all participants within the class were checked in order to ensure this permission had been granted.

Removal of this access barrier, rendered observation an appropriate method, allowing the often critical, yet difficult to identify, non-verbal behaviour, to be recorded too. This is particularly significant to incorporate in analysis of the subjective concept of 'engagement'. Observation structure and design

will be further outlined later as careful thought was required on how to conduct this technique to foster beneficial results analysis.

*Quantitative data:*

Student marks

The final data collection method made use of formative assessment. Following each intervention lesson a past exam question will be set as homework. These responses will then be marked and recorded. GCSE Geography students' learn a total of six topics: each topic consists of multiple case studies that students have to apply to specific exam questions in order to obtain the highest marks. It is these questions, which will be used within the formative assessment, as they are easily identifiable to students: they are worth a total of eight-marks and often fall as the last question within each of the topic sections within the examination paper. To achieve the full eight-marks, responses must include specific facts relevant to a named real life example. Whilst all case studies are considered to be of equivalent standards of difficulty, it is important to note that this can be affected by personal preference in relation to topic content. As such both action cycles were intended to run using only the tourism topic in order to maintain consistency. Unfortunately, this did not align with the departmental scheme of work, which involved completion of the controlled assessment piece and mock examinations by the fifth year geography students. Subsequently planning of action cycles one and two had to be re-considered and whilst cycle one utilised the tourism topic, cycle two used a rocks, resources and scenery case study.

Marks of these practice exam responses were primarily recorded to allow comparative monitoring in regards to student attainment, yet, copies of the responses were maintained in case specific analysis was required. At the end of both action cycles, all fifth year students sat a mock GCSE Geography examination paper and whilst these did not form a direct part of the intervention, it provided useful data towards making judgement in relation to attainment progression.

### *Data analysis methods*

Munn and Drever (1990) proclaimed three stages to research analysis: preparation, analysis and summarisation. It is important that data obtained from this study is utilised in a meaningful way in order to draw out conclusions to advise future planning. As previously mentioned, triangulating methods intends to assist with the inclusion of multiple interpretations; this is also important to consider in terms of data analysis for a thorough review of results. The qualitative focus group discussion transcript, questionnaire responses, observation recordings and quantitative numerical exam question marks all required careful thought into the most appropriate analysis technique; Cohen, Manion and Morrison (2000) identify a “reflexive, reactive interaction between the researcher and the decontextualized data” as important to allow for sufficient representation of the interpretative nature of an action research investigation.

### *Focus group discussion*

Kerlinger (1970) defines coding as the process of data analysis whereby participant responses are translated into specific categories. Production of an accurate transcription from the Dictaphone recording of the focus group discussion was intended to allow systematic line-by-line re-active coding: descriptive abbreviated categories to be identified during data review, in response to emergent trends, instead of advanced prediction. Use of textual coding to resemble the original context avoids the issues associated with numeric coding that can fragment understanding. Furthermore, subsequent frequency counts of coded categories can guide a collaborative discussion within the department to aid planning of lessons for the intervention.

### *Questionnaire*

As noted earlier, both student questionnaires were designed to include a high proportion of closed questions. Inclusion of scaled response options from, ‘strongly agree’ to ‘strongly disagree’ presents the opportunity to use quantitative data analysis methods: total counts can be used to infer the popularity of a category and thus imply level of enjoyment; averages, including mean, mode and range can be used to identify trends, patterns or anomalies. Furthermore, the decision to remove ‘do not

know' intended to aid analysis in two ways: reduce the potential for inaccurate reflection of viewpoints by limiting the capacity for students' to rush through the questionnaire without paying direct attention to the questions; increase the requirement for a decision to be made by eradicating a middle option.

#### *Video observation*

In an attempt to ensure consistency throughout the study, the video observations were solely analysed by myself. Whilst this does again render the potential for researcher bias and subjectivity, judgement can remain stable, as it will only include one perception. Significant deliberation was given to how to measure engagement owing to contentious debate over an agreed conceptual definition. A semi-structured observation was thus selected to account for illuminating pre-determined notations of engagement, without the formality of completely rigid categories associated with a highly structured observation style (Cohen, Manion and Morrison, 2000). It was felt that this would provide a balance between rendering a realistic representation of the multi-faceted nature of 'engagement', yet clarify the position of meaning aligned to this concept in relation to this specific investigation. Consequently, the semi-structured observational agenda focussed partially on teacher language and student interaction, as representatives for engagement. A guiding agenda sought to identify:

- The number of questions asked by students about the task
- Total instances of 'positive' comments made by the teacher
- Total instances of 'reprimands' made by the teacher

Additionally, student behaviour was highlighted as a key aspect within engagement and thus collaborative discussion within the geography department created a criteria table (table 3.5) to score positive versus negative behavioural aspects.

***Table 3.5: Behavioural aspects for IRIS observation***

<b>Positive</b>	<b>Negative</b>
Offering assistance	Negative/abusive language
On-topic discussion	Classroom wandering
Requesting help	Off-topic discussion
Sustained completion effort	Ignoring instructions

Whilst discussion identified potential attributes of these positive and negative categorisations, decision of what specifically needed to occur to denote these was left to occur during the actual video observation review; this again intended to account for a naturalistic research approach and the unpredictable nature of a classroom environment. Tally totals could thus be recorded for these different aspects to calculate numerical averages and compare engagement level between the intervention lessons.

### *Student marks*

Numerical records of student marks for exam questions produced as homework could be analysed in a number of ways:

- Comparison of percentage of students per mark for each intervention case study question
- Comparison of modal average student mark per intervention lesson

Acquisition of student GCSE Geography mock results rendered a further analytical opportunity: differences in percentage of students attaining each case study exam mark for the intervention topic could be compared against case study exam marks for two non-intervention topics. It is important to acknowledge that despite this method attaining quantitative data, statistical analysis is inappropriate. Such a small-scale investigation is limited in participant numbers and therefore cannot seek to determine significant difference between attainment and pedagogical technique. Instead the process of analytic induction, directly contradicting identification of statistical patterns (Znaniecki, 1934) aims to infer potential themes that could be considered influential to effectiveness in student performance. Additionally any analysis of homework data requires this more explorative approach, as the conditions in which students completed the work cannot be directly controlled. One of the boys in the study for example is a boarder and therefore the environment in which he would complete the exam question would have been more structured than those of the day students. Once again though this justifies the use of a naturalistic approach in order to account for this variation within an educational research setting. Additionally, use of homework was perceived as the more preferential option compared to completion of the exam question at the end of the lesson with a limited time capacity and a lack of opportunity to synthesise information.

### *Ethics*

Any research involving children should remain aware of the ethical implications throughout the entire process and so the specific issues associated with the chosen individual method techniques has been outlined above, particularly in relation to the sensitive nature of audio and video recording. Ethical planning began far before the methodological stage of research though as without sufficient consideration research cannot occur. Lankshear (2004) outlines the importance of thorough preparation to eliminate the potential for damage to be done to participants: this could be through offence or upset in the questioning process or collection of evidence that may draw concerning conclusions. Prior to the investigation being conducted a proposal was sent for approval following the guidelines outline by The British Educational Research Association (BERA) 2011. Permission was sought from the Headmaster to conduct action research within the school: the Deputy Head granted sequential confirmation of acceptability of all research questions. Informed consent was obtained from participants following sufficient briefing prior to research exercises to ensure students were aware of demands being placed on them. Additionally, students were informed of their choice to terminate inclusion from the study at any time: this was only from the data collection process itself though, as clearly the planned intervention lessons were not optional. To protect participant identities, both the school and student names have been omitted. Replacement with pseudo names not only seeks to ensure anonymity, yet also allows for deeper analysis of protected data and should encourage a higher level of honesty in responses.

### *The lesson sequence*

This section will now proceed to explain the intervention to be undertaken to investigate the impact on male GCSE Geography performance. I will seek to explain which tailored pedagogical techniques I chose to pursue, before shifting to focus on the timeline framework for conduction of this research in the next section. Table 3.6 identifies the lesson titles throughout the action research cycles and outlines, in italics, a brief summary of the planned teaching strategies for each.

For a more comprehensive description and explanation of the individual lessons plans see appendix

C.

**Table 3.6: Lesson summary**

Action cycle one: Tourism		
1		National Parks?
2	Intervention: 'Normality'	National Parks: opportunities/attractions <i>VERBALQ+A – mini white-board recap</i> <i>PP+DISCUSS – discuss image/identify opportunities</i> <i>Read – textbook introduction</i> <i>NOTES – create tabular fact-file</i> <i>Summary – Twitter 'tweet'</i> <span style="float: right;"><i>HW: EQ</i></span>
		National Parks: threats/management
4	Intervention: 'Idealistic'	Mass tourism: Characteristics <i>QQ – interactive recap quiz</i> <i>PP+DISCUSS – post-it definitions</i> <i>VIDEO and BULLETS – prompted short notes</i>
5		Mass tourism Impacts <i>RESEARCH – guided websites to add detail to bullet-points</i> <i>PRESENT – computer notes</i> <i>Summary – minute speech</i> <span style="float: right;"><i>HW: EQ</i></span>
6		Mass tourism: management
7	Intervention: 'Competitive'	Extreme tourism: characteristics/impacts <i>GROUP PROBSOL – key characteristics recap</i> <i>GROUP COMPETE – design Q+A game on Antarctica</i>
8		Extreme tourism: management/sustainability <i>GROUP COMPETE – create Q+A game. Quiz-off.</i> <span style="float: right;"><i>HW: EQ</i></span>
		Management strategies: stewardship and conservation
10		Eco-tourism
Action cycle two: Rocks, resources and scenery		
1		Granite Landscapes: characteristics/formation
2	Intervention: 'Choice'	Quarries: Opportunities/environmental impacts <i>TEACHLED – introductory PowerPoint</i> <i>VIDEO – views on quarries</i> <i>DISCUSS and BULLETS – class summary</i>
3		Quarries: Restoration <i>Options: PROBSOL, GROUP NOTES, BULLETS, PRESENT</i> <span style="float: right;"><i>HW: EQ</i></span>
4		Revision

## Chapter IV:

### Teaching sequence

#### Timeline plan

Planning a realistic timeframe for conduction of the action research cycles for this investigation was critical in relation to careful alignment with the school academic calendar. Fifth year students sit their GCSE examinations in June and thus it is essential they are adequately prepared prior to departing for study leave in May. It was of imperative importance that the intervention did not interrupt key events including the completion of controlled assessment, mock examinations and 'off-timetabled' lessons pre-diarised for life skills sessions. As such I decided to maximise time opportunities by breaking the intervention down into two parts – one occurring within normal timetabled lessons, the other part seeking to utilise allocated sessions of the homework timetable outlined within the school prep policy. Co-ordination of the sequence of lessons for the intervention thus needed careful planning in order to ensure the scheduled homework slots were adequately adhered to. Table 4.1 delineates the steps to be taken in this action research investigation, and identifies the corresponding time schedule planned for implementation of each step.

***Table 4.1: Investigation timeline***

Timeline	Action
10/2014	CUREC ethical application. Await approval, including Headmaster permission.
11/2014	Official title application.
12/2014– 01/2015	Informal focus group discussion. Administer initial questionnaires. Departmental results analysis to aid intervention planning.
01–02/2015	Implement first action cycle: observations, questionnaires and exam questions. Present narrowing the gender-gap INSET using diagnostic conclusions and initial findings.
02–03/2015	GCSE mocks: analyse intervention and non-intervention case study marks.
03/2015	Analyse first action cycle: reflect and evaluate 'effectiveness'. Review and adapt second action cycle teaching and learning techniques and implement.
04–06/2015	Final data analysis: literature contextualisation, conclude and recommend. Department discussion on future planning.

## Chapter V:

### Findings and Discussion

#### RQ3: Before the lesson sequence, what were the boys' views on preferred learning styles and eight-mark case study exam questions?

The evidence of the boys' initial understanding of preferential learning styles came from two sources: examination of textual coding from the transcribed initial focus group discussion provided the primary focus (appendix D); analysis of average percentage of responses from the initial individual closed questionnaires provided a secondary reference (appendix E). Three main themes were picked out of these findings, which were used to guide the planning of the lesson interventions. Firstly the types of activities viewed as preferable for inclusion within an ideal lesson. Secondly, how the boys' perceived a lesson should be structured, particularly in regards to the lesson opening. Finally, how the boys' viewed the influence of a 'competitive' lesson element.

Out of the responses made, 47 were designated under a 'positive' classification, whilst 23 under 'negative' (appendix F). This appears to illustrate that the majority of the boys were keen to describe what they perceived as 'good' learning techniques, yet were less inclined to offer critique. This is supported by a dominance of positive responses, and limited negative feedback, in relation to student satisfaction levels (appendix E). This includes the finding that, 44% and 56% of students respectively 'strongly agreed' or 'agreed', to enjoying geography lessons prior to the intervention. Importantly though, this could reflect an influence of the presence of myself, their teacher, as the researcher, and therefore a desire to 'please'. One student, for example, commented:

*'...I like it when you like learn everything then you like apply it to like an exam question like or thing later or like fit the answers into some kind of mark-scheme format' [Fifth year male]*

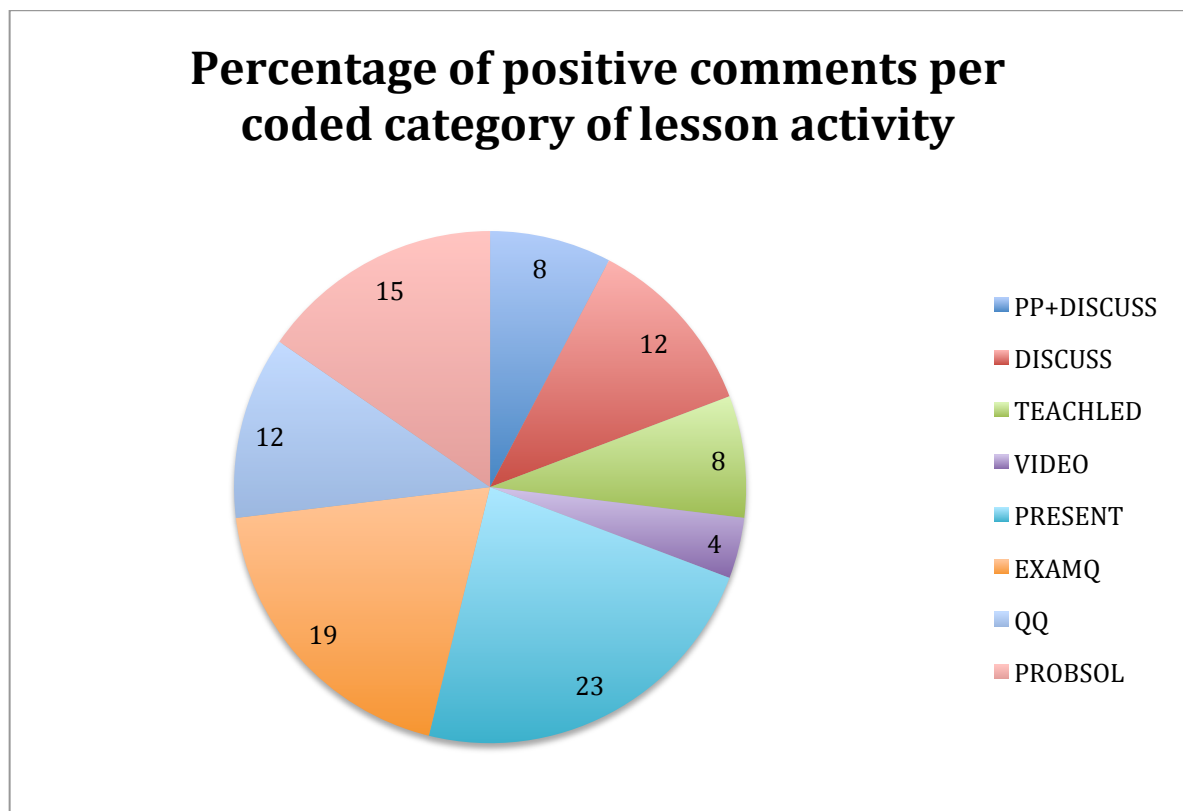
Taken as a single point, this statement portrays a positive perspective of 'exam questions' as a lesson activity. The addition of context is important though as it raises questions over the level of honesty of this viewpoint. Cohen, Manion and Morrison (2000) noted that the class teacher as the researcher could create negative bias and generate inaccurate student responses; however the subjective awareness of the teacher, in relation to individual student knowledge, can be useful for adding context. As such, the intention of the comment above can be questioned. The student who raised the

point has strong attention seeking characteristics and is notoriously recognised for devious behaviour. As such the focus group discussion was stopped at this point to remind students of the overall purpose:

*‘Stop giving me what you think I want to hear and tell me what you really want... How would you plan lessons? How would you plan lessons in particular for geography?’ [Teacher]*

Having previously researched student perceptions on single-sex learning environments, the findings identified males as ranking ‘creating and presenting presentations’ as the most preferred learning activity, and ‘card sorts’ as the least, with a medium ranking awarded to ‘exam questions’ (Athey, 2014). Taking this into account, I would have expected all the boys to have at least a basic opinion on what techniques of learning they like and dislike. A moderate range of lesson activities were discussed, during the focus group and these guided the design planning for the intervention lessons. Findings corroborated those from the 2013-2014 diagnostic research; frequency counts of coding categories again identified ‘presentations’ as the most popular lesson activity (figure 5.1). A comprehensive explanation of these codes is shown at the end of appendix D.

**Figure 5.1:**



As described in Athey, (2014), ‘compared to their female counterparts, males indicated learning preferences for collaborative working conditions, reduction in note-taking activities, greater variability

within lesson format'. Following results analysis two of the intervention lessons, for action cycle one, were planned to include:

- Case study 1: 'Normality' – A verbal question and answering recap followed by a discussion based on a teacher PowerPoint to guide note taking from the textbook.
- Case study 2: 'Idealistic' – A quick fire interactive quiz to recap followed by a video introduction and then a student researched presentation.

The Independent Schools Inspectorate (ISI) maintains lesson observations and grading as a compulsive requirement for all teachers. According to the ISI observation criteria, a lesson can only be considered 'excellent' if planning is informed by assessment criteria and learning is clearly assessed during the lesson (appendix G). Importantly however, when compared against OFSTED criteria the emphasis placed on identification of the learning objectives is not specifically mentioned. It is thus down to the individual discretion of the teacher whether to make these objectives apparent to students. As such, as part of the focus group discussion, the boys were prompted to consider their opinion in regards to 'clear identification of lesson objectives'. I found it interesting that only two positive comments were made for the inclusion of objectives. The clear majority of boys responded negatively to the mention of beginning the lesson with objectives as a visible groan could be audibly detected on the recording. This supported earlier research by Epstein et al. (1998) who proposed a female preference towards awareness of how to link lesson understanding with exam specification, in comparison to a male tendency to prefer a conceptual knowledge share between peers. This is further supported by the high percentage of positive comments made about group discussion (figure 5.1).

Whilst the focus group discussion was required to adhere to a tight time schedule, thus was limited in terms of the potential scope of context able to be covered, the prompt questions did illicit towards length and range of activities. As such I was somewhat surprised, that the students gave very little opinion in relation to the overall lesson structure. Consequently, despite a lack of primary evidence in support of findings, by Warrington and Younger (2014), that boys tend to respond better to short-term targets, tight focused activities and well-paced lessons, the intervention planning decided to take these aspects into consideration and account for variety within each lesson.

The third intervention lesson, for action cycle one, was planned to account for the third prevalent theme identified from the frequency coding counts. Nine positive comments were made in relation to competition, the highest number overall for any coded category (appendix F). Subsequently the third intervention lesson plan aimed to further investigate this apparent preference with planning including:

- Case study 3: 'Competitive' – A group problem solving quick fire recap activity followed by creation of question and answer games in small groups to be used for a competitive 'quiz off'.

It is important to note that only nine of the 17 different boys individually spoke. There is however no doubt that all of the boys had some understanding of their likes and dislikes in relation to lesson activities as at times in the discussion all the students would nod or indicate agreement to particular comments made. Furthermore, additional corroboration was sought from the initial individual closed questionnaire, completed by all the students, which provided similar findings (appendix E). Practice exam questions ranked as the most popular learning activity with 25% of responses, seconded by note taking from PowerPoint (19%), closely followed by creation of own presentations, with and without presenting, and debates (all at 13%). Overall therefore initial research proved to be a useful starting point from which to progress the investigation into learning style preferences and the subsequent influence of tailored pedagogic approaches on male academic performance.

RQ4: After the lesson sequence, what did the boys understand about preferred learning styles and eight-mark case study exam questions?

It is difficult to present the outcomes of this action research study in a definitive manner owing to the multi-faceted nature of influences occurring, both within and between the lessons included, in the intervention sequence. Nevertheless, as had been hoped for, some potential shifts in attitude and behaviour were identifiable amongst some student members, as well as a few less anticipated outcomes. This research question will thus be split into sections accordingly in relation to these different thematic findings. It will look at findings from action cycle one in regards to the use of perceived 'preferential' learning styles on student enjoyment levels. Teacher perceptions will then be drawn upon to discuss what can be understood about the boys' engagement levels during the intervention lessons. Analysis of the findings from research cycle two will consider the influence of

choice on both enjoyment and engagement. Throughout this exploration, previous research findings and literature publications will be drawn on to add critical evaluation and provide wider context.

### *Enjoyment*

As noted earlier, at the start of December 2014, prior to the action research cycles, initial research found 100% agreement towards enjoying geography lessons. The 'easiest' point of understanding to feasibly reflect on was therefore this perceived enjoyment, as it was again measured on a levelled rating at the end of each intervention case study. Appendix H illustrates that the results were somewhat surprising though. A partial reflection of the initial student perceptions of learning preferences was obtained as the 'idealistic' and 'competitive' lesson did foster the highest percentage of responses for 'strongly agree' to enjoyment of the lesson activities (56% and 44% respectively). However, there were clearly a few boys who struggled with these techniques: 18% of students 'disagreed' about enjoying the 'idealistic' lesson and 13%, for the 'competitive' lesson. Furthermore, whilst 100% of students either 'agreed' or 'strongly agreed' to have enjoyed the 'normality' case study lesson and activities, for the other two intervention lessons this enjoyment decreased. Only 94% of responses agreed to enjoy the 'idealistic' and 'competitive' lessons, and in specific relation to enjoyment of the activities, this reduced further to 82% and 87% respectively, thus raising interesting implications for use of tailored pedagogical methods. It can be argued that this enjoyment of 'normality' was to be expected as it fully aligns with the initial findings. Yet, more importantly these results imply that whilst students may desire particular teaching and learning techniques in principle, in reality they actually appear to possibly feel more comfortable with status quo.

Additionally, use of particularly 'creative' techniques can be suggested to generate a higher range of opinions: most students require the comfort of knowing they have the correct answers to passing their exams and therefore 'enjoy' techniques that seek this outcome without a particularly high level of challenge. As such initial discussion followed by individual note taking may be 'enjoyable' to students, as they feel confident that the textbook will provide them the information they need. Techniques however that generate greater levels of individual participation, such as research for presentations or collaborative group work, may initially appeal to students as interesting, yet as they actually require

high levels of thoughtful decision making, in reality this may not have led to enjoyment. On reflection these latter techniques, although varied and time-restricted, do not align as tightly with the findings by Warrington and Younger (2014) who proposed boys' to respond better to short term, fast paced activities.

Socio-cultural perceptions of 'idealistic' gender stereotypes were inferred to have deeply permeated into the daily schooling environment during the twentieth century (Walkerdine, 1984). This deemed girls in a positive light: 'kind and helpful' compared to 'active, competitive' boys. Osborn and Broadfoot (1992) critiqued the lack of reflective caution over these gender stereotypes, arguing a significant rise in ignorance against individual personalities. More recently, Francis (2006) outlined that whilst some overall generalisations can be made in relation to gender differences in learning preferences, not all students will follow these as individual personalities differ. It is therefore imperative to remember the limitations of simply 'grouping' similar findings together from closed questionnaires that can lead to a mass over-generalisation. Closer analysis of the elaborative comments provided by open style responses within the questionnaire can thus help to provide further insight into this unexpected lack of enjoyment findings. In relation to the 'competitive' case study lesson, one student noted:

*'I did not enjoy this lesson because most of the class was distracted with trying to make games, so very little learning took place' [Fifth year male]*

This seems to support the suggestion that whilst some techniques may harbour a 'pleasurable' environment, this does not necessarily bring enjoyment if the overall lesson purpose is to acquire knowledge. This is thus supportive of findings from Butt, Bradley-Smith and Wood's (2006) research that identified a positive shift in opinion towards more laborious written style activities, as students moved between Key Stage three and GCSE study, perhaps through greater recognition of a need to reflect information to 'learn'.

It is also intriguing that this statement appears to suggest the student to be directing critique towards the 'group-work' aspect of the lesson structure rather than the actual task design itself, of creating a game. This raises attention to the subjective nature of constructivist research as it identifies that a broad range of other factors could be used to aid explanation of reduced enjoyment. These include the potential influence of social conflict between particular group members or a lack of fair designation of workload. Analysis of the other closed questionnaire responses also reflect a mixed set of findings in

relation to student attitudes towards the intervention lessons within action cycle one. Appendix H shows that whilst the strength of agreement in relation to willingness to participate, increased for both the 'idealistic' and 'competitive' lessons, opinions on motivation and interest were not as consistent when compared to the 'normality' case study.

From this first action research cycle it would seem that for most students their perceptions towards which lesson activities they feel they like do generate positive feedback response in practicality. However, this was not a clear-cut conclusion as despite increased strength of positive enjoyment from the techniques perceived as 'most preferable', greater disparity also arose with some levels of disagreement recorded. Consequently, review of these findings aided planning of the fourth case study for the intervention lesson in action research cycle two: utility of the same teaching techniques as those within cycle one rendered continuity between the stages yet planning this time designed to investigate the influence of 'choice' by allowing students greater agency over which technique would suit their own learning preferences.

### *Engagement*

Appendix I illustrates the engagement outcomes for the sequence of intervention lessons within research cycle one. As had been hoped, the lesson with the greatest number of positive teacher comments made in relation to the whole class was the 'idealistic': six greater than the 'normality' and eight more than the 'competitive'. Somewhat less expected though was the finding that, of the three, the 'idealistic' lesson also recorded the greatest amount of teacher reprimands to the class (12 compared to four for 'normality' and nine for 'competitive'). Heyman and Dweck (1992) documented the intrinsic influential role of emotion within a feedback system linked to higher motivation and thus it can be considered useful to compare observed teacher perceptions alongside questionnaire findings of student attitudes. Whilst higher levels of enjoyment may generate a boost in participation, this perhaps does not always foster the most appropriate learning environment. As such praise may be rewarded for contribution, yet reprimands may also be required to control noise and focus. Experiences that are considered enjoyable often can be seen to positively boost determination and as such can create success: this success then reinforces the positive emotion, further harbouring a

determination to maintain success and avoid the negative emotions attributed to failure (ibid: 243).

Nevertheless, the addition of such a 'jubilant' atmosphere may, for some, act as a distraction from the learning purpose and thus raise both positive and negative teacher vocalisations. Again, review of the open question answers provided further insight:

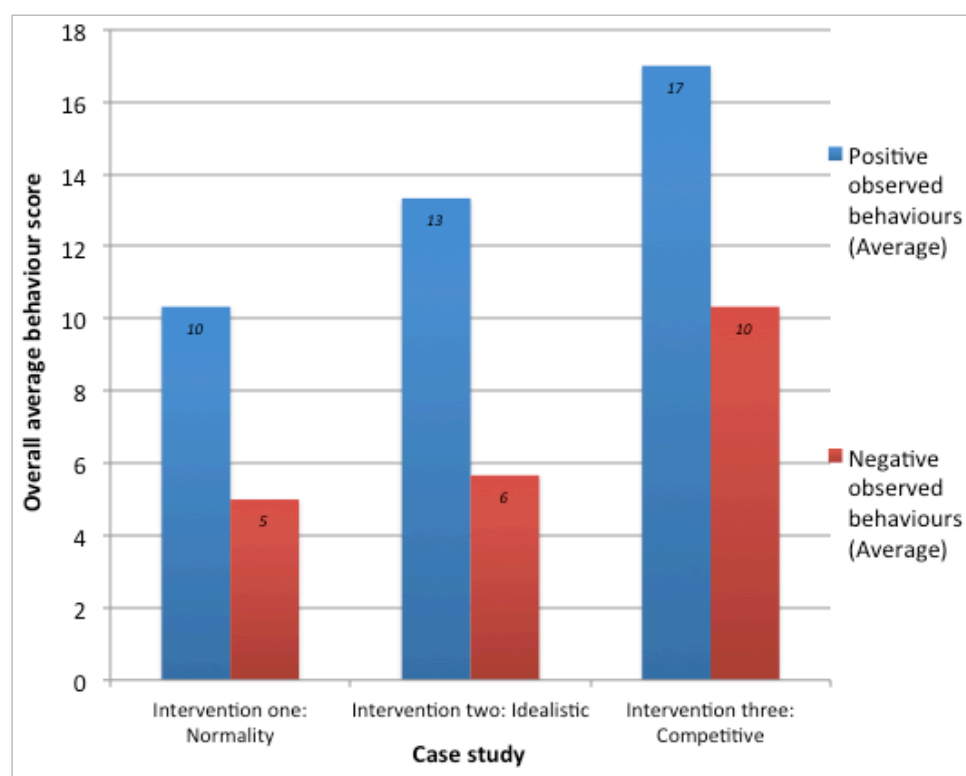
*'I liked the activities in the lesson because the 'creating your own card game' was interesting and engaging (I think that the lesson could've had more emphasis on the lesson objectives and what we needed to complete).'* [Fifth year male]

This comment seems to support the suggestion that whilst the task proved stimulating, the overall learning purpose may though have become under emphasised. This raises some tangible points in relation to the wider academic debate surrounding an all male learning environment. Jackson (2010) and Askew and Ross (1990) present a view that without girls, an all male lesson will see reduced concentration owing to pre-occupation with social status leading to distraction. These research findings can be used to potentially assist in explaining the rise in teacher reprimands, despite an increase in praise too.

One striking piece of data is the sheer number of questions asked by the class within the 'competitive' lesson compared to the 'normality' and 'idealistic' ones (48, to 10 and 13 respectively). Such disparity leads to consideration of why. One possible reason could be that the students were less accustomed to group work conditions. A lack of teacher agency, borne out of pressure, has seen many GCSE lessons become 'exam-led' in task design (Priestly et al., 2012). Consequently, collaborative activities have arguably become limited post Key Stage three, as the increased time intensity is not necessarily feasible alongside the critical delivery of the vast specification. A predominant prior use of textbooks and computer materials may thus count towards the comparatively lower questioning levels in relation to the 'competitive' group activity. A further potential reason to explain the higher total class questions for the 'competitive' intervention lesson can be drawn from added contextualisation from the earlier 2013-2014 diagnostic research stage. Athey (2014) found 55% of male responses agreed that competition acted as a motivator and as such, whilst consulting a friend may reduce the likelihood of 'winning', obtaining teacher guidance may increase it. This was further supported by the finding that the majority of male responses identified 'seeking teacher assistance' as what they would do if they were stuck on a particular task and as their preferential source for advice. A cautious assumption can

be abstracted from these perceptions in regards to the higher questioning levels: a desire to win may have created a persistence to seek clarification around instructions in order to guide success. Multiple reviews of the IRIS lesson observation recordings also provided teacher perception into the three specifically identified individuals. Calculation of 'overall average behaviour scores' was obtained from these different student tally totals in relation to the pre-considered positive and negative observed behaviour categories and figure 5.2 infers, as positive behaviour increased so too did negative behaviour.

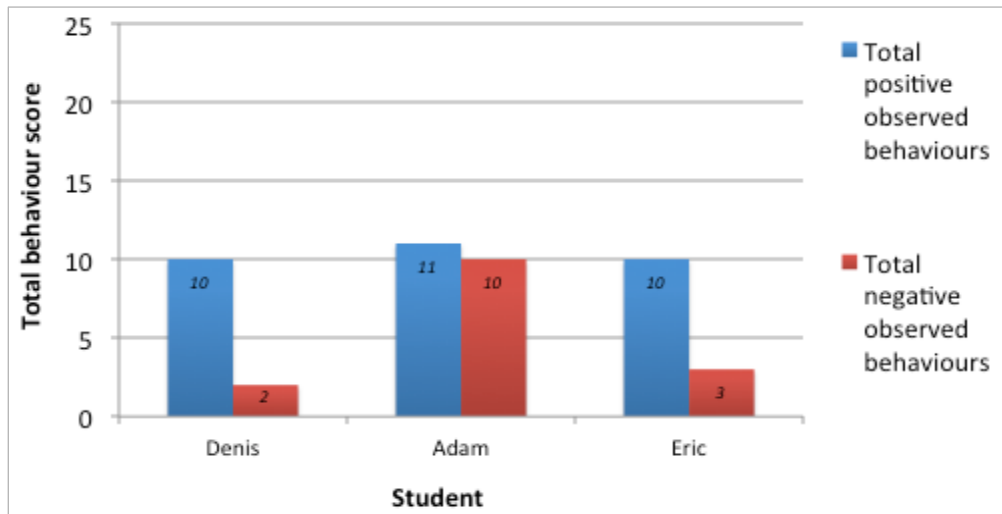
**Figure 5.2: Teacher perception of average 'student engagement'**



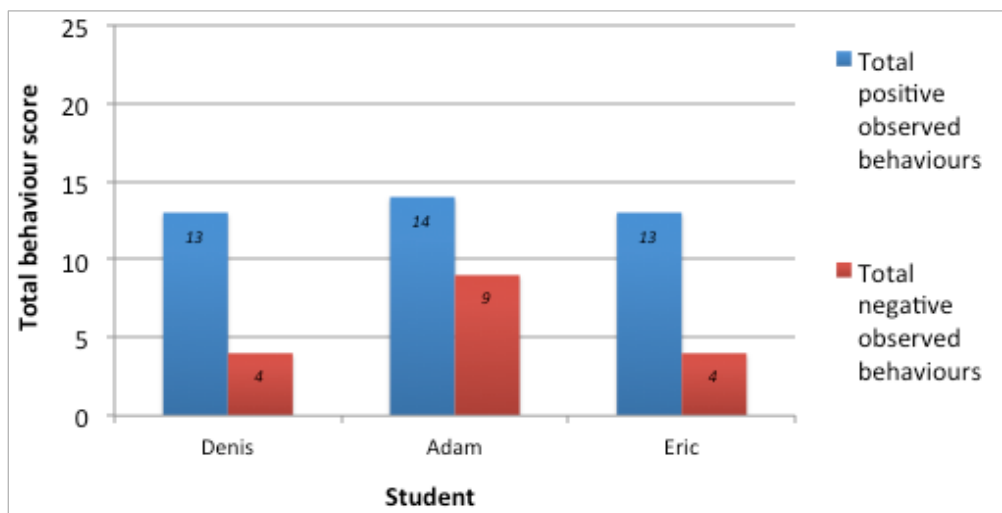
This not only supports the high level of positive and negative teacher commentary illustrated earlier, yet provides an even stronger reflection of a potential link between increased enjoyment in an all male lesson, and the creation of a positive, yet perhaps more chaotic, learning atmosphere (Jackson, 2010). Closer inspection of the specific behaviours displayed by each of the three individuals can be used to further consider this link. Intriguingly, figure 5.3, illustrated that in general, all three intervention lessons, had a less dispersed range of total positive behaviour characteristics, between the three students, than for the negative behaviour characteristics. Furthermore, the behavioural patterns appeared remarkably similar within the 'normality' and 'idealistic' lessons (figure 5.3a and b), compared to the 'competitive' (figure 5.3c).

Figure 5.3: Teacher perception of behaviour for three students

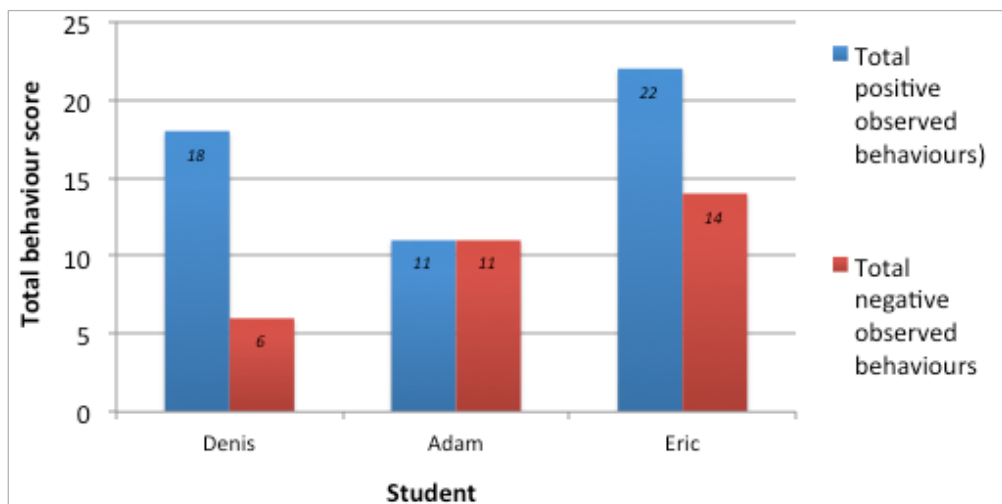
a. Student engagement' for 'normality' lesson



b. 'Student engagement' for 'idealistic' lesson



c. 'Student engagement' for 'competitive' lesson



It can be proposed this difference can largely be ascribed to the shift in Eric's behaviour. As noted earlier, Eric falls within MIDYSIS band C. This means in relation to national standardisation he is in the second lowest performance band (CEM, 2015) and whilst his predicted grade from this calculates as a B, he has been struggling across the board during his GCSE studies.

The 'competitive' lesson appeared to have a positive influence on Eric: He was identified to request help five times, a trait not previously recorded and on-topic discussion levels were also highest in this lesson (appendix I). Yet, alongside this heightened engagement, the amount of off-topic discussion also rose and he engaged in classroom wandering for the first time. Figure 5.3c shows that despite this rise in negative characteristics too, the total number of positive observed behaviours was the highest total for any student, of any of the three lessons. It can therefore be suggested that Eric perhaps felt more confident within a supportive small group environment and displayed a perceived 'typical laddish macho culture' of wanting to ensure both social acceptance and dominance, by endeavouring to be identified in 'the winning team' (Francis, 1999).

Overall teacher perceptions of engagement from this first action research cycle, infer a potential link between increased student positive behaviours, at the expense of increase in negative characteristics too. It will be interesting to see the impact of providing students greater independence over their learning decisions within the second cycle, on this tentative deduction around engagement levels.

### *Choice*

Following reflection of cycle one, the second cycle was planned with the intention to investigate two key themes further. One, it is expected that students are likely to enjoy the lesson as they can select which learning technique from stage one they wish to utilise to learn a fourth case study. Two, as the role of personal agency has been linked to influencing motivational levels (Edwards, 2013) it is hoped that providing students ownership over their learning will positively influence engagement levels. Appendix J illustrates that only 81% of students 'agreed' to have enjoyed the lesson activities, the lowest enjoyment recording of any of the intervention lessons. Even more surprisingly, of the remaining 19% of responses, 6% selected 'strong' disagreement. Conversely, the lesson ranked joint highest in respect of motivation and manageability of activities (appendix H and J). Deeper analysis of

questionnaire data identified a number of useful comments in relation to student perception of the lesson environment. For example, two students noted:

*'I enjoyed discussing the presentation slides however I found the video about the school kids pretending to be part of the quarry debate less helpful' [Fifth year male]*

*'I didn't enjoy the lesson activities because the video did not provide us with much detail at all about quarries' [Fifth year male]*

Taken in isolation, on face value, these comments indicate the lack of enjoyment to be the result of a frustration with one particular lesson element. Both students identified a clear frustration with the introductory video, claiming limited usefulness owing to a lack of 'helpful' information. This can be linked to research findings that propose a lack of auditory processing skills in boys (Cox, 2005). As girls are commonly more proficient at processing language, boys may struggle to listen and translate video information into written notes (ibid: 20). Furthermore, results from Athey (2014) can again be drawn on for consideration: ranked as the most preferred option to seek advice from, 33% of boys selected 'teacher', compared to 3% 'later individual research' and 0% 'any student' (ibid: 55). Subsequently, if the boys found limited opportunities to seek assistance from the teacher during the video, or struggled to obtain detailed notes, they may not have enjoyed the prospect of having to overcome the issue of limited information. It seems significant to note though that this explanation can be critiqued by the fact that a video information source was prevalent in the 'idealistic' lesson. Thus it may actually have been a dislike of the specific quarry video as opposed to the video technique itself, which although low, had been given positive mention in the initial focus group discussion (appendix F).

An alternative explanation can be drawn from consideration of a different set of responses:

*'I was constantly being disrupted by pupils drawing and scribbling in my book, going on their phones during the lesson and breaking my pencils and going down my bag. This made concentrating very difficult and left me with a very heavy load of work to do at home' [Fifth year male]*

*'I found the tasks too difficult to fit into the timetable given in order to complete to the best quality which I wanted to achieve. Had to do a lot at home on top of HW' [Fifth year male]*

These comments seem to suggest that providing the boys' independence may have reduced their personal reflective attitude towards the lesson, as it appears to have challenged their organisation, planning and self-control. Interestingly the autonomy seemed to have generated an unexpected sense of concern amongst some students that the pace was inadequate to achieve the expected outcome.

Arguably this directly contradicts the majority of students (94%) who 'agreed' that the lesson had manageable tasks. It is important to note though that this could indicate a potential subjectivity in the interpretation of this question: some students could perhaps have seen 'manageable' to mean 'doable' and 'achievable'; others could have believed it to mean 'practical' and 'convenient' alongside the given the time conditions. Furthermore, the lack of ability to complete the tasks adequately within the lesson can be attributed more to an ineffective promotion of an efficient learning environment, rather than an overburdening work to time ratio. Interestingly, the comment in relation to disruption was made by Dean, the student specifically selected to represent a high achiever with a MIDYSIS score in band A. As such indirect support for earlier findings from research cycle one where increased exuberance generated a more chaotic atmosphere can be tentatively advocated. Whilst some students had clearly enjoyed being able to select their learning technique, this may have been at the expense of other students who felt destabilised by a less controlled environment. In particular the high achievers may not have appreciated the more flexible student-led atmosphere, as they perceived some students to lack focus and thus act as a distraction. As these opinions were in the minority, this can be seen to support the notion that every child is individual thus exceptions will always prevail (Gurian, Stevens and King, 2011). Despite most boys enjoying the lesson, for those who may have a less striking specific gender difference in learning style, the addition of autonomy appears to have actually had a detrimental impact on their emotional perception of the lesson structure. This can be rendered particularly credible with review of one further questionnaire response:

*'I enjoyed the lesson overall because of its benefits to my GCSE, although I didn't like the learning structure. This was not totally a success because pupils were allowed to do what they wanted' [Fifth year male]*

Credibility can also be further analysed through comparison of student and teacher perception.

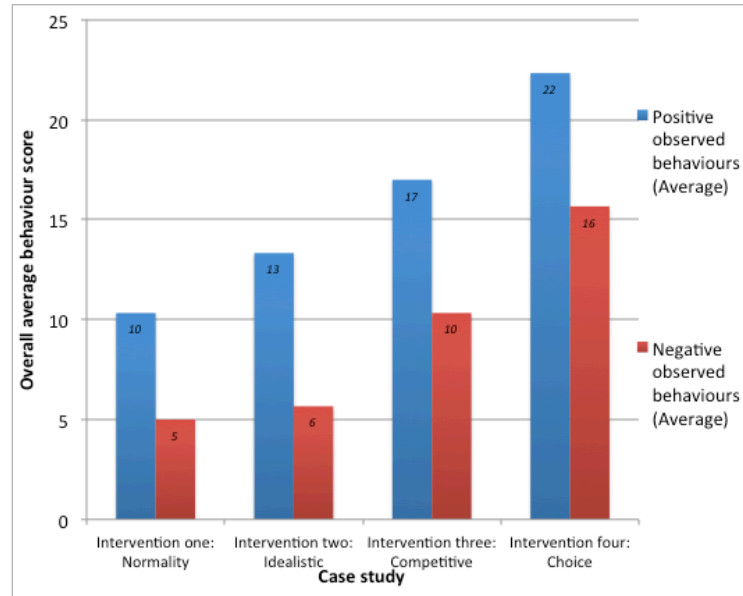
Drawing from these mixed student perspectives of enjoyment it could be assumed that class questioning may have reduced to reflect the increased autonomy. Curiously, at 66, the total number of student questions about the task was the highest of any of the intervention lessons. Crucially, this could simply be down to the practical nature of a longer length of time, as this second intervention lesson was spread over two hours to allow for individual research and planning. Owing to this time difference, numbers of questions asked in each of the sections of the lesson was also accounted for

(appendix K). Whilst this sub-division for the 'choice' lesson does reduce the number of questions below that of the 'competitive' lesson (48), the totals of 31 and 35 were still surprisingly high. It can be cautiously proposed that the introduction of autonomy may actually have reduced student confidence. Instead of increasing independent decision-making, such high totals of questions about the task from the class suggest a need for teacher reassurance around the actions being undertaken. If this is the case, this could provide interesting foresight into future planning of autonomous tasks, in how to encourage students to trust their ideas and act on instincts.

Teacher observation of engagement provides further data on the overall learning environment, offering a useful supplementary perspective in relation to the themes arising from student enjoyment opinions. Appendix K signifies overall, the 'choice' condition had highest positive teacher feedback comments (26) yet a comparatively low level of reprimands (7). This is much lower than expected when compared to previously identified student responses into reduced enjoyment from higher distraction. This again raises crucial questions in relation to future planning. Of particular concern could be the perceived lack of teacher intervention during more student-led tasks: Such low levels of reprimand can be argued to imply the teacher was neither correctly interpreting nor preventing disruptive behaviour during the lesson.

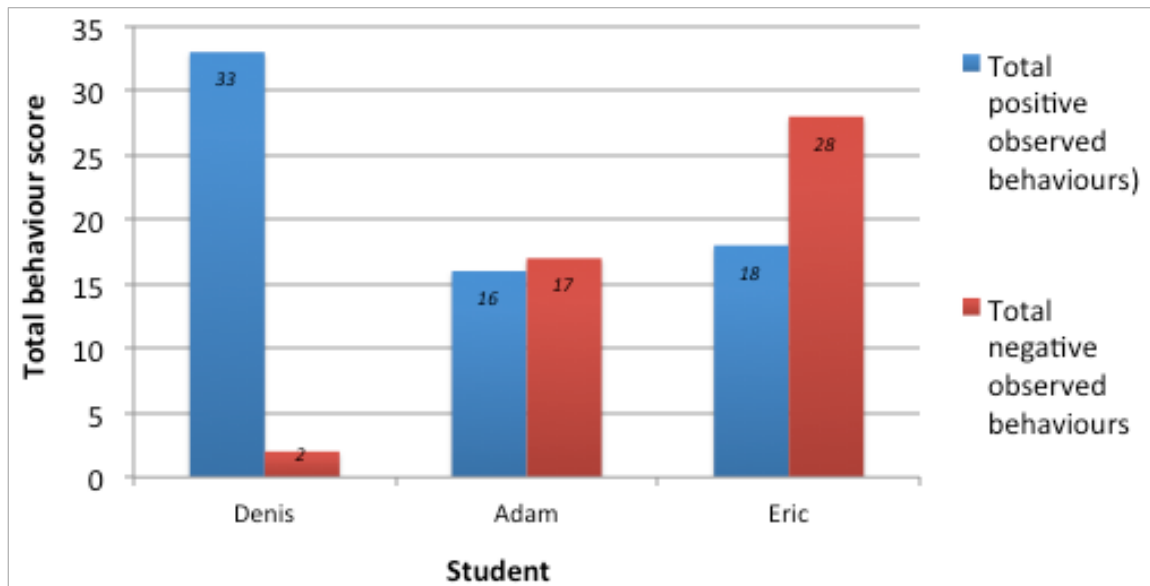
It is vital to remember the small-scale nature of this research though and seek to consider all potential explanations. As such, whilst some students may have felt 'distracted' use of the three specific individuals provides some closer insight into the lesson environment. The highest negative behaviour traits were negative (body) language and off-topic discussion, which can be difficult for specific teacher identification in-situ. However, these may not necessarily have actually been considered in need of disciplining. Off-topic discussion in particular may not have been seen as disruptive to most boys who have been found to handle background noise better than girls (Wain, 2011). Figure 5.4 supports this. A continuation of the trend identified in cycle one is indicated: as positive observed behaviours increase, so too do negative. Looking directly at the three specific students adds extra ideas to these explanations.

**Figure 5.4: Teacher perception of average 'student engagement' for all interventions**



It can be seen from figure 5.5 that whilst higher achiever, Denis, displayed an extremely high total amount of positive behaviours, lower achiever, Eric, recorded more negative than positive characteristics.

**Figure 5.5: Teacher perception of 'student engagement' for 'choice' lesson**



A particularly noticeable increase in sustained effort appears to be the biggest driver behind Denis's increased total positive behaviour score (appendices I and K). This is particularly interesting in light of his lesson perception, as despite expression of a lack of enjoyment, evidence drawn from the observation infers a determined perseverance. It would seem that when this higher ability student was given autonomy, he potentially sought to utilise the opportunity to extend his learning beyond that of

the rest of the class. Additional, support for this can be sought from his greater number of requests for help in this 'choice' lesson too (4 compared to 0,1,0).

In contrast, the noticeable increase in negative (body) language appears to be the biggest driver behind Eric's increased total negative behaviour score (appendices I and K). This could be seen to align with comments that the 'choice' lesson had over-allowed for students to do what they wanted. Thus the lower ability students may have utilised the flexible structure as an excuse to get away with the minimum work possible. This could be used to question further if providing autonomy really maximises teaching, as it does not necessarily seem to have led to a greater involvement within the 'crucial' learning thought process (Roberts, 2003).

The impact of 'choice' has appeared to have had mixed 'success' in relation to the higher ability students owing to increased engagement, yet decreased enjoyment. Overall, this tenuous link between increased enjoyment, and a positive, yet more chaotic, learning atmosphere has again become apparent. It will be intriguing to investigate what this may show in regards to attainment findings.

#### RQ5: How did tailored pedagogic approaches influence male academic performance?

Throughout the sequence the emphasis of the lessons was on the tailored pedagogic approaches and how they could influence the boys' academic performance. The evidence for how much this benefited the boy's attainment predominantly came from eight-mark exam question responses set as homework to investigate understanding and knowledge retention. Mock performances and departmental feedback provided extra evaluative opportunities.

#### *Exam questions*

Black and Wiliam (1998) reported that knowing how to learn was an especially beneficial factor for student progress. I was therefore expecting productive learning to be fostered by the intervention lesson activities that had been tailored to meet the students' own perceptions. A lack of differentiation in terms of attainment was thus unexpected: all lessons in cycle one calculated identical mode (four) and mean (five) values for the exam question marks (appendix L). The range though showed less dispersion between the marks from intervention one to three (six, five, four respectively). As such,

perhaps the 'competitive' intervention allowed a more consistent spread of performance throughout all the abilities, whereas the 'normality' lesson sought similar medium performance yet skewed the top and bottom end of the ability spectrums. Closer review of these attainment marks corroborates both these ideas: figure 5.6 indicates a limited ability to identify a clear overall attainment theme, yet, tentatively highlights a potential discrepancy between abilities.

**Figure 5.6: Exam mark percentages**

Mark	Normality	Cycle one		Cycle two
		Idealistic	Competitive	Choice
Percentage of responses				
0	0	0	0	0
1	6	0	0	0
2	0	0	6	0
3	0	6	6	13
4	38	44	31	13
5	25	6	25	13
6	13	13	25	13
7	19	6	0	19
8	0	25	6	31

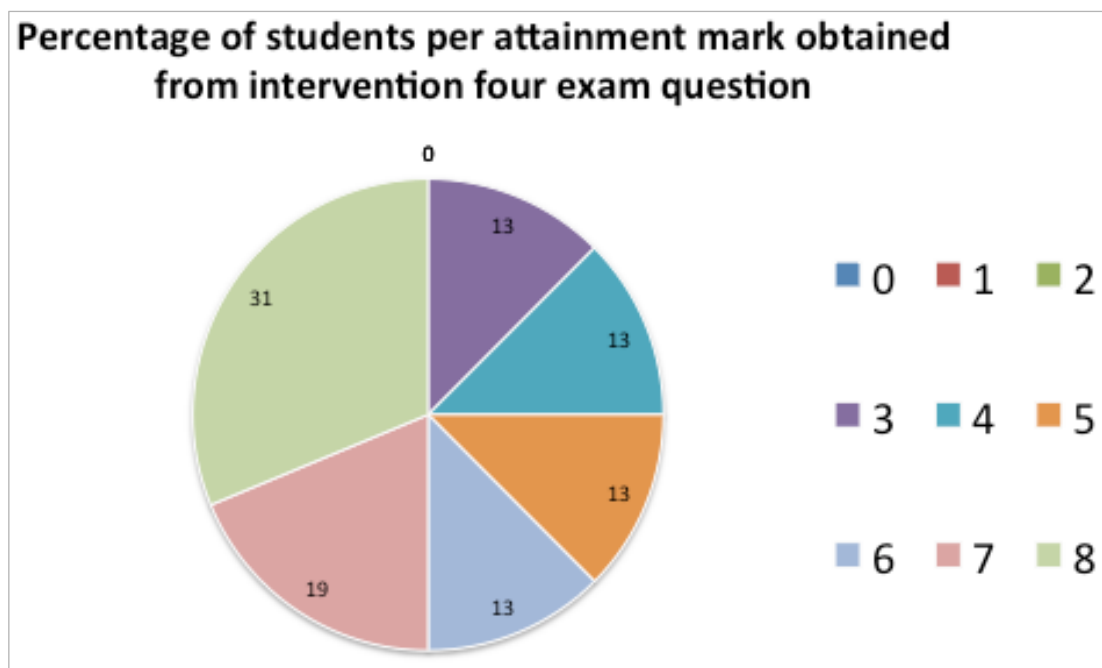
Interestingly, only the 'normality' lesson obtained a percentage of students to achieve a mark of one. This is not the first time students have completed an eight-mark exam question and so it seems unlikely to suggest this finding could be as a result of 'occurring first'. Instead it is seen to be more useful to consider potential explanations for these differences through a triangulation of perspectives. It can be seen that the number of students obtaining eight marks fluctuated (0%, 25% and 6.25% respectively).

This does not immediately appear to correspond with enjoyment perceptions where the range of student's attitudes towards the lesson activities had in fact been highest in the 'idealistic lesson'. Owing to the anonymous methodological nature it is difficult to determine if those students who had shown particularly strong positive emotion had obtained the high attainment scores. Nevertheless, an alternative comparison identifies, the most positively valued lesson ('idealistic') to fit with this higher percentage of top end marks. This is particularly intriguing in terms of prompting potential future consideration of the differences between students 'enjoyment' and 'value' as both appear feasibly linked towards influencing attainment.

Teacher perception of the 'competitive' lesson identified highest numbers of student questions about the task from the whole class. This could perhaps be interpreted alongside the decrease in attainment range. The greater engagement by students to ensure they understood what was expected from them, might have led a higher proportion of all students to obtain a clustering of mid-range marks. Furthermore, the stark increase in 'observed positive behaviours' by lower achiever Eric within the 'competitive' lesson is curious. If these lower ability students, in particular, had become 'more engaged' this may aid the explanation of a lower range for this intervention.

Whilst intervention lessons one to three all recorded identical mean and modal exam responses, allowing students to choose their learning method did appear to support higher attainment. Appendix L shows 'most common' responses were awarded full marks and despite the range re-increasing to five, this was on an overall higher spectrum with minimum marks of three. Figure 5.7 indicates the percentage break down of marks for the 'choice' exam question:

**Figure 5.7:**



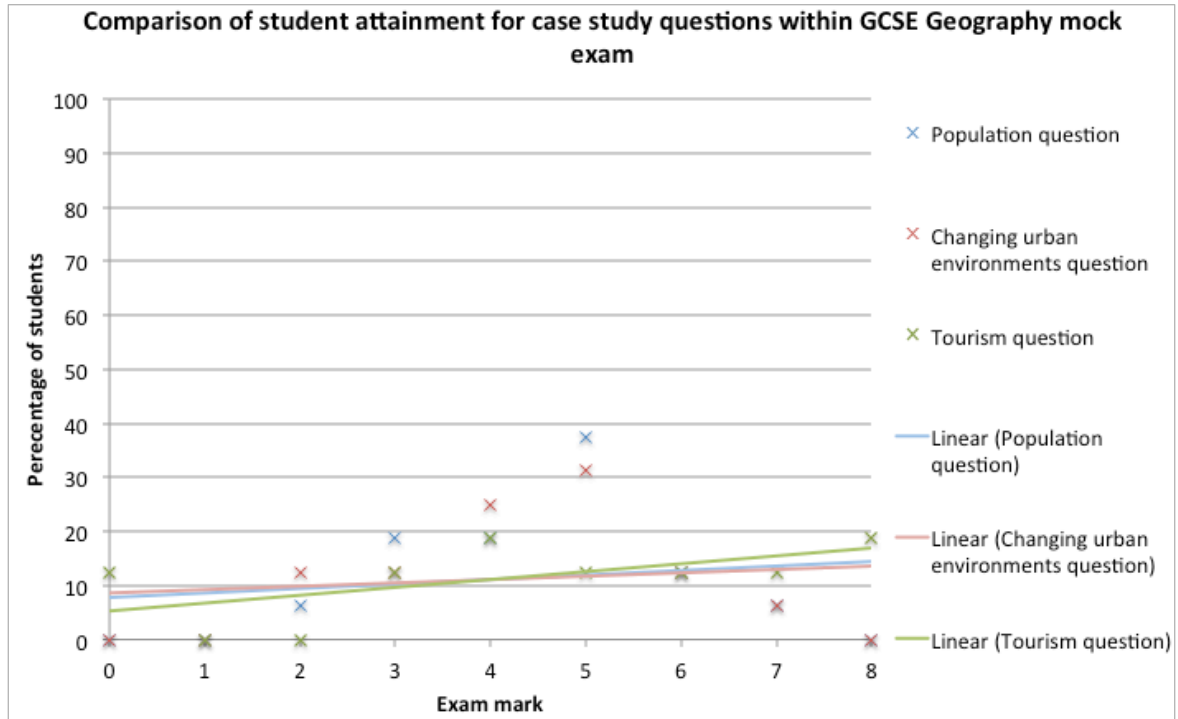
Considering the 'choice' intervention had the lowest overall student perception of enjoyment it was somewhat unanticipated that 50% of students obtained either seven or eight out of eight and 75% of students obtained over half marks. In relation to teacher perception, from lesson observation, this finding is perhaps more expected. As the 'choice' lesson had the highest number of positive teacher comments, lowest number of reprimands and overall highest behaviour score, despite an increase in

negative score, a number of inferences can be proposed. Firstly, praise may have reflected good levels of understanding, boosted confidence, fostered engagement and, or, perseverance. All are plausible to have potentially positive impacts on attainment. Secondly, the tenuous link between increased enjoyment and a positive, yet more chaotic, learning environment can be further substantiated: an increased noise level (from off-topic discussion and negative (body) language) did not appear to detract from the ability to obtain information and retain knowledge as the mean exam mark increased by one. Consequently, as implied earlier, whilst addition of student autonomy may reduce the 'rigid' atmosphere perceived as beneficial by high achievers, this neglects a key physical gender difference of males. The overall increase in flexibility appears to aid the majority of boys' who 'enjoy' and 'engage' with exploring ideas in their own way and can 'tune out' superfluous noise, ten times more effectively than girls (Wain, 2011). Moreover, the increased ability to strive for individual learning appears to outweigh this perceived increase in distraction for the top ability boys who actually appear to have stretched themselves further, despite reporting lower enjoyment. This again reflects the notion that there are always expectations within any identified generic 'gender difference' (Gurian, Stevens and Kelly, 2011). Even within the gender itself the strength of characteristic will vary, as humans are all individual, yet it can be argued that knowing how to adapt teaching styles can aid the ability to harness different attributes for all.

### *Mock performances*

All fifth year students sit mock GCSE papers in February and even though these were not part of the intervention sequence, they provide a useful source to draw upon. The geography mock exam paper had three eight-mark questions within it: population, challenging urban environments and tourism. I collated the individual marks of each of these from the boys within the study to further investigate intervention lessons for the topic of tourism. Appendix M illustrates that on average the boys scored higher in the tourism question (mode of eight compared to five for the other two topics). A comparison of the percentage of student responses per mark extends support for a positive influence from the intervention. Figure 5.8 shows both the greatest percentage of top mark responses and the highest overall trend line for the tourism question, the predominant topic for the intervention lessons.

Figure 5.8:



These findings can be critiqued for potential bias though as the tourism module was the most recently taught topic thus the higher performance may simply reflect this shorter retention time period.

Conversely the impacts of this may have been reduced by conduction of a period of intensive revision lessons, on all topics, prior to the mock exams.

As neither the population nor changing urban questions recorded zero marks, it is particularly curious to find 13% of tourism responses to have received this mark.

Closer analysis identified these responses to actually have been written as excellent answers, yet, had utilised the wrong case study. As such this holds important considerations for future planning in how to ensure students select the correct information to apply, especially when what they do provide is evidently well understood and accurate.

#### *Departmental feedback*

Post mock departmental feedback provided the opportunity to obtain data of other fifth year students to extend qualitative commentary about the study (appendix N). This highlighted some key findings in relation to the overall study themes. As has been the case in Buxton school, and nationally, the boys who participated within the study were out-performed at the top end by a fifth year girls class: 29% of girls achieved A\*s (80% or over) compared to only 13% of boys. A higher percentage of boys (25%)

achieved A's though, supporting 'complacency' concerns. Interestingly, the broken down eight-marker percentages, show the boys to have produced higher than expected attainment scores for the tourism question, in comparison to the girls' marks for all three questions. Of particular significance to this study, a greater number of boys obtained full marks for this question (appendix N), potentially implying a positive influence of tailored pedagogic techniques for boys' attainment.

## Chapter VI:

### Recommendations

The educational performance of boys has been the prominent focus of this study. The conducting of an action research investigation into the effectiveness of tailored pedagogic approaches assessed three elements: enjoyment, engagement and attainment.

In terms of students' perceptions of enjoyment, this study has shown that it is important to consider planning lessons to account for activities deemed as 'preferable' by students. I am by no means arguing for a general shift towards an 'all singing, all dancing' dominated classroom environment: it would simply not be feasible for all lessons to have a large number, and wide variety, of impressive creative, innovative and interactive features. Instead planning to incorporate a range of more creative options appeared to allow the lower ability boys in particular, to entertain with the idea of learning. Although, only 82% of students enjoyed the 'idealistic' intervention activities, highlighting the limitation of over generalisation and the significant need for teachers to be aware of individual differences (Wain, 2011). Also, the students provided insight into their perceptions of how 'valuable' the lesson was which found 100% agreement for both the 'idealistic' and 'choice' interventions. It can be suggested that students do not necessarily need to perceive the lesson activities positively in order to identify with the knowledge to be obtained. Yet, intriguingly, it appeared to be the higher ability students who had the more extreme range of enjoyment opinions and so perhaps this may explain their persevering attitude. Importantly, these observations are made in relation to this action research study and should be treated with caution if compared to wider contexts.

In terms of engagement teacher perception from observations suggested as positive behaviour increased, so too did negative behaviour. Somewhat surprisingly, intervention four, where students chose their lesson activity, had both the highest positive and negative observed behaviour totals, the highest teacher praise and yet the lowest teacher reprimands. Arguably this could imply that perhaps the teacher had identified a lack of participatory behaviours, yet had not perceived these to warrant teacher intervention. Moreover, in line with the fluctuating levels of enjoyment, a decisive theme in relation to engagement did not seem to be explicitly clear. Nevertheless, it was possible to tentatively

propose a link, within an all male lesson, between increased enjoyment and a positive, yet more chaotic, learning atmosphere. This study has again shown the potential for discrepancy between different ability groupings: a more flexible environment appears to harness greater contribution from lower achievers, despite increasing their off-topic conversation levels. Conversely the higher achievers appear to seek clarification of the task to promote success and despite 'frustration' at increased 'distraction' strived to achieve.

It may appear somewhat immodest to claim that these limited number of intervention lessons were sufficient to boost enjoyment, engagement and consequently attainment within the fifth year male participants. Importantly, at the end of the first action cycle, the number of students obtaining eight marks fluctuated and the mean and modal exam mark values were identical for all three lessons. Subsequent analysis highlighted a number of key findings though. Firstly, the range indicated dispersion to decrease from intervention one to three, thus implying a more consistent spread of performance throughout all abilities. Secondly, allowing the boys to choose their learning method did appear to support higher attainment with the highest mean and mode values. Finally, the GCSE geography mock exam paper had three case study questions within it and on average the students scored higher in their intervention topic responses. Additionally, the boys 'over performed' in the intervention question in comparison to responses from a girls class. This is particularly interesting as the mock exam question for the intervention 'tourism' topic related to 'mass tourism' and thus the 'idealistic' lesson.

#### RQ6: How could tailored pedagogic approaches aid future practice at a range of academic scales?

Concerns over a prevailing gender attainment gap in education have always and will (quite rightly) continue to play a prominent role within educational debates. Teddlie and Reynolds (2000) noted the effectiveness of the teaching process, can itself adjust attainment, when background and socio-economic factors are controlled. This study therefore aimed to give one suggestion of a way to increase male performance within GCSE Geography. This final section will look at how this investigation could have future implications. The first section will seek to explain the personal impacts of the action research and identify changes I could make to my own teaching. The second section will look at

implications for the geography department within Buxton School, as well as the whole school environment itself. Finally, recommendations will be made for the wider geographical community. There are several implications from this study for my own future classroom practice. This research has shown me how important it is to model the characteristics I expect to see from my students. Before embarking on this research, I would have assumed this was an inevitable part of my teaching practice already. I think all teachers have an inherent belief that they display a positive outlook towards their classes, which they would hope to see returned. However, from this research I was somewhat surprised, and disappointed, to find that the amount of praise I distribute is much lower than I would have expected. I feel the number of positive comments made within the interventions is particularly low overall. I hope that identification of this limited positive commentary can aid me to re-consider my feedback display within lessons and encourage a boost in encouragement and reinforcement of both effort and achievement.

I feel certain that the majority of boys enjoyed participating within this study and valued the opportunity to present a student voice. Over such a short space of time it is not possible to know if their apparent increased shift in case study attainment will be lasting. However, next year, when faced with the more student intensive environment of sixth form, I feel sure that they have been presented a useful awareness around how to select and utilise their own preferable learning techniques to obtain knowledge.

This study has really taught me the importance of understanding how to plan lessons that offer a degree of flexibility to adapt to the specific individual requirements presented within the classroom. This study has prompted a high level of reflection over personal difficulties in teaching Key Stage three boys. I hope that I can draw upon the findings within this study that an increase in chaotic learning environment does not necessarily deem a poor overall level of engagement or attainment.

Consequently, I hope to trial a simplified version of the 'choice' intervention conditions within second and third year boys' classes. Whilst unfortunately, I do not have fourth or fifth year boys' classes timetabled for the next academic year and thus do not have a chance to directly continue to explore the link between tailored techniques and GCSE performance, I feel confident that I can utilise this as an opportunity to re-assess the GCSE scheme of work in relation to gender specific lesson plans. I aim to

replicate some of the intervention lesson plans across a wider range of case studies for the two topics used within the original intervention. In the future I think that effort should be made to ensure that every topic includes a competitive activity, a degree of student choice, and a range of more 'creative' techniques. This would mean that students could continue to hone their personal analytical skills in relation to identification of 'how' they themselves 'learn best'. This is a big expectation though as at GCSE level the practical nature of delivering a large curriculum within a time constrained environment tends to dissuade use of higher 'risk' techniques. From what I have learnt in this research though, even in a short period of time, the students did appear to benefit from ownership and with time and greater experience of lessons like this, the potential for positive gains practically and emotionally are high. These alterations to the scheme of work should not only benefit my own teaching though: I have been asked to brief the rest of the geography department in September as part of wider discussion on the looming governmental overhaul of GCSEs. This presents an excellent chance to ensuring the department as a whole are promoting the significant benefits of the 'diamond model' teaching structure. I hope that feedback on the subjective conclusions drawn from this research will foster collaborative discussion on whether use of tailored pedagogic techniques is a potential suggestion towards reducing the apparent complacent attitude of the highest ability boys.

Tackling the challenge of apparent male 'underachievement' is not only seen as a key area within the geography department. This issue was selected to be a focus for the three year Buxton School development plan. Whilst I am determined to continue finding strategies to inspire and engage my students to ensure there is always an opportunity for all to progress, I am delighted to be able to develop these ideas further within the wider school context. During the data collection stage of the study I was approached by the internal INSET co-ordinator to present a mini INSET to any staff interested in learning more about gender differences. This request provided the perfect opportunity to share my findings on student perceptions of preferred teaching and learning techniques with staff from a range of departmental areas. I was intrigued to discover that the science faculty in particular had identified a growing 'complacent' approach within all boys lessons, especially considering the common social promotion of male domination in these subjects (Blickenstaff, 2005). Consequently, I have begun an initial collaboration with a member of the chemistry department to design and set tasks that are

deemed to promote student independence and as such 'engage' higher ability boys to strive to challenge themselves. A specific focus of the collaboration is to provide a combination of real life scientific and geographic context as I think that it is vital to ensure that students are aware of how important learning is beyond their school years. It is hoped that as the school continues to increase the integration of fundamental attendance at mini INSET sessions for all staff members, this initial collaboration can gain momentum. It would be exciting to further develop this research by looking more deeply into working with a range of departments to promote the benefits of cross-curricular awareness of 'life long learning'. I believe this will help to motivate boys (and girls) to become involved in self-reflection of how knowing what learning techniques work for them, will be of benefit not just for school examination, yet also within higher education, workplaces and future social development as a whole.

This action research has highlighted potential areas for future research within Geography. I would be very interested to see the results of a similar study on boys from within the mixed gender sixth form classes. Would these students react differently to tailored pedagogic techniques? In a mixed gender group would there would be a greater chance of the boys getting distracted, thus reducing the suggested positive performance benefits? Would the use of techniques perceived preferable to boys, influence girls performance too? Finally, one particular finding from this study that struck a chord with me is that choice appeared more influential to performance than simple perception of enjoyment. As such I feel there would certainly be value in spending time thinking about different ways to investigate student agency in relation to selection of learning technique, specifically to determine if option alone can increase performance, even with potentially 'less preferable' activities.

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Appendices

**Appendix A: Initial student satisfaction questionnaire: One point in time (based on Ofsted, 2013 and Jebbet and Rouse, 2009).**

Completed questionnaires will be **confidential**. All names will remain anonymous through allocation of a pseudo alternative.

Name:

Date:

Please answer each question by selecting the **one** most relevant option.

SA = Strongly agree (1), A = Agree (2), D = Disagree (3), SD = Strongly Disagree (4)

	SA	A	D	SD
1. I enjoy school	1	2	3	4
2. I am doing well at school	1	2	3	4
3. I like how the school is run	1	2	3	4
4. I enjoy geography as a subject	1	2	3	4
5. I enjoy geography lessons	1	2	3	4
6. I am good at geography	1	2	3	4
7. Geography is important to me	1	2	3	4
8. I like being a part of this geography class	1	2	3	4

9. Please rank the following learning activities in terms of which you prefer most (1) to least (5).

You only need to write the number of the statement in the box.

1. Creating own presentation and presenting to others
2. Creating own presentation without presenting to others
3. Note-taking from the teachers PowerPoint
4. Verbally answering short questions
5. Writing answers to short questions
6. Practicing exam questions
7. Problem solving
8. Research investigation
9. Note taking from textbook
10. Worksheets
11. Debates
12. Card sorts

				1.			
2.		2.		2.			
3.		3.		3.		3.	
4.			4.			4.	
				5.			

Appendix B: Student enjoyment reflective questionnaire

Completed questionnaires will be **confidential**. All names will remain anonymous through allocation of a pseudo alternative.

Name:

Date:

Lesson title:

Please answer each question by selecting the **one** most relevant option.

SA = Strongly agree (1), A = Agree (2), D = Disagree (3), SD = Strongly Disagree (4)

	SA	A	D	SD
1. I was interested in the lesson	1	2	3	4
2. I was motivated by the lesson	1	2	3	4
3. I enjoyed the lesson activities	1	2	3	4
4. I enjoy geography as a subject	1	2	3	4
5. I enjoy geography lessons	1	2	3	4
6. I felt willing to participate in the lesson	1	2	3	4

Please elaborate further on your answers using specific examples if necessary:

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## Pupil Motivation and Engagement Questionnaire (based on Martin, 2007)

Completed questionnaires will be **confidential**. All names will remain anonymous through allocation of a pseudo alternative.

Name:

Date:

Lesson title:

Please answer each question by selecting the **one** most relevant option. The questions are aimed at allowing you to reflect on your thoughts and behaviours in regards to the lesson.

SA = Strongly agree (1), A = Agree (2), D = Disagree (3), SD = Strongly Disagree (4)

	SA	A	D	SD
1. The lesson gave me self-belief	1	2	3	4
2. The lesson was of value to me	1	2	3	4
3. The lesson had a clear learning focus	1	2	3	4
4. The lesson was well planned	1	2	3	4
5. The lesson had manageable tasks	1	2	3	4
6. The lesson encouraged persistence	1	2	3	4
7. I was not anxious in the lesson	1	2	3	4
8. I was not worried about failure in the lesson	1	2	3	4
9. I did not feel uncertain or without control in the lesson	1	2	3	4
10. I did not disrupt my learning in the lesson	1	2	3	4
11. I did not deliberately avoid involvement in the lesson	1	2	3	4

## Appendix C: Action cycles one and two intervention lesson plans

### Action cycle 1: Initial case studies:

Topic: Tourism

Specification expectations: Types of tourism, Opportunities and threats of different types of tourism (and management of this)

INTODUCTORY LESSON – What are national parks?

- *The aims and locations of National Parks*

1. National Park tourism – teach as ‘normal’

1.1. *The importance of National Parks for UK tourism*

1.2. *The conflicts caused by tourism in the Lake District*

- Recap of previous lesson using mini WB questioning (aims of a national park and accessibility)
- Show an image of the Lake District
- Discuss - create a spider diagram of key ideas on opportunities/impacts - feedback
- Read textbook p.306-308 as a class to introduce characteristics
- Create a Fact File:
  - Location/Facts
  - Opportunities
  - Threats
- Summarise in less than 140 words (@LakeDistrict tweet of opportunities and threats)
- HW – “Outline the attractions and opportunities of a named UK national park for tourism”

MIDDLE LESSON – COMPLETE QUESTIONAIRES and consider management strategies

- *How to devise management strategies for tourism in the Lake District*

2. Mass tourism 1

2.1. *What is the definition of mass tourism*

2.2. *A case study of an established tropical tourist area which attracts large numbers of visitors*

2.3. *The positive and negative effects of mass tourism on the economy and the environment*

- Use of socrative software – students sign in and complete a pre-made quiz to recap information from previous lesson (management strategies of tourism in the Lake district)
- Define mass tourism
- Show a video clip to introduce Antigua “bubbles thought prompt sheet” to make bullet point notes as watch the Clickview clip
- Ask students to individually research the effects of mass tourism in Antigua (NOT IN TEXTBOOK!) - provide a number of prompts to guide students with this research
- Use of ICT to present case study notes
  - Location/Attractions
  - Cost benefit analysis
    - Social pros/cons
    - Economic pros/cons
    - Environmental pros/cons
- Randomly pick 3 students to explain findings - each talk for 1min with as few pauses and stammer noises (um, err) as possible

- HW – “Evaluate the economic and environmental impacts of mass tourism using a named tropical tourist area”

MIDDLE LESSON – COMPLETE QUESTIONNAIRES and consider management strategies

- *Strategies for maintaining the importance of tourism in the area and reducing its negative effects*

### 3. Extreme tourism

3.1. *The attractions of extreme environments to tourists*

3.2. *The increase demand for adventure holidays*

3.3. *The impact of tourism on an extreme environment*

- Randomly assign students into groups using playing cards and draw around one persons hand
  - Use this outline to recall the most important factors for the Antigua mass tourism case study:
    - Location, Facts, Social, Economic + Environmental impacts
- In groups read through p313-315 to introduce extreme environments
- Look at the Antarctica example: As a group create a set of cue cards to question other groups about the definition of extreme environments, activities, target markets AND specific attractions, opportunities and impacts to Antarctica– explain the competitive element of the task that groups will be judged based on detail and accuracy of cue card answers as well as range, clarity and innovation of questions
  - NOTE: inform students they can use phones to extend research if needed (<http://falconwoodgcsegeography.weebly.com/extreme-environment-case-study.html>)
- Quiz off between groups using the cue cards
- HW – “Describe the impact of tourism to a named extreme environment”

MIDDLE LESSONS –

#### 1: Management strategies

- *Define stewardship and conservation*
- *Boulders beach*

#### 2: Ecotourism

- *What is ecotourism?*
- *Ecotourism case study: Galapagos*

**5<sup>th</sup> year mocks**

### Action cycle 2: Fourth case study

Topic: Rocks

Specification expectations: Types of weathering and erosion, Rock cycle, Distribution and formation of different types of rocks, Characteristics of different rock types and the associative landforms.

MIDDLE LESSONS – Granite landscape introduction

- *The formation and characteristics of batholith and tor features*

#### 2. Quarries case study

2.1 *The advantages and disadvantages of quarrying*

## 2.2. *The characteristics of environmental management during extraction*

- Observe PowerPoint on interactive whiteboard and listen to teacher outline
- Show a video clip of a debate into closure of a quarry to introduce different stakeholder opinions around quarrying.
- Feedback as a class ideas recalled from the video and amalgamate into short notes on the board for students to note down
- Explain students now have a choice of how to research and present information on management during and post extraction. Provide ideas of where to obtain information from and outline options for choice of presentation method (based on research-cycle one)
  - Hand – distribution, formation, characteristics, landform 1, landform 2
  - Group work A3
  - Cue Card questions
  - Computer write up
- HW: Write an 8 marker “Describe and explain the key characteristics of granite landscapes” and questionnaire

## Appendix D: Coded transcription from a Dictaphone recording of the initial focus group discussion

Teacher: Okay first questions to start you off... I would like you to talk about what you like within any of the lessons study... and... how you would change different elements of any of the things you don't like within the lessons, and what techniques of learning you enjoy and what techniques of learning you don't?

S1: Okay...I think I'll start this off boys...umm ..I think one element of lessons I really really enjoy is something where..err.. at the start of the lesson... we kind of... actually on a powerpoint, for example, or something.. so we can take notes so we know we have the material done in that lesson...then after that we could discuss (PP+DISCUSS) it... maybe... in a debate.. or something like that.. with the teachers or one on one so that it gets in our revision... what do you think?

S2: I agree... (PP+DISCUSS)

S3... I guess its true that I like to feel quite safe by knowing I have all the material in my book... so that when I come back I know its their and I wont forget... but sometimes it's good to do things orally as well and not just write everything down and sort of have a debate. (DISCUSS)

S4: Yep... (DISCUSS)

S5: I agree... personally I prefer it when the teacher actually teaches (TEACHLED) you rather than when you just have to write the stuff down or copying out notes (NOTES)

S6: I agree with you there... (NOTES)

S2: I think its more beneficial if you.. err.. the teacher... no... if you discuss it with the teacher as you are writing it down.. (TEACHLED) as it gets into your brain more.. rather than if you just copy out notes as its not as effective (NOTES)

S4: Hmmm yeah (NOTES)

S7: What about the discussions... class discussions.. we do the cycles... like the cycles when you discuss it together then writing it down afterwards I do quite enjoy that... (DISCUSS)

S3: But then I don't like it if... you ummm. If you do that... as I like to take my time and then sometimes I just end up going home and make sure that everything... make sure I got enough detail...and sometimes if we are going through things to quickly in class I just leave gaps so I can fill it in later... (DISCUSS)

S8...I really enjoy watching things...

S3: such as?

S9: Documentaries and that? (VIDEO)

Teacher: Right consider things along the lines of ummm.. you making things... you making your own presentations... whether you actually like presenting them?

S2: Love it (PRESENT)

S8: Yes (PRESENT)

Most: *nod in agreement* (PRESENT)

Teacher: Umm like... what about verbally answering questions?

All: No (VERBALQ+A)

Teacher: Short style questions, longer style questions, practice exam questions, problem solving, research investigation, worksheets, debates, cardsorts, using the computers, group work those sorts of things?

S1: I think the best is kinda exam papers as well as just writing like long questions as that way we can just kinda write detail and all that and.. (EXAMQ)

S2: ... it helps us working as it lends better to the exam.. (EXAMQ)

S1: ...exactly.. but then if we do group work.. its okay as... well it's a bit less tiring for the brain (GROUP) and that...but I'm not sure that's as good (GROUP)

S5.. yeah.. I don't think its that beneficial and you just kinda mess about in a group.. (GROUP) whereas pair work I think that could be more beneficial (PAIR)

S3: I like doing presentation (PRESENT) stuff and that as its quite fun but then whenever you do a presentation you don't really have like solid notes.. (PRESENT)

Most: Yeah (*nod in agreement*) (PRESENT) (PRESENT)

S3: Like you write either more like a script.. or you like write something that looks good rather than is solid to revise from.. (PRESENT)

S5: Hmm that does happen quite a lot but.. hmm.. (PRESENT)

S9: But.. well I actually quite like research at home not in class because it can be done in your own time and is not as rushed as in class (RESEARCH)

S2: Yeah... I agree there... at home you have a lot more time at home to spend actually thinking about stuff whereas in the lesson you only got 55 minutes so.. (RESEARCH)

Teacher: Okay if you were making the lessons what activities would you lot plan?

S6: PowerPoints (PRESENT)

S7: Miss I'd like to start off with objectives.. for the lesson.. so then we know what we are doing... (OBJ)

S2: No..err... (OBJ)

Most: *groan* (OBJ)

S3: No (OBJ)

S5: No I don't like objectives (OBJ)

Teacher: Okay so if you were planning the lessons you would always start it with objectives?

S7: Yes just like what you are going to teach just that one lesson and then follow on... (OBJ)

S3: No no.. well I personally don't like them... (OBJ)

S4: I agree.. (OBJ)

S2: They are kinda useless (OBJ)

S3: Yeah because if you are going to learn them you are going to learn them anyway and so they just take up time... (OBJ)

Teacher: How would you lot plan you're lessons? What would you like if you turned up to any subject would you would like to see the lesson structure like?

S3: Well you would start it with a brain...err...well...like a neuron firer (QQ)

S5: Ahh yes! (QQ)

S2...smart questions... (QQ)

S4; or problem solving maybe? (PROBSOL)

S8: Yeah cause it like gets you started and its like engaging (PROBSOL)

S2: And it doesn't even necessarily need to be about that subject it could just be like something to get the brain going (PROBSOL)

S5: Yeah that's good.. as like it helps when like the content core of the lesson is like in the middle ... (PROBSOL)

S4: I prefer going outside...

S3...I like it when you like learn everything then you like apply it to like an exam question like or thing later or like fit the answers into some kind of markscheme format (EXAMQ)

S2: I think that is a really good idea! (EXAMQ)

S3: Yeah.. just like what we did today! (EXAMQ)

Teacher: Stop giving me what you think I want to hear and tell me what you really want... How would you plan lessons? How would you plan lessons in particular for geography?

S1: Okay well actually when you say... in a books.. say like short questions... long questions.. I think one it should be more visual... not just cause it looks nice but as... well me personally.. I just find it easier to revise from if it like has stuff to look at around or like colours around it as it looks better... (WRITEQ+A)

S5... or like bullet points... as when its like massive lots of line its just not like easy to look at? (BULLETS)

Teacher: SO you want to do like short notes?

S4: Yeah (BULLETS)

S2: Err.. well it's a lot easier to revise from (BULLETS)

S6: Yeah shorter notes are better generally (BULLETS)

S7: Especially bullets (BULLETS)

S5: think that you can revise easier from shorter notes and identify the objectives (BULLETS)

Teacher: Okay so would you rather have pictures in you're notes then do bullet points next to those?

Most: Yes (BULLETS)

Teacher: Okay so what about... umm.. what are you're views on things like err competition, presentations, card sorts those kinds of things?

S3: I think healthy competition is good (COMPETE)

S2: Competition is always good (COMPETE)

S5: Yeah healthy competition can be helpful... (COMPETE)

S1: I think only once in a while or its not the same... (COMPETE)

S2: No.. its good as it makes you want to do well so it makes you want to learn it... (COMPETE)

S3: I think its good if you have some incentive... like if these prizes...(COMPETE)

S6: Yeah or things for the winners? (COMPETE)

S2: Definitely up for the prizes... all those in favour vote now... vote I... (COMPETE)

All: Yes !! (COMPETE)

S3: That was all of us by the way! (COMPETE)

Teacher: Thank you for your responses. Do you have any questions?

#### Code explanations:

BULLETS	Summarisation of information through bullet point note making
COMPETE	Competitive activity
DISCUSS	Class discussion
EXAMQ	Answer past exam questions
GROUP	Group-work activity
NOTES	Note making from textbook
OBJ	Acknowledgement of the lesson objectives
PAIR	Pair-work activity
PP+DISCUSS	Teacher PowerPoint and class discussion
PRESENT	Creation of own presentations (often PowerPoint)
PROBSOLV	Creative thinking to challenge and solve a logical problem, question or activity
QQ	Quick fire questions to spark interest, generate opinion and foster debate
RESEARCH	Investigation and resourcing of information in relation to a specific topic
TEACHERLED	Teacher dictation to guide note taking
VERBALQ+A	Verbal responses to questions
VIDEO	Observation and notes from a video clip
WRITEQ+A	Written responses to questions



Appendix F: Frequency counts of categories from coded initial focus group discussion transcript

Use these tables to list the Pros and Cons of a decision

How important is each item, on a scale of 1-5?

The Pros win!

<i>+ Likes +</i>		
Item	Tally	Importance
PP+DISCUSS	2	4
DISCUSS	3	3
TEACHLED	2	4
VIDEO	1	5
PRESENT	6	2
EXAMQ	5	2
GROUP	1	5
PAIR	1	5
OBJ	2	4
QQ	3	3
PROBSOL	4	3
WRITEQ+A	1	5
BULLETS	7	1
COMPETE	9	1
<b>Total</b>	<b>47</b>	

vs.

<i>- Dislikes -</i>		
Item	Tally	Importance
NOTES	4	2
DISCUSS	1	4
VERBALQ+A	1	4
GROUP	2	3
PRESENT	4	2
RESEARCH	2	3
OBJ	8	1
COMPETE	1	4
<b>Total</b>	<b>23</b>	

**Appendix G: Main school ISI lesson observation form (Buxton School staff handbook, 2015)**

Identify as appropriate		Lesson observation	Work scrutiny				
Inspector's initials and form number	Day	Subject/activity	NC Year(s)	Class name	Number of boys	Number of girls	Time taken (minutes)
<b>Context in full</b>							
<b>Achievement</b> (+ or – for relative strength/weakness and associated comment in text)							
[ ] Subject knowledge		[ ] Subject skills		[ ] Application of knowledge, skills, understanding			
[ ] Subject understanding		[ ] Achievement of different groups (eg, SEND (note any statements), EAL, most able/G&T)					
Judgement/illustration							
							Grade
<b>Learning</b> (+ or – for relative strength/weakness and associated comment in text)							
[ ] Literacy/speaking skills		[ ] Numeracy skills		[ ] ICT skills		[ ] Reasoning	
[ ] Organisation		[ ] Independence/initiative		[ ] Co-operative learning		[ ] Application/perseverance	
[ ] Enjoyment		[ ] Volume of work		[ ] Presentation of work		[ ] Use of resources	
Judgement/illustration							
							Grade
<b>Teaching</b> (+ or – for relative strength/weakness and associated comment in text)							
[ ] Enables progress		[ ] Fosters application		[ ] Teacher's knowledge		[ ] Lesson planning	
[ ] Teaching methods		[ ] Management of time		[ ] Assessment of learning		[ ] Provision for different needs	
[ ] Use of resources		[ ] Assessment 'informs planning'		[ ] Encourages good behaviour			
Judgement/illustration							
							Grade
<b>Contribution to broader education</b> (+ or – for relative strength/weakness and associated comment in text)							
[ ] Curriculum		[ ] SMSC development		[ ] Accommodation		[ ] Library	
[ ] Resources		[ ] Pastoral care/welfare		[ ] Links parents/community		[ ] Voluntary service	
[ ] Work experience		[ ] Governance and management					
Judgement/illustration							
<b>Explanation/rationale: relationship between all three of Teaching, Learning and Achievement</b>							
<b>Note of professional dialogue</b> (points communicated or emerging in discussion)							
<b>Strengths:</b>				<b>Points for discussion:</b>			
				<b>Time when discussion was held:</b>			
Grades: 1 = excellent/high (quality/rate of), 2 = good, 3 = sound, 4 = unsatisfactory							

## Appendix H: Student attitudes towards the intervention lessons within action research cycle one

Action cycle one: Tourism – % of student responses rated on a scale from strongly agree (1) to strongly disagree (4)																				
		Rating	Interested	Motivated	Enjoyed activities	Enjoy subject	Enjoy lessons	Willingly participate	Self-belief	Value	Clear learning focus	Well planned	Manageable tasks	Fostered persistence	Not anxious	Not worry of failure	Not lacking in control	Not foster disruption	Not avoid involvement	Total
Intervention Case study 1: 'Normality'	What are National Parks?	S	19	13	31	38	31	50	19	31	56	75	63	44	44	38	44	38	75	42
		A	81	75	69	62	69	50	75	63	38	19	25	38	38	38	50	56	19	51
		D	0	12	0	0	0	0	6	0	6	6	12	18	18	24	6	6	6	7
		S	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
Intervention Case study 2: 'Idealistic'	Mass tourism: Characteristics Mass tourism: Impacts	S	38	38	44	31	31	75	19	25	56	69	75	38	25	56	63	50	56	46
		A	56	50	38	63	63	25	69	75	38	25	6	38	69	31	31	44	38	44
		D	6	12	18	6	6	0	12	0	6	6	19	24	6	13	6	6	0	10
		S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Intervention Case study 3: 'Competitive'	Extreme tourism: Characteristics and impacts	S	50	50	56	56	44	69	38	63	50	56	44	38	50	63	63	44	56	52
		A	44	44	31	44	50	25	56	31	38	44	50	44	44	25	31	50	38	40
		D	6	6	13	0	6	6	0	0	6	0	0	13	6	12	0	0	0	5
		S	0	0	0	0	0	0	6	6	6	0	6	5	0	0	6	6	6	3

**Appendix I: Teacher perceptions on engagement levels from review of IRIS recordings of the intervention lessons within action research cycle one**

Action research cycle one: Tally totals of teacher perceptions against pre-determined categories				
Observed Behaviour		Intervention one: Normality - National Parks	Intervention two: Idealistic – Mass Tourism	Intervention three: Competitive – Extreme Tourism
Class	Student questions about task	10	13	48
	Positive teacher comments	14	20	12
	Teacher reprimands	4	12	9
Positive behaviour (Denis)	Offer assistance	1	3	5
	On-topic discussion	3	2	4
	Request help		1	
	Sustained effort	6	7	9
	Total:	10	13	18
Negative behaviour (Denis)	Negative (body) language	1	2	2
	Classroom wandering			1
	Off-topic discussion	1	2	3
	Ignoring instructions			
	Total:	2	4	6
Positive behaviour (Adam)	Offer assistance	2	1	1
	On-topic discussion	3	5	5
	Request help	3	2	2
	Sustained effort	3	6	3
	Total:	11	14	11
Negative behaviour (Adam)	Negative (body) language	3	3	4
	Classroom wandering		1	2
	Off-topic discussion	4	4	3
	Ignoring instructions	3	1	2
	Total:	10	9	11
Positive behaviour (Eric)	Offer assistance	1	2	4
	On-topic discussion	4	2	7
	Request help			5
	Sustained effort	5	9	6
	Total:	10	13	22
Negative behaviour (Eric)	Negative (body) language		1	2
	Classroom wandering			5
	Off-topic discussion	2	2	4
	Ignoring instructions	1	1	3
	Total:	3	4	14



**Appendix K: Teacher perceptions on engagement levels from review of IRIS recordings of the intervention lessons within action research cycle two**

Action research cycle two: Tally totals of teacher perceptions against pre-determined categories				
Observed Behaviour		Intervention four (a): Choice – Quarries introduction	Intervention four (b): Choice – Quarries development	Intervention four (total): Choice – Quarries combined
Class	Student questions about task	31	35	66
	Positive teacher comments	16	10	26
	Teacher reprimands	4	3	7
Positive behaviour Student A	Offer assistance	2	3	5
	On-topic discussion	5		5
	Request help	2	2	4
	Sustained effort	9	10	19
	Total:	18	15	33
Negative behaviour Student A	Negative (body) language	1		1
	Classroom wandering			0
	Off-topic discussion	1		1
	Ignoring instructions			0
	Total:	2	0	2
Positive behaviour Student B	Offer assistance			0
	On-topic discussion		2	2
	Request help	1	2	3
	Sustained effort	3	8	11
	Total:	4	12	16
Negative behaviour Student B	Negative (body) language	6		6
	Classroom wandering	1		1
	Off-topic discussion	4	3	7
	Ignoring instructions	3		3
	Total:	14	3	17
Positive behaviour Student C	Offer assistance			0
	On-topic discussion	1	2	3
	Request help		2	2
	Sustained effort	5	8	13
	Total:	6	12	18
Negative behaviour Student C	Negative (body) language	11	2	13
	Classroom wandering	3	2	5
	Off-topic discussion	4	3	7
	Ignoring instructions	3		3
	Total:	21	7	28

**Appendix L: Attainment marks obtained from action research cycles one and two**

Action cycle one: Tourism – Student marks for an exam question (maximum of 8)																				
		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10	Student 11	Student 12	Student 13	Student 14	Student 15	Student 16	<b>Mode</b>	<b>Mean</b>	<b>Range</b>
Cycle One:	Case study 1: 'Normality'	4	4	7	4	7	7	5	5	4	4	1	6	5	6	4	5	4	5	6
	Case study 2: 'Idealistic'	6	4	8	4	5	8	3	6	4	4	4	8	8	7	4	4	4	5	5
	Case study 3: 'Competitive'	5	3	8	4	4	6	5	4	5	6	6	5	6	4	4	2	4	5	4
Cycle Two:	Case study 4: 'Choice'	7	6	8	6	8	8	7	8	3	3	5	7	4	8	4	5	8	6	5

**Appendix M: Percentage of participant responses per attainment marks obtained from geography GCSE mock**

5. Mock exams						
% of responses	Mark/%		Boys:			
			Population 8 marker - UK ageing	Changing urban environments 8 marker - Kiberia slums	Tourism 8 marker - Antarctica extreme	Total %
			Marked out of 8			
Total	0	0 to 9	0	0	13	0
	1	10 to 19	0	0	0	0
	2	20 to 29	5	13	0	0
	3	30 to 39	19	13	13	0
	4	40 to 49	19	25	19	12
	5	50 to 59	38	31	12	25
	6	60 to 69	13	13	12	25
	7	70 to 79	6	5	12	25
	8	80 to 89	0	0	19	13
		90 to 100	0	0	0	0

**Appendix N: Wider student attainment marks obtained from post mock departmental feedback**

5. Mock exams						
% of responses	Mark/%		Girls:			
			Population 8 marker - UK ageing	Changing urban environments 8 marker - Kiberia slums	Tourism 8 marker - Antarctica extreme	Total %
			Marked out of 8			
Total	0	0 to 9	6	0	15	0
	1	10 to 19	0	15	0	0
	2	20 to 29	7	0	0	0
	3	30 to 39	0	7	0	7
	4	40 to 49	21	7	14	14
	5	50 to 59	29	21	21	7
	6	60 to 69	21	36	29	36
	7	70 to 79	14	14	7	7
	8	80 to 89	0	0	14	29
		90 to 100	0	0	0	0